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Influence of Extraversion and Neuroticism on the Weekly Dynamics of Jobseekers' Self-Regulation

Abstract

The present study examined extraversion and neuroticism as moderators of weekly relationships between job-search efforts, proximity to the goal of obtaining employment, emotional wellbeing, and job-search self-efficacy. To this end, a short-term longitudinal study, consisting of weekly assessments over a 4-week period, was conducted among 80 French jobseekers. The main results suggested that the more extraverted or neurotic jobseekers are, the more motivated they are to make job-search efforts after positive experiences (i.e., high emotional wellbeing and/or high job-search self-efficacy), and the more demotivated they are to make efforts after negative experiences. Conversely, the more introverted and emotionally stable jobseekers are, the more motivated they are to make efforts after negative rather than positive experiences. In short, extraverted and/or neurotic individuals exhibited the self-regulation dynamics predicted by social cognitive theories, while introverted and/or emotionally-stable individuals exhibited the self-regulation dynamics predicted by control/cybernetic theories. Results are discussed in the light of current knowledge about self-regulation and job-search dynamics.

Keywords: job-search efforts, goal proximity, wellbeing, self-efficacy, extraversion, neuroticism

Introduction

Job-search efforts, namely the behaviors that jobseekers perform to find a job (e.g., using social networks to obtain job leads, preparing resumes, cold calling, conducting information interviews to find out about careers and jobs of interest), have been shown to represent one of the main determinants of the likelihood of eventually finding employment (Kanfer, Wanberg, & Kantrowitz, 2001; Wanberg, Ali, & Csillag, 2020). For this reason, employment counsellors, as well as researchers interested in the process of looking for a job, have frequently attempted to identify the factors that trigger, maintain, or diminish job-search efforts among job seekers (Kanfer et al., 2001; Wanberg et al., 2020).

To date, most studies of the determinants of job-search efforts have focused on relatively long-lasting between-individual differences (e.g., Côté, Saks, & Zikic, 2006; Crossley & Stanton, 2005; Saks & Ashforth, 1999; Saks, Zikic, & Koen, 2015; Van Hooft, Born, Taris, & van der Flier, 2005; Wang & Yan, 2018). These studies have highlighted factors such as *emotional wellbeing* (i.e., intense positive emotions and/or nonintense negative emotions) and *job-search self-efficacy* (i.e., confidence in one's ability to successfully conduct a job search), as individuals with higher scores on these factors generally appear to make greater job-search efforts (Côté et al., 2006; Crossley & Stanton, 2005; Saks & Ashforth, 1999; Saks et al., 2015; Van Hooft et al., 2005; Wang & Yan, 2018).

However, these studies overlook the fact that job-search efforts actually tend to fluctuate within jobseekers from day to day (e.g., Wanberg, Zhu, & van Hooft, 2010), week to week (e.g., Chawla, Gabriel, da Motta Veiga, & Slaughter, 2019), or month to month (e.g., Sun, Song, & Lim, 2013). As effects at the between- and within-individual levels frequently differ in psychology (Borsboom, Kievit, Cervone, & Hood, 2009), it could be important to consider these within-individual dynamics of job-search efforts.

Despite their possible importance, questions still surround these within-individual dynamics. First, advocates of the two most influential families of self-regulation theories, namely *social*

cognitive theories (e.g., Bandura, 1991; Locke & Latham, 1990b) and *control/cybernetic theories* (e.g., Carver & Scheier, 1990; Powers, 1991), have long advanced competing hypotheses about the short-term within-individual antecedents of goal-directed efforts. Second, available empirical findings on the short-term within-individual antecedents of job-search efforts have generally suggested that they are actually highly dependent on the individuals concerned (for reviews, see Song, Sun, & Li, 2018; Wanberg et al., 2020).

Even though personality appears to explain some of these differences, surprisingly, only specific personality traits like regulatory focus (Sun et al., 2013) and state/action orientation (Wanberg et al., 2010) have been studied so far. By contrast, the Big Five personality traits (McCrae & Costa, 1997) have yet to receive any attention, even though examining these traits could be valuable for three main reasons. First, as they subtend dozens of more specific traits, they have proven their usefulness to researchers and practitioners wishing to compare and organize the results of different studies exploring personality variables (DeYoung, 2015; McCrae & Costa, 1997). Second, the Big Five traits are supposed to be strongly related to between-individuals differences in the dynamics of goal fixation and goal pursuit (DeYoung, 2015). Third, as they are few in number, they can allow more parsimonious theories to be developed, providing they are found to be as predictive as the dozens of more specific traits they subtend.

The main goal of the present study was to deepen current understanding of job-search dynamics. To this end, we analyzed some of the short-term within-individual antecedents and correlates of job-search efforts among active jobseekers, as well as their possible dependence on extraversion and neuroticism. These two broad personality traits had never before been studied in this context, despite their influence on goal-directed activities. A possibly interesting contribution of this study to the current literature was therefore its investigation of whether broad personality traits can impact job-search dynamics in the way that specific traits have already been shown to do.

Theoretical Background and Hypotheses

Job Searching as a Dynamic Self-Regulated Process

In scientific psychology, self-regulation is examined in the context of goal pursuit (e.g., Bandura, 1991; Carver & Scheier, 1990; Locke & Latham, 1990b; Vancouver, 2008). More specifically, *self-regulation* is an umbrella term used to cover the whole range of processes involved in individuals' attempts to modify their thoughts, emotions and behaviors in order to attain their goals. Countless processes are involved, but the most influential self-regulation theories tend to converge on a limited set of psychological variables that are assumed to have the greatest impact on goal fixation, pursuit and attainment (e.g., Bandura, 1991; Carver & Scheier, 1990; Locke & Latham, 1990a, 1990b; Vancouver, 2008).

In particular, individuals' goals (i.e., internal representations of desired states) are present in all these theories, as is the process whereby individuals perceive the distance separating them from their goals. For instance, the first idea developed by Locke and Latham (1990b) and Carver and Scheier (1990) when they introduced their self-regulation theory was that individuals' behaviors are purposeful, and that the main motivation behind these behaviors is individuals' wish to increase their proximity to their goals. Characterized by intensity (i.e., efforts) and quality (i.e., type of behaviors displayed), goal-directed behaviors are also present in all self-regulation theories. Finally, in addition to perceived goal proximity and goal-directed behaviors, self-regulation theories systematically identify variables that are assumed to be strongly related to these two core components. The two most frequently cited variables are emotional wellbeing and self-efficacy, as they are thought to display strong mutual relationships with perceived goal proximity and goal-directed behaviors (Bandura, 1991; Carver & Scheier, 1990; Locke & Latham, 1990a, 1990b). In other words, not only do emotional wellbeing and self-efficacy appear to change when an individual makes efforts to attain a goal and perceives progress toward it, but these changes can, in turn, motivate or demotivate individuals to engage subsequently in goal-directed behaviors (e.g., Holman, Totterdell, & Rogelberg, 2005; Wanberg et al., 2010).

The hypothetical importance of these variables in goal pursuit is supported by the fact that perceived goal proximity, goal-directed behaviors, emotional wellbeing, and self-efficacy are the

most frequently assessed variables in studies examining within-individual self-regulation dynamics during job search (Chawla et al., 2019; Da Motta Veiga & Gabriel, 2016; Da Motta Veiga & Turban, 2014, 2018; Lopez-Kidwell, Grosser, Dineen, & Borgatti, 2013, Study 1; Liu, Wang, Liao, & Shi, 2014; Melloy, Liu, Grandey, & Shi, 2018; Song, Uy, Zhang, & Shi, 2009; Sun et al., 2013; Wanberg, Glomb, Song, & Sorenson, 2005; Wanberg, Zhu, Kanfer, & Zhang, 2012; Wanberg et al., 2010). Accordingly, the present study also examined these four variables. Our hypotheses concerned short-term within-individual relationships¹ between these variables, and the dependence of these relationships on extraversion and neuroticism.

