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**Extraversion and performance approach goal orientation:****An integrative approach to personality**

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**Abstract**

Research shows that extraversion is unrelated to performance approach goal orientation, both at the trait- and the state-level. However, since previous studies have either focused on the trait- or the state-level, such a conclusion may be premature. Building upon the idea that acting against one's trait consumes self-control resources, we reason that within-person deviations from one's level of trait extraversion might negatively relate to performance approach goal orientation. Using experience sampling data from 47 employees across 10 days ( $N=307$ ), we found that deviations from one's trait extraversion levels are associated with lower levels of performance approach goal orientation. These findings suggest that an integrative approach to personality allows to better understanding of the relationship between extraversion and performance approach goal orientation.

## 1. Introduction

Meta-analytical studies on the relationship between personality and goal orientation have demonstrated that extraversion is unrelated to performance approach orientation, or the desire to demonstrate competence on performance indicators relative to others (McCabe, Van Yperson, Elliot, & Verbraak, 2013 ( $\bar{r} = -.13$ ; 95% CI [-.20, .06]); Payne, Youngcourt, & Beaubien, 2007 ( $\bar{r} = .03$ ; 95% CI [-.01, .06])). Moreover, in their study on the functional nature of manifestations of extraversion, McCabe and Fleeson (2012) found state extraversion to relate to a wide set of approach-oriented goals, but not to “trying to get things done”. Even though this particular goal is not a perfect operationalization of performance approach orientation, high-achieving students have been shown to have a stronger focus on getting things done than low-achieving students (Wentzel, 1989), offering empirical support for its status as an approach goal. Thus, meta-analytical research at the trait-level suggests that performance approach orientation is unrelated to extraversion, while the study of McCabe and Fleeson (2012) very tentatively suggests that, also at the state level, this relationship might be weak or nonexistent.

However, since these studies have either focused on the trait *or* the state level, it may be premature to conclude that performance approach goal orientation and extraversion are unrelated. Building upon the notion that acting against one’s trait consumes self-control resources (Zelenski, Santoro, & Whelan, 2012), we reason that, while trait and state extraversion themselves may be unrelated to approach goal orientation, within-person deviations from one’s trait extraversion levels are depleting and therefore such counterdispositional extraversion should hinder performance approach goal orientation. In other words, we maintain that not the trait, nor the state level as such, but their unique interplay might predict momentary goal achievement, thereby offering an integrative approach to studying the relationship between extraversion and performance approach orientation.

### 1.1 Performance approach orientation and its relationship with personality

According to Payne et al. (2007), goal orientation “refers to one’s dispositional or situational goal preferences in achievement situations” (p. 128). As this definition suggests, goal orientation has been alternately treated as a stable, trait-like preference (e.g. Colquitt & Simmering, 1998), or a situation-specific, state-like preference (e.g. McCabe et al., 2013). Indeed, although a goal orientation might relate to stable, between-person differences, theory and research suggest that it can also be triggered by situational factors (Button, Mathieu, & Zajac, 1996).

In terms of content, a traditional distinction has been made between mastery and performance orientation. Mastery orientation refers to a focus on self-development and building competence, while performance orientation implies demonstrating competence by making normative comparisons with others. In the mid-nineties and the beginning of the 21<sup>st</sup> century, respectively, both performance orientation and mastery orientation have been further differentiated into approach and avoidance orientations. Approach goal orientation is focused on the need to succeed or achieve, and it is therefore associated with adaptive behaviors in response to incentives (i.e., successful determination). Avoidance goal orientation, in turn, is concerned with avoiding failure and this typically results in maladaptive behaviors (Elliot & Church, 1997; Payne et al., 2007). In the present paper, we specifically focus on performance approach goal orientation because of its unique status.

In the scientific literature, the status of performance goal orientation has been one of intense debate. A first area of controversy concerns the relationship between performance goal orientation and performance. Because performance approach orientation encompasses both positive (i.e., its approach-related process) and negative (i.e., its external focus) features, the relationship with performance can take many forms. Following this ambiguity, different studies have hypothesized (and found) different relationships: a positive one, a negative one and the absence of a relationship (e.g., Davis, Mero, & Goodman, 2007; Payne et al., 2007; Seijts, Latham, Tasa, & Latham, 2004). The second area of controversy—and the one that is most relevant to the present paper—pertains to its relationships with antecedents, and particularly personality. Whereas mastery approach

orientation and performance avoidance orientation have been shown to be consistently related to the Big Five personality traits, the pattern of relationships for performance-approach orientation is less clear. For example, the meta-analysis of Payne et al. (2007) found that performance approach orientation is (negatively) predicted by emotional stability only, while the meta-analysis by McCabe et al. (2013) found performance-approach orientation to be (weakly) associated to a mixed-valence personality profile, being positive relationships with conscientiousness and openness and a negative one with emotional stability.

In the present paper, we argue that, in order to fully capture the relationship between performance approach orientation and personality, it might not suffice to only look at either the trait or the state level. Instead, and drawing on the behavioral concordance model (Moskowitz & Côté, 1995), we argue that, on top of the unique effects of traits and states, it is of crucial importance to look at their interplay. In our study, this is done by testing the depleting effect of counterdispositional extraversion on performance approach goal orientation. Extraversion is a particularly interesting personality dimension because, despite its grounding in fundamental motivation systems, such as the behavioral activation system (Dauvier, Pavani, Le Vigouroux, Kop, & Congard, 2019), and despite the fact that energy is a core feature that is shared by both extraversion and performance approach goal orientation (Costa & McCrae, 1980), meta-analytical research shows trait extraversion to be unrelated to performance approach goal orientation (McCabe et al., 2013; Payne et al., 2007). Moreover, also at the within-person (state) level, initial empirical evidence found that state extraversion was unrelated to the goal “trying to get things done”, which clearly qualifies as an approach goal (McCabe & Fleeson, 2012). Thus, despite the fact that extraversion encompasses aspect of achievement (Payne et al., 2007), it appears to be unrelated to performance approach goal orientation. Such situation in which there are null relationships at the trait- and state-level provides the ideal conditions to test the idea that exactly the interaction between traits and states matter to performance approach goal orientation. Moreover, the choice for focusing



on extraversion is also inspired by the fact that the large majority of (laboratory) studies on counterdispositional behavior have focused on extraversion, in part because this personality dimension can easily be manipulated (e.g., Gallagher, Fleeson, & Hoyle, 2011; Zelenski et al., 2012). By studying counterdispositional extraversion, we thus explicitly align our study with the existent body of research on counterdispositional behavior.

### **1.2 An integrative approach to personality: The Behavioral concordance model**

The behavioral concordance model (Moskowitz & Côté, 1995) states that behaving in line with one's personality trait level leads to positive emotions, while deviating from one's trait level—or in other words acting out of character—, triggers negative emotions. The reasoning is that deviations from one's trait level—also referred to as counterdispositional behaviors—are effortful to monitor, modify and maintain because they consume or exhaust self-regulatory resources (Gallagher et al., 2011). Self-regulatory resources are what help people maintain their behaviors in socially desired ways, such as self-control. When such self-regulatory resources are exhausted, people experience stress and mental fatigue (Zelenski et al., 2012). In other words, according to the behavioral concordance model, counterdispositional behavior or contra-trait efforts entail costs (Côté & Moskowitz, 1998), and these costs can lead to a reduction in performance in situations that require self-control and self-regulation.

Importantly, to engage in performance approach goal orientation, high levels of self-regulatory resources are required. In support of this idea, it has been shown that, compared to non-depleted individuals, depleted ones are more passive and less inclined to engage in active behavior (Baumeister, Bratslavsky, Muraven, & Tice, 1998), while they also persist less and quit sooner on demanding tasks (Burkley, 2008; Schmeichel & Vohs, 2009). Indeed, performance approach goals have been shown to relate to increased levels of mental focus, or the extent to which one is able to concentrate and to become absorbed in an activity (Lee, Sheldon, & Turban, 2003). To be able to uphold such heightened levels of mental focus, one needs to be rich in self-regulatory resources.

Moreover, research has shown that when people's self-regulatory resources are depleted, they tend to feel inefficacious, which should decrease the chances of engaging in performance approach goals (Chow, Hui, & Lau, 2015). Finally, the availability of self-regulatory resources is believed to promote performance approach goal orientation because it aids the maintenance of high standards (Zimmerman & Kitsantas, 1997).