Relationships Between Job-Search Efforts and Concurrent Changes in Emotional Wellbeing and Job-Search Self-Efficacy

As well as agreeing on the types of self-regulatory variables that it is important to examine, social cognitive theories (e.g., Bandura, 1991; Locke & Latham, 1990b) and control theories (e.g., Carver & Scheier, 1990; Powers, 1991) of self-regulation agree on the short-term consequences of making efforts. More specifically, making efforts to attain a goal would temporarily enhance positive feelings and thoughts (e.g., emotional wellbeing, self-efficacy), as it would increase the likelihood of progressing toward the goal. This intuitive hypothesis has already been corroborated by studies conducted on self-regulation dynamics in general (e.g., Holman et al., 2005; Louro, Pieters, & Zeelenberg, 2007), and self-regulation dynamics during job search in particular (Da Motta Veiga & Turban, 2018; Liu et al., 2014; Wanberg et al., 2010). More specifically, in the latter context, it has been suggested that when jobseekers make greater job-search efforts, they tend to move closer to their goal of obtaining employment, and perceive this increased proximity (Da Motta Veiga & Turban, 2018; Liu et al., 2014). By the same token, when this goal proximity is perceived to be greater, jobseekers display enhanced emotional wellbeing and job-search self-

¹ As within-individual variations occur from time to time in the variables we examined, we have followed the example of other authors (e.g., Melloy et al., 2018; Sun et al., 2013; Wanberg et al., 2010) and used terms such as *job-search dynamics* and *self-regulation dynamics during job search* throughout the manuscript to refer to these variations, as well as their interplay. Moreover, as theories and results regarding between-individual phenomena cannot be used to formulate hypotheses at the within-individual level (Borsboom et al., 2009), the rest of the theoretical part is devoted to the description of theories and studies of within-individual self-regulatory phenomena.

efficacy (Da Motta Veiga & Turban, 2018; Lieu et al., 2014; Wanberg et al., 2010). The first set of hypotheses we formulated was based on these theoretical arguments and empirical corroborations.

- H1a: Greater job-search efforts are related to greater emotional wellbeing.
- H1b: Greater job-search efforts are related to greater job-search self-efficacy.

The above-mentioned ideas suggest that one variable can mediate the relationship between job-search efforts and emotional wellbeing or job-search self-efficacy. This variable is jobseekers' perception of nearing their goal of finding employment. Only three studies have so far assessed short-term within-individual variations in perceived proximity to the goal of being employed (Da Motta Veiga & Turban, 2018; Liu et al., 2014; Wanberg et al., 2010). These studies differed from each other in the frequency with which they assessed self-regulation during job search: once a day in Wanberg et al. (2010), twice a week in Liu et al. (2014), and once every other week in Da Motta Veiga and Turban (2018). Furthermore, none of them directly examined the possible mediation of the relationship between job-search efforts and emotional wellbeing or job-search self-efficacy by perceived proximity to the goal of being employed. Nevertheless, their findings converge to suggest that such mediation effects do occur. More specifically, in each study, job-search efforts made during a given period were weakly to moderately accompanied by an increase in perceived proximity to the goal of being employed, while this perception was in turn moderately to strongly accompanied by more intense concurrent states of emotional wellbeing and job-search self-efficacy.

Contradictory findings (albeit rare) have also been reported. In particular, among their sample of 100 Chinese jobseekers, Song et al. (2009) observed that greater daily job-search efforts were related to increases in daily negative emotions. Interestingly, Song et al. (2009) reported that this effect was mediated by the encounter of job-search difficulties. Thus, when jobseekers in their sample encountered such difficulties, instead of perceiving progress toward their goal of obtaining employment as a result of their efforts, they may have perceived regression, triggering negative feelings. Nevertheless, based on the bulk of the empirical evidence (Da Motta Veiga & Turban, 2018; Liu et al., 2014; Wanberg et al., 2010), we supposed that job-search efforts are generally

accompanied by an increase in perceived proximity to the goal of obtaining employment, rather than a decrease. The second set of hypotheses we formulated concerned mediation effects:

- H2a: The relationship between job-search efforts and emotional wellbeing is mediated by perceived proximity to the goal of obtaining employment.
- H2b: The relationship between job-search efforts and job-search self-efficacy is mediated by perceived proximity to the goal of obtaining employment.

We did not expect our two personality variables of interest to change the above-mentioned hypothesized relationships. By contrast, for the reasons set out below, we did expect extraversion and neuroticism to change the converse relationships between emotional wellbeing or job-search self-efficacy states at a given time and subsequent job-search efforts.

Relationships Between Emotional Wellbeing/Job-Search Self-Efficacy and Subsequent Job-Search Efforts

As some researchers studying job-search dynamics have already highlighted (e.g., Da Motta Veiga & Turban, 2018; Wanberg et al., 2010), social cognitive and control theories of self-regulation advance competing hypotheses about the effects that emotional wellbeing and job-search self-efficacy may exert on subsequent efforts.

According to social cognitive theories (e.g., Bandura, 1991; Locke & Latham, 1990b), individuals make more efforts to attain a goal after feeling states of intense emotional wellbeing during the pursuit of the goal, and intense self-efficacy in attaining this goal. Such positive experiences would increase individuals' commitment to the goal they are currently pursuing, and lead them to be more ambitious in its pursuit. If this is true, then the dynamics of self-regulation during job search should be driven mainly by positive feedback loops (i.e., variables mutually reinforcing each other). In other words, they should be driven mainly by what is commonly labelled *upward spirals* (i.e., greater efforts produce states of increased emotional wellbeing and self-efficacy that, in turn, motivate individuals to make more intense subsequent efforts) and *downward*

spirals (i.e., reduced efforts produce states of lowered emotional wellbeing and self-efficacy that, in turn, demotivate individuals to make subsequent efforts).

By contrast, control theories (e.g., Carver & Scheier, 1990; Powers, 1991) argue that individuals make greater efforts to attain a goal after feeling states of low emotional wellbeing during the pursuit of the goal, and low self-efficacy in attaining that goal. These negative experiences would inform individuals that there is a problem requiring resolution, unlike positive experiences, which signal the absence of problems. If true, then the dynamics of self-regulation during job search should be driven mainly not by positive but by negative feedback loops (i.e., variables exerting converse effects on each other). In other words, jobseekers could tend to increase their job-search efforts after experiencing low emotional wellbeing and high doubts in their ability to obtain employment, whereas they could lower their efforts in reaction to intense emotional wellbeing and job-search self-efficacy.

Studies of job-search dynamics have provided mixed support for both theories. In particular, they have suggested that some individuals exhibit the dynamics predicted by social cognitive theories, while other individuals exhibit the dynamics predicted by control theories. More specifically, those individuals who are most inclined to experience emotion regulation difficulties (Melloy et al., 2018), express chronic doubts about their ability to find employment (Da Motta Veiga & Turban, 2018), have a preventive rather than promotional type of regulatory focus (Sun et al., 2013), and focus on their psychological states rather than on actions (Wanberg et al., 2010) appear to behave according to social cognitive theories. By the same token, individuals with the opposite dispositions (i.e., individuals with few emotion regulation difficulties, who express chronic confidence about their ability to find employment, have a promotional rather than preventive type of regulatory focus, and focus on actions rather than on their psychological states) tend to behave according to control theories. Therefore, in the present study, we hypothesized that the short-term effects of jobseekers' emotional wellbeing and job-search self-efficacy on their subsequent job-search efforts are highly dependent on personality.

A large body of research on vocational behavior suggests that between-individual differences in broad personality traits (e.g., Big Five; DeYoung, 2015; McCrae & Costa, 1997) are correlated with relatively stable between-individual differences in job-search characteristics. For instance, at the between-individual level, extraversion is positively correlated with jobseekers' job-search efforts (see Kanfer et al., 2001, for a meta-analysis), job-search self-efficacy (see Kim, Kim, & Lee, 2019, for a meta-analysis) and wellbeing (Van Hoye & Lootens, 2013), while neuroticism is negatively correlated with these variables (Kanfer et al., 2001; Kim et al., 2019; Van Hoye & Lootens, 2013). However, to the best of our knowledge, broad personality traits had never been examined as possible moderators of within-individual relationships between self-regulatory variables involved in job searching. In the present study, we chose to focus on just two broad personality traits (i.e., extraversion and neuroticism), owing to their supposed importance in shaping individuals' self-regulation dynamics (DeYoung, 2015). We did not examine the other three Big Five traits (i.e., conscientiousness, openness, agreeableness) because, as stated above, between-individual differences in self-regulation dynamics during job search seem to manifest themselves mainly in the relationship between positive or negative experiences and subsequent job-search efforts. Theories relating personality to self-regulation dynamics (DeYoung, 2015), as well as empirical evidence set out below, suggest that extraversion and neuroticism are the main Big Five traits involved in the modulation of efforts and goals in reaction to such experiences.

Moderation by Extraversion and Neuroticism

Extraversion is a cluster of particularly strongly correlated personality traits, including warmth, sociability, enthusiasm, assertiveness, and even activity (McCrae & Costa, 1997). The correlations between these different traits can be explained by their shared roots in a basic neuropsychological system, frequently labeled the *behavioral activation system* (DeYoung, 2015). This system is mainly responsible for individuals' responses to *rewards* (i.e., any stimulus signaling progress toward or attainment of a goal; DeYoung, 2015). The sensitivity of this system is thought to differ durably between individuals (Zelenski & Larsen, 1999), leading to the distinct patterns of

cognitive, emotional and behavioral dispositions that personality researchers associate with varying levels of extraversion (DeYoung, 2015; Zelenski & Larsen, 1999). In particular, owing to the more sensitive behavioral activation system associated with a higher level of extraversion, the higher individuals' level of extraversion, the more inclined they are to perceive rewards in their environment, intensely pursue these rewards, and experience emotional wellbeing when they obtain them (DeYoung, 2015; Zelenski & Larsen, 1999). This is probably why meta-analytic findings suggest that, in general, the higher individuals' level of extraversion, the more inclined they are to make job-search efforts (Kanfer et al., 2001)².

More relevant here, again owing to differences in the sensitivity of their behavioral activation system, individuals with distinct levels of extraversion also appear to differ on what they do after obtaining an initial reward and experiencing an initial state of intense emotional wellbeing. More specifically, it has been shown that the higher individuals' level of extraversion, the more they tend to react to an initial reward or initial experience of a state of intense emotional wellbeing by becoming more motivated to continue seeking rewards and states of intense emotional wellbeing. For instance, in a correlational study, Pavani, Le Vigouroux, Kop, Congard, and Dauvier (2017) found that a higher level of extraversion was accompanied by a more intense propensity to enact positive emotion-enhancing behaviors within a few hours of experiencing intense positive emotions. Similar results have been obtained in experimental studies. For instance, Hirsh, Guindon, Morisano, and Peterson (2010) showed that a higher level of extraversion is associated with an increased preference for obtaining an immediate reward, especially after induction of a positive emotion. For their part, Robinson, Moeller, and Ode (2010) demonstrated, with a series of experimental studies, that a higher level of extraversion is accompanied by increased sensitivity to positive priming. In particular, they found that, after perceiving an initial positive stimulus (i.e., positive word), individuals with a higher level of extraversion recognize a subsequent positive stimulus more quickly.

² Another possible explanation is that several job-search activities are socially oriented (e.g., networking), and thus more enjoyable to individuals with a higher level of extraversion.

These differences in sensitivity may shape individuals' self-regulation dynamics. In particular, among jobseekers, whereas a lower level of extraversion may be accompanied by an inclination to reduce job-search efforts in the wake of pleasant experiences (e.g., states of intense emotional wellbeing and job-search self-efficacy), a higher level of extraversion may be associated with increased efforts after such experiences. Thus, the likelihood of control theory expectations being confirmed may be greater among individuals with a lower level of extraversion, while the likelihood of social cognitive theory expectations being confirmed may be greater among individuals with a higher level of extraversion.

Neuroticism represents another cluster of correlated personality traits, this time including anxiety, depression, anger, impulsivity, and even vulnerability to stress (McCrae & Costa, 1997). Once again, shared roots in basic neuropsychological systems seem to be responsible for the correlations between these traits. These systems are the highly connected so-called *fight-flight-freeze system* and *behavioral inhibition system* (Gray & McNaughton, 2000; Zelenski & Larsen, 1999). They are responsible for individuals' responses to *threats* and *punishments* (i.e., any stimulus signaling regression from or definitive failure to achieve one's goal; DeYoung, 2015). The sensitivity of both systems appears to differ durably between individuals, resulting in the different conducts that personality researchers associate with varying levels of neuroticism (DeYoung, 2015; Gray & McNaughton, 2000; Zelenski & Larsen, 1999). In particular, owing to the more sensitive fight-flight-freeze and behavioral inhibition systems associated with a greater level of neuroticism, the greater this level, the more inclined individuals are to perceive more numerous threats in their environment, experience more intense reductions in emotional wellbeing when they perceive these threats or receive punishments, and vigorously attempt to avoid any of these unpleasant experiences (DeYoung, 2015; Zelenski & Larsen, 1999).

At first glance, if an increased inclination to avoid negative experiences accompanies a greater level of neuroticism, then such a greater level of neuroticism should lead individuals to enhance the intensity of their goal-directed behaviors mainly after such negative experiences, in

order to make these experiences cease as quickly as possible. However, some empirical findings affirm this hypothesis. It actually appears that, after a negative experience, the greater individuals' level of neuroticism, the more inclined they are to display numerous and lasting negative thoughts, diminishing their subsequent goal-directed behaviors. For instance, Pavani et al. (2017) showed that a greater level of neuroticism is associated with an increased inclination to engage in lasting passive rashes of negative events (i.e., ruminations) within a few hours of having experienced intense negative emotions. Not only engaging in such ruminations were shown to maintain the intensity of the initial negative emotions individuals felt in Pavani et al. (2017)'s study, but it has also been shown to exert detrimental effects on goal-directed behaviors in other studies (e.g., Lyubomirsky, Tucker, Caldwell, & Berg, 1999).

Some researchers have attempted to explain this phenomenon. In particular, Robinson, Moeller, and Fetterman (2010) advance that, because an initial negative experience produces lower emotional wellbeing and more numerous and lasting negative thoughts in individuals with a higher level of neuroticism, such an initial negative experience leads these individuals to make more emotion and thought regulation efforts. Therefore, the higher individuals level of neuroticism, the more inclined they are to make efforts to regulate their emotions and thoughts after a negative experience, and the less inclined they are to continue to make efforts in order to pursue their goal (for an empirical corroboration of this hypothesis, see Robinson et al., 2010).

On this basis, like for extraversion, the greater the level of neuroticism, the more inclined individuals would be to make job-search efforts after positive rather than negative experiences. By contrast, the lower the level of neuroticism, the more inclined jobseekers would be to reduce their efforts after positive rather than negative experiences.

We therefore formulated the following hypotheses on the short-term antecedents of job-search efforts.

- H3a: The relationship between emotional wellbeing and subsequent job-search efforts depends on extraversion and neuroticism. Higher scores on each trait are associated with a more positive effect.
- H3b: The relationship between job-search self-efficacy and subsequent job-search efforts depends on extraversion and neuroticism. Higher scores on each trait are associated with a more positive effect.

Method

Participants

A total of 80 French jobseekers (77.5% female, 22.5% male) aged 18-61 years ($M = 30.91$, $SD = 11.78$) took part in the study on a voluntary basis. Their education levels varied considerably (i.e., 8.75% had no diploma, 31.25% had a vocational high-school diploma, 27.50% had a general high-school diploma, and 32.50% had completed one or more years of higher education). The duration of participants' unemployment also varied widely (i.e., 5% had been unemployed for less than 1 week, 21.25% had been unemployed for 1-4 weeks, 32.50% had been unemployed for 1-6 months, 17.50% had been unemployed for 6-12 months, and 23.75% had been unemployed for longer). The study was introduced to potential participants as a scientific inquiry into jobseekers' routines and obstacles. Three recruitment strategies were used by the experimenters, namely searching for potential volunteers in their own social networks, posting advertisements on social media pages devoted to unemployment and job search, and contacting unemployment insurance recipients near public employment agencies in the cities of Aix-en-Provence and Marseilles. Participants had to be aged at least 18 years, and be actively engaged in looking for a job. The main sample size criterion was that it had to be large enough to examine the significance of the effects hypothesized in the present study, which included cross-level interaction effects. More specifically, power analysis performed on the models reported below with *simr* (Green & MacLeod, 2016), a package for the R statistical programming language (R Core Team, 2019), showed that observed statistical power systematically exceeded 80% for non-negligible effects (e.g., $\beta > 0.15$).

Procedure

The present study was conducted in accordance with the 1964 Declaration of Helsinki and its later amendments, and the 2016 APA Ethical Principles of Psychologists and Code of Conduct. All participants explicitly provided their informed consent. The whole procedure was completed online. In line with previous research on between-individual differences in job-search dynamics, this procedure comprised two phases.

In the first phase, participants completed sociodemographic and personality questionnaires. After indicating their sex, age, education level and unemployment duration, participants filled in a questionnaire assessing their levels of extraversion and neuroticism, as well as other personality questionnaires that are not relevant for the present study.

In the second phase, participants completed a series of short questionnaires assessing job-search dynamics-related variables once a week for 4 consecutive weeks. These questionnaires were identical each week. They included assessments of emotional wellbeing, job-search self-efficacy, perceived proximity to the goal of obtaining employment, job-search efforts, and other state variables assessed for purposes irrelevant to this study. A hyperlink to these questionnaires was sent by email to participants each Wednesday morning. If participants did not complete the questionnaires on Wednesday, a reminder was sent on Thursday morning. Likewise, a second reminder was sent to them on Friday morning if they did not complete the questionnaires on Thursday. Participants were invited to respond midweek to avoid the so-called *blue Monday* and *happy weekend* effects (Cranford et al., 2006; Ryan, Bernstein, & Warren Brown, 2010), which might have biased our results. The response rate was 89%, 284 of the 320 series of questionnaires sent out to participants were completed. This was a satisfactory rate, given that the mean response rate for the 12 above-mentioned job-search dynamics studies was 75% ($SD = 16\%$). None of the participants found work during the study.

Materials

Emotional wellbeing. The first questionnaire in our weekly battery assessed emotional wellbeing. Its 10 items corresponded to the 10 types of positive and negative emotions identified in the 12-point circumplex model (Yik, Russell, & Steiger, 2011). This model distinguishes between five types of positive emotions and five types of negative emotions according to their activation level (i.e., highly activated, activated, neither activated nor deactivated, deactivated, and highly deactivated). Based on this model, highly activated positive emotions were assessed with the item *full of energy*, activated positive emotions with *enthusiastic*, neither activated nor deactivated positive emotions with *happy*, deactivated positive emotions with *relaxed*, highly deactivated positive emotions with *soothed*, highly activated negative emotions with *anxious*, activated negative emotions with *irritated*, neither activated nor deactivated negative emotions with *unsatisfied*, deactivated negative emotions with *blue*, and highly deactivated negative emotions with *discouraged*.

At each assessment point, participants were asked to indicate the degree to which they had felt each of the 10 types of emotions in the preceding 24 hours on visual analogue scales yielding scores ranging from 0 (*Not at all*) to 100 (*A lot*). Participants' attention was directed to the emotions they had experienced during the previous 24 hours rather than their immediate emotional experience, to avoid the possible effects of completing the questionnaire on their emotional states.

A number of previous studies had provided evidence supporting the factorial and criterion validity of the above-mentioned items for assessing emotional wellbeing (e.g., Le Vigouroux, Pavani, Dauvier, Kop, & Congard, 2017; Pavani et al., 2017, 2019). On this basis, we computed an indicator of emotional wellbeing by averaging scores for the 10 items, after inverting scores for the negative emotion-related items ($\alpha = 0.89$ at the within-individual level, and 0.95 at the between-individual level)³. Another coefficient that is recommended³ to estimate internal consistency at the within-individual level, namely the reliability of change (RC) coefficient (Bolger & Laurenceau, 2013), also suggested satisfactory reliability (RC = 0.88).

³ We computed internal consistency at the within-individual level after person-mean-centering item scores ($n = 284$), whereas we computed it at the between-individual level after averaging item scores across participants ($n = 80$).

Job-search self-efficacy. The second questionnaire in the weekly battery assessed job-search self-efficacy. Its 10 items were slight modifications of the 10 items in the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). They were modified to (1) permit the evaluation of what individuals had thought during the previous 24 hours, and (2) specifically target job search. To give but one example, the first item in Schwarzer and Jerusalem (1995)'s scale is *I can always manage to solve difficult problems if I try hard enough*, whereas the first item in our questionnaire was *I think I can manage to solve the difficult problems I have in my job search if I try hard enough*. The nine other items of our job-search self-efficacy questionnaire were *If someone opposes me during my job search, I can find the means and ways to get what I want; I think it is easy for me to stick to my aims and accomplish my goals in my job search; I am confident that I could deal efficiently with unexpected events in my job search; I think that, thanks to my resourcefulness, I know how to handle unforeseen situations during my job search; In my job search, I can solve most problems if I invest the necessary effort; In my job search, I can remain calm when facing difficulties because I can rely on my coping abilities; When I am confronted with a problem in my job search, I think I can find several solutions; If I am in trouble in my job search, I can think of a solution; and I can handle whatever comes my way during my job search.*

Individuals were asked to rate the degree to which each of these items corresponded to what they had generally thought over the preceding 24 hours, on visual analogue scales yielding scores ranging from 0 (*Not at all*) to 100 (*A lot*). As this job-search self-efficacy scale had never been used before, we ran a multilevel confirmatory factor analysis following Huang (2016)'s recommended procedure, to gauge its factorial validity. As expected, this analysis suggested that a factor structure composed of one factor at the within-individual level and one factor at the between-individual level fitted the data in an acceptable manner (CFI = 0.92, TLI = 0.90, RMSEA = 0.08, SRMR = 0.05). On this basis, we then computed a general indicator of job-search self-efficacy by averaging scores for the 10 items ($\alpha = 0.87$ at the within-individual level and 0.97 at the between-individual level; RC = 0.87).

Questionnaires designed to assess within-individual variations in job-search self-efficacy had already been created and used in five previous studies (Da Motta Veiga & Turban, 2018; Liu et al., 2014; Sun et al., 2013; Wanberg et al., 2005; Wanberg et al., 2010). However, none of these studies had provided information about the factorial validity of these questionnaires. We therefore decided to create a new questionnaire for this study. As it was an adaptation of an assessment tool with recognized theoretical validity (Schwarzer & Jerusalem, 1995), had acceptable factorial validity (see confirmatory factor analysis above), and yielded scores correlated with external variables as could be predicted (see the descriptive statistics below), this questionnaire displayed initial evidence of validity.

Proximity to the goal of obtaining employment. A single item⁴ was used in the weekly battery to assess perceived proximity to the goal of obtaining employment. This item was inspired by the single item used by Louro et al. (2007) in their analysis of self-regulation dynamics, which provided evidence supporting the criterion validity of the item. In Louro et al. (2007)'s study, the item asked participants *How close are you to attaining your goal?* In the present study, it was accompanied by detailed instructions in order to relate it to the job-search context and reduce the risk of misunderstanding. These instructions were: "Finding a job can be seen as a goal, a destination to reach. This questionnaire invites you to reflect on how close you are to attaining this goal. On the scale below, 100 corresponds to goal reached (e.g., I obtained employment), 0 corresponds to a total distance from this goal (e.g., I have no formation, I have to start from scratch), and 50 is halfway there". The actual item asked participants where they would place themselves on this scale. The visual analogue scale had two visible anchors, one at either end: *Goal not reached at all* and *Goal reached*. Participants had to respond to this item at each assessment point. It is noteworthy that our perceived goal proximity item was not derived from any of the items

⁴ Although single items, like the items we used to assess goal proximity and effort, prevent the control of measurement errors, they reduce the burden that repeated measurements place on participants. This is the reason why they are sometimes used in studies pertaining to self-regulation dynamics (e.g., Holman et al., 2005; Louro et al., 2007) and job-search dynamics (e.g., Wanberg et al., 2005). In the present study, to reduce the risk of these single items being contaminated by considerable measurement errors, we derived them from ones that had already shown evidence of their criterion validity, and accompanied them with detailed instructions to minimize possible misunderstandings.

used in previous research on job-search dynamics, as only perceived goal velocity items (i.e., items assessing perceived progress toward the goal of obtaining employment during a specific period) can be found in these studies.

Job-search efforts. Another single item was used in the weekly battery to assess the subjective intensity of the efforts made by participants to obtain employment. This item was derived from one of the items used by Sun et al. (2013) in their study of job-search dynamics, which provided evidence supporting the criterion validity of this item. In Sun et al. (2013)'s study, this item directly asked participants to indicate how much they *gave their best effort to find a job*. In the present study, the item was accompanied by detailed instructions in order, once again, to reduce the risk of misunderstanding. These instructions were: "As with any goal, people can fluctuate in their efforts to obtain employment. Sometimes, people may redouble efforts, whereas at other times they may put less effort into it. Sometimes, people may even temporarily give up. On the scale below, 100 corresponds to maximum effort (e.g., I gave my best effort to find a job), 0 corresponds to a total lack of effort (e.g., I put my job search to one side), and 50 corresponds to a moderate amount of effort." The actual item asked participants where they would place themselves on this scale, considering the efforts they had made during the previous week. The visual analogue scale on which participants had to respond, and which yielded scores ranging from 0 to 100, had two visible anchors, one at either end: *No effort at all over the past week* and *Best efforts over the past week*.

Extraversion and neuroticism. Extraversion and neuroticism were assessed during the first phase of the procedure, using the French validation of the Big Five Inventory (Plaisant, Courtois, Réveillère, Mendelsohn, & John, 2010). This questionnaire asks participants to rate the degree to which they agree with 45 different statements on 5-point Likert scales ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). In this questionnaire, eight items assess extraversion (e.g., "I am someone who is outgoing, sociable"), and eight items assess neuroticism (e.g., "I am someone who worries a lot"). Averaging scores for the items designed to assess each of these traits yielded the indicators of extraversion ($\alpha = 0.85$) and neuroticism ($\alpha = 0.84$) used in the analyses reported below.

It is noteworthy that empirical arguments supporting the validity of the French Big Five Inventory have been reported (Lignier, Petot, Plaisant, & Zebdi, 2016; Plaisant et al., 2010).

Apart from extraversion and neuroticism, we did not assess the specific personality variables that previous studies had associated with between-individuals differences in job-search dynamics (e.g., emotion regulation skills, regulatory focus, action/state orientation). This choice was guided by parsimony. More specifically, for them to be considered, the dozens of specific personality traits available have to show evidence of their discriminant validity in relation to the less numerous higher-order personality traits. The opposite (i.e., the less numerous higher-order traits having to show their discriminant validity in relation to the dozens of more specific traits) is unnecessary, as higher-order traits already have a considerable advantage over more specific ones, namely allowing the development of more parsimonious theories.

Data Analysis Strategy

All analyses were performed using R (R Core Team, 2019). The dataset on which our analyses were based, as well as the R script used, are contained in an open-access file available at https://osf.io/p36fe/?view_only=0e959c59bf734c2d9d904d38490f5d7e.

All the analyses reported below involved linear mixed-effects models fitted with maximum likelihood estimation. Four characteristics were shared by all these models. First, they all contained one random intercept per participant, to take into account the hierarchical nature of the data (i.e., several assessment points nested within several individuals). Second, all these models contained the same sociodemographic control variables as predictors, namely sex (dichotomous variable), age (grand-mean-centered numeric variable), education level (grand-mean-centered ordinal variable with four modalities indicating whether the participant had no diploma, a vocational high-school diploma, a general high-school diploma, or one or more completed years of higher education), and duration of unemployment (grand-mean-centered ordinal variable with five modalities indicating whether the participant had been unemployed for less than 1 week, 1-4 weeks, 1-6 months, 6-12 months, or longer). Third, when possible, these models controlled for so-called *regression toward*

the mean effects (Yu & Chen, 2015), by including the lagged version of a variable as a predictor when this variable was examined. For instance, the model computed to test the effect of job-search efforts between t0 and t1 on emotional wellbeing at t1 included not only the efforts made between t0 and t1 as predictors, but also emotional wellbeing at t0 and the efforts made the week before. Fourth, for clarity's sake, the labels of the models' computed match the hypotheses' labels (e.g., Model 1a tested Hypothesis 1a).

As a preparatory step, all state variables (i.e., job-search efforts, proximity to the goal of obtaining employment, emotional wellbeing, and job-search self-efficacy) were person-mean-centered, and all dispositional variables (i.e., extraversion and neuroticism) were grand-mean-centered, in accordance with recommendations for analyzing data structured in a hierarchical manner (Enders & Tofighi, 2007; Hofmann, Griffin, & Gavin, 2000) that have been applied in several studies on between-individual differences in job-search dynamics (e.g., Chawla et al., 2019; Da Motta Veiga & Turban, 2014, 2018).

After lagging the data to enable the simultaneous consideration of two consecutive assessment points (t0 and t1), we applied a three-step data analytic strategy. In the first step of the data analysis strategy, we tested our hypotheses about the relationship between job-search efforts made during 1 week and concurrent changes in emotional wellbeing and job-search self-efficacy. To this end, we computed two models: Model 1a and Model 1b. In Model 1a, emotional wellbeing at t1 was regressed on the efforts made between t0 and t1 and their interactions with extraversion and neuroticism, in addition to the above-mentioned control variables. In Model 1b, job-search self-efficacy at t1 was regressed on these predictors.

In the second step, we tested our hypotheses on the mediation of the two above-mentioned relationships by perceived proximity to the goal of obtaining employment. Mediation effect hypotheses can be directly tested by running mediation analyses (Tingley, Yamamoto, Hirose, Keele, & Imai, 2014). We computed two multilevel mediation analyses (i.e., one for the relationship between efforts and emotional wellbeing, and one for the relationship between efforts and self-

efficacy) using 1000 bootstraps, where confidence intervals were estimated using a quasi-Bayesian approach. We included the interaction effects between the main independent variable of interest and extraversion and neuroticism in each model, to determine whether either extraversion or neuroticism significantly modified any of the effects we examined.

In the third step, we tested our hypotheses on the relationships between emotional wellbeing or job-search self-efficacy and subsequent job-search efforts, as well as the hypothesized differences in these relationships according to extraversion and neuroticism. To this end, we computed two final models, namely Models 3a and 3b. In Model 3a, the efforts made between t_0 and t_1 were regressed on emotional wellbeing at t_0 and its interaction with extraversion and neuroticism, in addition to the above-mentioned control variables. In Model 3b, the same dependent variable was regressed on job-search self-efficacy and its interaction with extraversion and neuroticism, in addition to our control variables. When a significant interaction effect emerged, simple slope analyses were computed to probe it. In these simple slope analyses, our phenomenon of interest (e.g., the relationship between emotional wellbeing and subsequent job-search efforts) was computed separately for individuals with a low and a high level on the personality variable of interest (e.g., extraversion). As it is usually done, a low level on the personality variable of interest was fixed at one standard deviation below the mean, and a high level was fixed at one standard deviation above the mean. If a nonsignificant effect emerged, our phenomenon of interest was also computed separately for individuals with a very low and a very high level on the personality variable of interest (i.e., two standard deviations below and above the mean, respectively). For clarity reasons, in these analyses, labels were assigned to individuals with different levels of extraversion or neuroticism: *introverted* or *very introverted* for individuals with a low or very low level of extraversion, respectively; *extraverted* or *very extraverted* for individuals with a high or very high level of extraversion, respectively; *emotionally-stable* or *very emotionally-stable* for individuals with a low or very low level of neuroticism, respectively; and *neurotic* or *very neurotic* for individuals with a high or very high level of neuroticism, respectively.

Results

Descriptive Statistics

Descriptive statistics are set out in Table 1. Some potentially interesting results already emerged at this initial descriptive stage. In particular, none of our state variables of interest had an intraclass correlation coefficient (i.e., an indicator of the proportion of the variance of a repeatedly assessed variable that is attributable to stable between-individual differences) of approximately 1 (i.e., 100%). More specifically, intraclass correlation coefficients ranged from 43% for job-search efforts to 74% for job-search self-efficacy. Thus, a substantial amount of the variance in our state variables of interest was attributable to within-individual fluctuations (i.e., from 57% for job-search efforts to 26% for job-search self-efficacy). These results, comparable in size to those reported in previous studies (Chawla et al., 2019; Da Motta Veiga & Turban, 2014; Wanberg et al., 2012), underscore the usefulness of examining the within-individual processes involved in job search.

(Insert Table 1 approximately here)

Relationships Between Job-Search Efforts and Concurrent Emotional Wellbeing and Job-Search Self-Efficacy

Results are set out at the top of Table 2. For Model 1a, results suggested that, as expected, greater weekly efforts to obtain employment were accompanied by increases in jobseekers' emotional wellbeing across the week in which these efforts were made ($b = 0.19, p < 0.001$)⁵. For Model 1b, results suggested that, as predicted, these greater weekly efforts were also accompanied by increases in job-search self-efficacy during the week ($b = 0.09, p < 0.05$). Importantly, neither of these effects was significantly modified by individuals' levels of extraversion and neuroticism, again as expected.

⁵ The b coefficient can be interpreted as follows: a 1-point increment in job-search efforts on its raw scale ranging from 0 to 100 led to a 0.19-point increment in emotional wellbeing on its 0-100 scale. The remaining b coefficients can be interpreted in a similar manner.

(Insert Table 2 approximately here)

Further analyses were computed to test whether these effects were mediated by perceived goal proximity. Results of our two mediation analyses are displayed in Table 3. As expected, the indirect effects of greater weekly job-search efforts on increases in both emotional wellbeing and job-search self-efficacy through increases in perceived goal proximity were significant ($ps < 0.001$). More specifically, weekly increases in perceived proximity to the goal of obtaining employment mediated 54% of the relationship between weekly job-search efforts and weekly changes in emotional wellbeing, while it mediated 95% of the relationship between weekly job-search efforts and weekly changes in job-search self-efficacy ($ps < 0.001$). Importantly, neither of these effects was significantly moderated by extraversion or neuroticism.

(Insert Table 3 approximately here)

Relationships Between Emotional Wellbeing/Job-Search Self-Efficacy and Subsequent Job-Search Efforts

Results are set out at the bottom of Table 2. Regarding the relationship between emotional wellbeing and subsequent job-search efforts, the results of Model 3a supported our hypothesis. On average, the emotional wellbeing felt by jobseekers at a given time was not related to the job-search efforts they made the following week ($b = -0.09, p = 0.27$). However, as expected, this effect was significantly moderated by extraversion and neuroticism. More specifically, this relationship was more positive when jobseekers had higher levels of extraversion ($b = 0.38, p < 0.001$) or neuroticism ($b = 0.24, p < 0.05$). Simple slope analyses revealed the following patterns. For introverted individuals (i.e., one standard deviation below the mean on extraversion) or emotionally stable individuals (i.e., one standard deviation below the mean on neuroticism), the greater their

emotional wellbeing at a given time, the fewer job-search efforts they subsequently made, as hypothesized (introverted individuals: $b = -0.40$, $p < 0.01$; emotionally stable individuals: $b = -0.29$, $p < 0.05$). By contrast, for extraverted individuals (i.e., one standard deviation above the mean on extraversion), and again as expected, the greater their emotional wellbeing at a given time, the more job-search efforts they subsequently made ($b = 0.22$, $p < 0.05$). For neurotic individuals (i.e., one standard deviation above the mean on neuroticism), and very neurotic individuals (i.e., two standard deviations above the mean on neuroticism), results went in the same direction, albeit nonsignificantly (neurotic individuals: $b = 0.11$, $p = 0.34$; very neurotic individuals: $b = 0.32$, $p = 0.11$).

It is worth noting that extraversion and neuroticism impacted the relationship between emotional wellbeing and subsequent efforts in the same direction. Therefore, individuals who were both introverted and emotionally stable differed strongly from individuals who were both extraverted and neurotic, while individuals with differing scores on extraversion and neuroticism fell between these two extremes. This pattern is illustrated in Figure 1a, showing predictions of job-search efforts as a function of emotional wellbeing that were computed on the basis of the parameters estimated by Model 3a. More specifically, predictions of this effect were computed separately for individuals displaying the four Galenic profiles (see Dauvier et al., 2019), namely individuals scoring low on both traits (i.e., stable introverts), high on both traits (i.e., neurotic extraverts), high on extraversion and low on neuroticism (i.e., stable extraverts), or high on neuroticism and low on extraversion (i.e., neurotic introverts).

(Insert Figure 1 approximately here)

Regarding the relationship between job-search self-efficacy and subsequent efforts, the results for Model 3b only partly supported our hypothesis. As predicted, like emotional wellbeing, job-search self-efficacy at a given time was generally not related to job-search efforts the following

week ($b = -0.09, p = 0.45$). This relationship was nevertheless moderated by individuals' levels of extraversion. This relationship became significantly more positive as individuals' extraversion scores increased ($b = 0.39, p < 0.01$), as hypothesized. Contrary to our expectations, it was not significantly moderated by neuroticism ($b = 0.25, p = 0.10$). Simple slope analyses, computed using the same procedure as above, revealed that for introverted individuals, the greater their job-search self-efficacy at a given time, the fewer job-search efforts they subsequently made ($b = -0.40, p < 0.05$). For extraverted individuals, the relationship between job-search self-efficacy and subsequent job-search efforts went in the opposite direction, albeit nonsignificantly ($b = 0.23, p = 0.16$). For very extraverted individuals, this relationship was significant ($b = 0.54, p < 0.05$). Hence, the greater their job-search self-efficacy at a given time, the greater their subsequent job-search efforts. Once again, as can be seen in Figure 1b, where predictions were computed on the basis of the parameters estimated in Model 3b, using the same procedure as for the predictions depicted in Figure 1a, stable introverts and neurotic extraverts differed substantially, while stable extraverts and neurotic introverts fell between these two extremes.⁶

Discussion

Interpretation of results

The first main result was that, as expected, greater weekly job-search efforts made by jobseekers were accompanied by increases in their emotional wellbeing and job-search self-efficacy across the same week, and these effects were mediated (partially for emotional wellbeing, almost totally for job-search self-efficacy) by the perception of progress toward their goal of obtaining employment. These results suggest that, when jobseekers produce efforts in their job search, they tend to perceive that they are getting closer to their goal of being employed. They also suggest that, when jobseekers produce such efforts, they tend to experience more intense positive emotions and

⁶ Sociodemographic variables may also explain some between-individuals differences in job-search dynamics. In particular, two such variables seem to influence jobseekers' self-regulatory variables over time. These are education level (Da Motta Veiga & Turban, 2014) and duration of unemployment (Pignault & Houssemand, 2018). For this reason, we ran all the above models again, entering education level and duration of unemployment as moderators of all the effects we tested. All the results are contained in an open access file available at https://osf.io/p36fe/?view_only=0e959c59bf734c2d9d904d38490f5d7e.

self-efficacy especially if they perceive that the efforts they produce actually made a difference in getting them closer to their employment goal. These results are consistent with the intuitive hypotheses formulated by social cognitive (e.g., Bandura, 1991; Locke & Latham, 1990b) and control (e.g., Carver & Scheier, 1990; Powers, 1991) theoreticians of self-regulation. They are also consistent with the results of some previous job-search dynamics studies, which suggested that when jobseekers make greater job-search efforts, they tend to increase their proximity to their goal of obtaining employment (Da Motta Veiga & Turban, 2018; Liu et al., 2014), and when perceived goal proximity is greater, jobseekers display enhanced emotional wellbeing and job-search self-efficacy (Da Motta Veiga & Turban, 2018; Lieu et al., 2014; Wanberg et al., 2010).

The second main result was that, on average, jobseekers' emotional wellbeing and job-search self-efficacy at the end of 1 week were not related to the job-search efforts they made the following week. However, as expected, these relationships were moderated by individuals' levels of extraversion and neuroticism. Regarding extraversion, as expected, the higher jobseekers' level of extraversion, the greater the efforts they made following positive experiences (i.e., high emotional wellbeing, high job-search self-efficacy), and thus the lower their efforts following negative experiences. This result is consistent with a number of previous findings showing that the higher individuals' level of extraversion, the more inclined they are to perceive and continue seeking rewards and positive experiences after obtaining an initial reward or experiencing an initial positive state (Hirsh et al., 2010; Pavani et al., 2017; Robinson et al., 2017). This is also consistent with theoretical arguments stating that extraversion relates to between-individual differences in responses to rewards and pleasant stimuli (DeYoung, 2015; Zelenski & Larsen, 1999), leading extraversion to have an impact on self-regulation dynamics (DeYoung, 2015). The results discussed here may be more intelligible if we take the example of two very different jobseekers, one with a high extraversion score, the other with a low extraversion score. After an initial positive experience, the former is likely to perceive more rewards related to job search (e.g., future successes, future

opportunities to learn and grow) than the latter. After this initial positive experience, the former is therefore more likely to continue making job-search efforts than the latter.

By contrast, the results for neuroticism only partly corroborated our hypotheses. As expected, the higher the jobseekers' level of neuroticism, the greater the efforts they made following positive emotional experiences, and thus the lower their efforts following negative emotional experiences. However, contrary to our expectations, albeit in the predicted direction, the moderation by neuroticism of the relationship between job-search self-efficacy and subsequent job-search efforts was not statistically significant. It is nevertheless noteworthy that neuroticism's moderation of the relationship we observed between emotional wellbeing and subsequent job-search efforts is consistent with previous results suggesting that goal-directed behaviors are more disturbed by negative experiences among highly neurotic individuals than among more emotionally stable ones (Lyubomirsky et al., 1999; Melloy et al., 2018; Pavani et al., 2017). It is also consistent with theories arguing that the relationship of neuroticism to between-individual differences in the response to threats, punishments and, more broadly, negative experiences, can result in neuroticism having an impact on self-regulation dynamics (DeYoung, 2015; Zelenski & Larsen, 1999). It may be that in reaction to an initial state of intense negative emotions, the higher the jobseekers' level of neuroticism, the greater their inclination to focus on new threats related to their job search and to engage in rumination. This rumination may, in turn, reduce the intensity of their subsequent goal-directed behaviors, mainly by exerting a lasting detrimental influence on their self-efficacy (Lyubomirsky et al., 1999). By contrast, the unpredicted results suggesting that neuroticism did not significantly moderate the effect of job-search self-efficacy on subsequent job-search efforts may signal the existence of more complex phenomena than expected. Examining individual or contextual factors that may yield changes in this moderation may be important in future research, as suggested by the larger standard error we found for this moderation, compared with the other moderations involving neuroticism we analyzed.

Implications

Taken together, these results have several theoretical and practical implications. At a theoretical level, they can be considered in the light of previous findings on job-search efforts. As mentioned above, most previous studies examined between-individual predictors of these efforts. At a between-individual level, job-search self-efficacy and emotional wellbeing have almost systematically been identified as factors promoting job-search efforts (e.g., Côté et al., 2006; Crossley & Stanton, 2005; Saks & Ashforth, 1999; Saks et al., 2015; Van Hooft et al., 2005; Wang & Yan, 2018), regardless of whether the study was cross-sectional (e.g., Wang & Yan, 2018) or longitudinal (e.g., Côté et al., 2006), and regardless of whether the data were collected among students (e.g., Crossley & Stanton, 2005) or more representative samples (e.g., Van Hooft et al., 2005). These findings therefore lend weight to social cognitive theories (e.g., Bandura, 1991; Locke & Latham, 1990b). However, consistent with previous studies of the within-individual dynamics of job-search efforts (e.g., Da Motta Veiga & Turban, 2018; Melloy et al., 2018; Sun et al., 2013; Wanberg et al., 2010), our results were more complex, indicating that self-regulation theories on the *average individual* are incomplete. Some participants (i.e., the most extraverted or neurotic ones) appeared to behave as predicted by social cognitive theories, whereas others (i.e., the most introverted or emotionally stable ones) seemed to behave as predicted by control theories. The fact that regularities could be observed and predicted in these between-individual differences (i.e., depending on individuals' levels of extraversion and neuroticism) suggests that the scientific dead end whereby one theory has to be constructed per individual (see Borsboom et al., 2009) can be avoided. Nevertheless, future theoretical studies could look for explanations for the different phenomena observed at the between- and within-individual levels.

At a practical level, our findings may promote the development of evidence-based personalized counselling recommendations for jobseekers. As Liu, Huang, and Wang (2014) highlighted in their review of the effectiveness of job-search interventions, social cognitive theories constitute one of the main theoretical pillars of these interventions, unlike control/cybernetic theories. It is therefore not surprising to observe that boosting job-search self-efficacy and

wellbeing is frequently one of the aims of job-search interventions (e.g., Eden & Aviram, 1993; Koen, Klehe, & Van Vianen, 2012; van der Horst, Klehe, Brenninkmeiger, & Coolen, 2021). Nevertheless, in line with previous research (e.g., Da Motta Veiga & Turban, 2018; Melloy et al., 2018; Sun et al., 2013; Wanberg et al., 2010), our findings suggest that a temporary increase in job-search self-efficacy and wellbeing only motivates some individuals to pursue their job-search efforts, and actually demotivates others. Given these between-individual differences, employment counsellors may find it valuable to apply the following three strategies. First, they could systematically assess jobseekers' levels of extraversion and neuroticism prior to the intervention, to predict which ones are likely to be motivated or demotivated to produce job-search efforts following interventions designed to temporarily boost their job-search self-efficacy or emotional wellbeing. Second, employment counsellors could systematically assess how each jobseeker actually reacts to such intervention tools during their implementation, as extraversion and neuroticism only partly predict individuals' reactions to a temporary increase in their job-search self-efficacy or emotional wellbeing. Third, when jobseekers appear to be demotivated by increases in their job-search self-efficacy and emotional wellbeing, employment counsellors could implement different intervention activities to encourage these jobseekers to make more efforts. For instance, to take account of their tendency to reduce their efforts after experiencing success, employment counsellors could help them create a schedule in order to avoid these reduced efforts lasting too long. Employment counsellors could also focus on any doubts these individuals might have (e.g., by inviting them to envision all the remaining obstacles to attaining their goal).

Limitations

These ideas should, however, be viewed with caution, considering this study's limitations. The first limitation regards generalizability issues. For a start, the size of our sample, albeit comparable to those in previous studies of self-regulation dynamics (e.g., Chawla et al., 2019; Louro et al., 2007; Pavani et al., 2017), can be viewed as relatively small ($n = 80$). In addition, participants were predominantly female (77.5%). Importantly, although a relatively small sample

size can increase the so-called *type II error*, we wished to focus only on effects that were expected to be non-negligible or non-weak in size. Moreover, as regards participants' sex, the female majority was not considered to be a problem requiring resolution, for to our knowledge, there are no current theoretical or empirical arguments to suggest that self-regulation dynamics differ between female and male individuals. Nevertheless, further studies with larger sample sizes and more balanced sex ratios would serve to confirm the robustness of the present study's findings. Moreover, by implementing three different recruitment strategies, and applying only two exclusion criteria (i.e., age below 18 years and not actively engaged in job search), we attempted to recruit a sample with varying sociodemographic and psychological characteristics, just as the general population of French jobseekers has varying characteristics. This is why we did not restrict our sample to students, in contrast to two thirds of the studies of the dynamics of jobseekers' self-regulation. Nevertheless, as we did not seek to recruit a sample whose mean characteristics were identical to those of French jobseekers in general, this possibly raises generalizability issues that will have to be addressed in future studies.

A second limitation is our choice not to assess socioeconomic status. The present study was not specifically designed to examine the contribution of sociodemographic variables to the dynamics of jobseekers' self-regulation. Moreover, socioeconomic status has rarely been assessed in studies of these dynamics. However, it could be worthwhile exploring variables related to socioeconomic status in future research, as two previous studies suggest for instance that financial hardship can explain some between-individuals differences in the dynamics of jobseekers' self-regulation (Melloy et al., 2018; Wanberg et al., 2010). Melloy et al. (2018) found that the effect of emotional obstacles on subsequent job-search efforts became significantly more positive as individuals' financial hardship increased. Wanberg et al. (2010) observed that as individuals' financial hardship increased, the effect of advancing toward the goal of finding employment on positive emotions became significantly less positive, while its effect on negative emotions became significantly less negative. Future studies should therefore simultaneously examine context- and

personality-related variables as possible moderators of the dynamics of jobseekers' self-regulation, to gain a more comprehensive understanding of these dynamics.

A third limitation concerns the use of single items to assess job-search efforts and perceived goal proximity. As mentioned above, although single items are suboptimal because they prevent the estimation of measurement errors, they possess the advantage of reducing the burden that repeated measurements place on participants. For this reason, they are sometimes used in studies of self-regulation dynamics (e.g., Holman et al., 2005; Louro et al., 2007) and job-search dynamics (e.g., Liu et al., 2014; Wanberg et al., 2005). As measurement errors can be caused by participants' misunderstanding of the items, we strove to reduce the risk of these items being misunderstood. More specifically, we derived our single items from items that had already shown evidence of their criterion validity in previous studies, and accompanied them with detailed instructions. Future studies on this issue could, however, use assessment tools containing more items, to enable measurement errors to be estimated, in order to confirm rather than infer their weakness.

A fourth limitation concerns the manner in which self-efficacy was assessed. First, we created a new job-search self-efficacy questionnaire, even though questionnaires assessing this variable are already available (e.g., Liu et al., 2014; Sacks et al., 2015). The reason for this is that none of the existing questionnaires had been validated at the within-individual level. However, as the use of similar methods across different studies makes it easier to compare their findings, future studies should attempt to validate a tool for assessing job-search self-efficacy at both the between- and within-individual levels, to ensure greater unity in the methods used by different researchers. Second, one of the most remarkable results of previous research on job-search dynamics is that self-efficacy exerts different effects on subsequent job-search efforts, depending on its type. In particular, this effect differs according to whether job-search behavior self-efficacy or employment self-efficacy is examined (Liu et al., 2014), and whether state employment self-efficacy or trait employment self-efficacy is examined (Da Motta Veiga & Turban, 2018). In the present study, we only assessed the type of self-efficacy that most closely matched our effort-related variables.

However, it might be useful to conduct more integrative studies of the roles of different self-efficacy types and, more broadly, different expectancy types, in the dynamics of self-regulation during job search.

Recommendations for Future Research

Besides the above-mentioned recommendations (i.e., conducting studies with larger sample sizes and more balanced sex ratios, conducting studies with assessment tools whose measurement errors could be systematically estimated, distinguishing between various types of job-search self-efficacy), the present study strongly motivates another line of research. This line of research would take into consideration the hierarchical structure of personality (DeYoung, 2015). As stated above, previous studies pertaining to possible moderators of job-search dynamics have focused on very specific personality traits (e.g., emotion regulation skills, regulatory focus, action/state orientation; Melloy et al., 2018; Sun et al., 2013; Wanberg et al., 2010). By contrast, the present study examined higher-order personality dimensions (i.e., extraversion and neuroticism). The simultaneous consideration of both levels of the personality hierarchy may deepen our understanding of between-individual differences in job-search dynamics, by yielding one of the following type of results.

First, specific personality traits (e.g., emotion regulation skills) could happen to fail to explain between-individual differences in job-search dynamics above and beyond higher-order dimensions (e.g., neuroticism). Such a type of result would give weight to theories of between-individual differences in job-search dynamics emphasizing the higher-order level of the personality hierarchy. Such theories would be more parsimonious, and not less predictive, than theories mobilizing specific personality traits. Second, specific personality traits and higher-order dimensions could both explain a part of between-individual differences in job-search dynamics. In such a case, less parsimonious but more predictive theories would be corroborated by such results. Third, specific personality traits could happen to partly or totally mediate the influence of higher-order personality traits on job-search dynamics. Such findings could give weight to theories aiming

at logically connecting several levels of the personality hierarchy when attempting to explain between-individual differences in job-search dynamics.

To the best of our knowledge, despite the availability of methodological tools enabling to conduct the studies we mentioned just above (e.g., mediated moderation analyses), no such study has been conducted so far. The present study, suggesting that broad personality dimensions can explain between-individual differences in job-search dynamics like more specific traits did in previous studies, strongly motivates reflections on the level of the personality hierarchy at which we could find the most valuable moderators.

Conclusion

Three main findings emerged in the present study. First, greater weekly job-search efforts were accompanied by increases in emotional wellbeing and job-search self-efficacy across the week. Second, these relationships were mediated (partially for emotional wellbeing, and almost totally for job-search self-efficacy) by the jobseekers' perception that they were progressing toward their goal of obtaining employment. Third, the relationships of emotional wellbeing or job-search self-efficacy states at a given time on the job-search efforts made the following week were, by contrast, dependent on extraversion and neuroticism. The more extraverted or neurotic jobseekers were, the more inclined they were to make job-search efforts after positive experiences (i.e., high emotional wellbeing and/or high job-search self-efficacy), and the less inclined they were to make such efforts after negative experiences. Conversely, the more introverted and emotionally stable jobseekers were, the more inclined they were to make efforts after negative rather than positive experiences. Taken together with the results of several previous job-search dynamics studies, these findings will encourage researchers to simultaneously consider between-individual and within-individual factors when seeking to understand self-regulation dynamics during job search more fully.

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Table 1

Descriptive statistics and intercorrelations for the variables of interest in the present study.

Variable	<i>M</i>	<i>SD</i>	Sk.	ICC	1	2	3	4	5
1. Effort	53.53	28.06	-0.20	0.43		0.19	0.17	0.33	
2. EWB	56.74	24.01	-0.19	0.55	0.33		0.36	0.35	
3. SE	59.75	22.75	-0.35	0.74	0.47	0.68		0.41	
4. P	50.43	27.11	0.08	0.63	0.63	0.48	0.72		
5. E	3.52	0.79	-0.26		0.12	0.28	0.35	0.24	
6. N	2.69	0.85	0.31		-0.17	-0.44	-0.41	-0.21	-0.36

Note. *M*: mean; *SD*: standard deviation; Sk.: skewness; ICC: intraclass correlation; EWB: emotional wellbeing; SE: job-search self-efficacy; P: perceived proximity to obtaining a job; E: extraversion; N: neuroticism. Correlations below and above the diagonal were computed at the between-individual and within-individual levels, respectively. With a threshold set at $p < 0.05$, correlations at the between-individual level were statistically significant when they exceeded the absolute value of 0.21, while all the correlations at the within-individual level were significant.

Table 2

Results of linear mixed-effects models computed to test the main hypotheses of the present study.

Model 1a (DV = EWB t1)				Model 1b (DV = SE t1)			
Predictors	b	SErr	<i>p</i>	Predictors	b	SErr	<i>p</i>
Intercept	-1.21	0.99	0.223	Intercept	-0.33	0.75	0.660
Effort t1	0.19	0.05	< 0.001*	Effort t1	0.09	0.04	0.017*
E	1.13	1.16	0.333	E	0.09	0.89	0.921
N	0.50	1.11	0.653	N	0.22	0.84	0.792
EWB t0	-0.31	0.06	< 0.001*	SE t0	-0.29	0.07	< 0.001*
Effort t0	0.13	0.05	0.012*	Effort t0	0.06	0.04	0.126
Effort t1 * E	0.07	0.06	0.249	Effort t1 * E	0.05	0.04	0.312
Effort t1 * N	0.05	0.07	0.492	Effort t1 * N	0.03	0.05	0.522

Model 3a (DV = Effort t1)				Model 3b (DV = Effort t1)			
Predictors	b	SErr	<i>p</i>	Predictors	b	SErr	<i>p</i>
Intercept	0.62	1.34	0.646	Intercept	0.38	1.37	0.782
EWB t0	-0.09	0.08	0.277	SE t0	-0.09	0.12	0.461
E	-1.58	1.58	0.322	E	-1.12	1.61	0.489
N	0.01	1.51	0.994	N	0.45	1.53	0.767
Effort t0	-0.35	0.07	< 0.001*	Effort t0	-0.37	0.07	< 0.001*
EWB t0 * E	0.38	0.10	< 0.001*	SE t0 * E	0.39	0.14	0.008*
EWB t0 * N	0.24	0.11	0.033*	SE t0 * N	0.25	0.15	0.103

Note. DV: dependent variable; *SErr*: standard error; EWB: emotional wellbeing; SE: job-search self-efficacy; P: perceived proximity to obtain a job; E: extraversion; N: neuroticism.

* $p < 0.05$.

Table 3

Results of the two mediation analysis tests performed in the present study.

Effect	Mediation 1			Mediation 2		
	b	95% CI	<i>p</i>	b	95% CI	<i>p</i>
Total effect	0.18	[0.07, 0.29]	< 0.001*	0.09	[0.02, 0.17]	0.016*
Direct effect	0.08	[-0.02, 0.18]	0.100	0.00	[-0.07, 0.07]	0.934
Indirect effect	0.10	[0.05, 0.15]	< 0.001*	0.09	[0.05, 0.14]	< 0.001*
% Mediated	0.54	[0.28, 1.18]	< 0.001*	0.95	[0.48, 4.65]	0.024*

Note. Mediation 1: mediation of effort-emotional wellbeing relationship by goal proximity (Hypothesis 2a); Mediation 2: mediation of effort-job-search self-efficacy relationship by goal proximity (Hypothesis 2b). The effects were analyzed using 1,000 bootstraps.

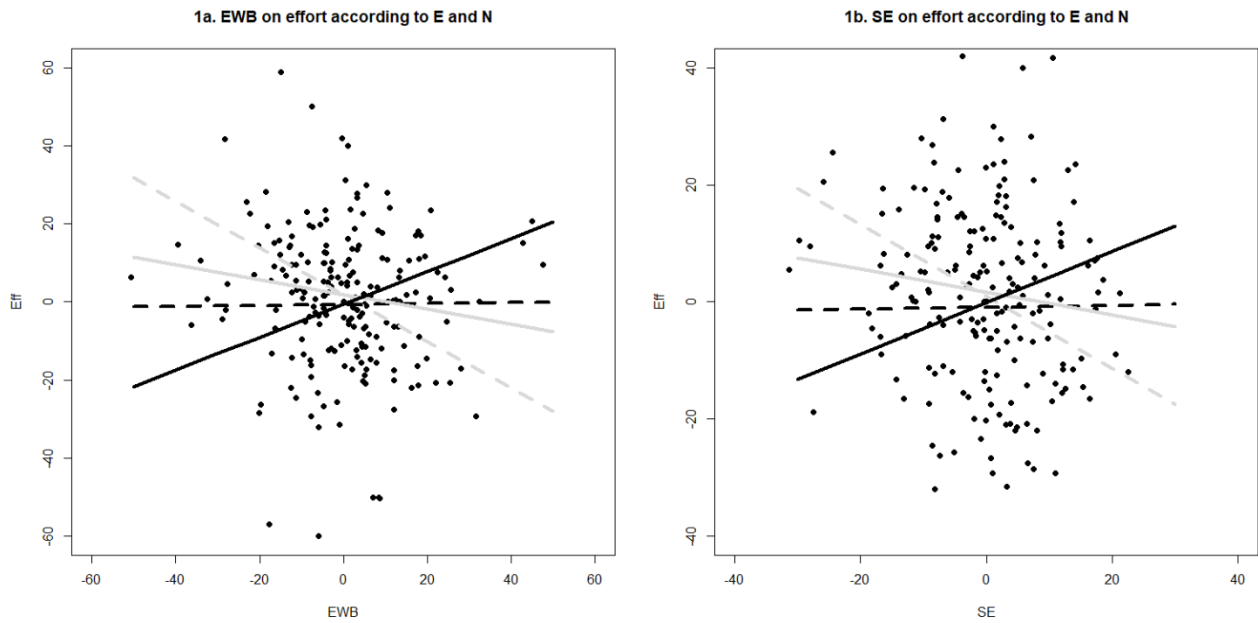


Figure 1. Graphical representation of the relationships between emotional wellbeing or job-search self-efficacy and subsequent job-search efforts according to extraversion and neuroticism.

Note. Eff: effort; EWB: emotional wellbeing; SE: job-search self-efficacy; E: extraversion; N: neuroticism. Stable introverts are represented by the dashed gray line, stable extraverts by the dashed black line, neurotic introverts by the solid gray line, and neurotic extraverts by the solid black line. These four personality profiles resulted from the combination of low or high scores (i.e., one standard deviation below or above the mean) on extraversion and neuroticism.