In line with this reasoning, we hypothesize that, when an individual's level of state extraversion aligns with his/her level of trait extraversion, they will be higher in performance approach goal orientation. However, when that same individual's level of state extraversion deviates from one's level of trait extraversion, his/her self-regulatory resources are taxed and therefore (s)he will be less inclined to engage in approach goal orientation. In other words, we hypothesize that, the further away one veers from their level of trait extraversion, the lower his/her level of performance approach orientation may be.

## **2. Methods**

### **2.1. Participants**

63 full-time employees from various Belgian organizations who had access to a computer during their working day were contacted to participate. Fifty-three of them participated, of whom 34 were women (64.2%). The average age of the respondents was 40.60 years ( $SD = 12.57$ ) with ages ranging from 23 to 65 years. Average organizational tenure was 9.0 years ( $SD = 10.08$ ), and the majority of the participants was employed in the for-profit sector (81.1%). The majority of these employees (94.3%) worked as clerks. Participation was voluntary and participants were not compensated.

### **2.2 Procedure**

Participants first completed an informed consent form and a baseline questionnaire assessing demographical variables as well as a measure of trait extraversion. One week later, all 53 participants that filled out the baseline questionnaire enrolled in a ten-day experience sampling study in which

they received a daily prompt in the afternoon (around 3 pm) assessing their daily level of state extraversion and performance approach orientation. The study resulted in 386 daily reports from 49 participants. After removal of set responses (i.e., no variation in the responses to the diary items), diaries filled out on the same day (in which case we consistently kept the last one), and diaries completed in the weekend or after the study ended, we retained 307 daily reports from 47 participants. Those 47 participants provided responses on at least two days, making their data useful for further analyses (with only one observation, the within-person variability cannot be separated from the between-person variability). In terms of the number of individual observations, we thus obtained 307 unique observations out of a maximum of 470 (47 employees  $\times$  10 days) data points, which corresponds to a response rate of 65.32 percent.

### 2.3 Measures

**2.3.1 Trait and state extraversion.** Trait and state extraversion were measured using the twelve extraversion items of the revised NEO Personality Inventory (NEO-PI-R) (Hoekstra, Ormel, & De Fruyt, 1996). Items were rated on a 7-point scale, ranging from “strongly agree” to “strongly disagree”. A sample item of the trait questionnaire was “I like to have a lot of people around me”. To measure state extraversion, the items were slightly adapted to allow the momentary measurement of extraversion (e.g., “Today, I liked having a lot of people around me”). The Cronbach alpha reliability coefficient for the trait measure equaled .83. To test the reliability of our state extraversion measure, we used the multilevel confirmatory factor analysis approach by Geldhof, Preacher and Zyphur (2014). Using this technique, the within-person factor model is separated from the between-person factor model, after which an omega reliability index is calculated on both levels separately. The within-person omega reliability coefficient equaled .87 while the between-person omega reliability coefficient was .84.

**2.3.2 Performance approach goal orientation.** Performance approach goal orientation was measured using the 6 corresponding items of the Achievement goal scale (Elliot & Church, 1997),

with a sample item being “Today, I was motivated by the thought of outperforming my colleagues”. Ratings were provided using a 7-point scale, ranging from “strongly agree” to “strongly disagree”. The within-person omega reliability coefficient was .87 and the between-person omega reliability coefficient was .98.

### 3. Results

Descriptive statistics of our study variables, along with intra-class correlation coefficients (ICCs) and zero-order correlations are shown in Table 1. The ICCs show that a substantial amount of variation in state extraversion (i.e., 53%) and performance approach goal orientation (i.e., 25%) is due to within-person fluctuations, suggesting that people indeed fluctuate on a day-to-day basis.

\*\*\* Insert Table 1 about here \*\*\*

As our data have a nested, two-level structure with daily measurement on the first level and participants on the second level, we performed two-level regression analyses in the lme4 package for R. Confidence intervals around the parameter estimates were calculated using nonparametric bootstrapping (1,000 bootstrap samples along with percentile confidence intervals (CIs)) using the lmeresampler package. Based on the state extraversion data, we first calculated an index of trait extraversion by averaging per person the state extraversion scores across all measurement occasions. This index correlated .61 ( $p < .001$ ; 95% CI [.38, .82]) with the trait extraversion scores as measured by the NEO-PI-R trait scale<sup>1</sup>. Deviations from the trait level were subsequently obtained by person-centering the state extraversion ratings. To test whether larger deviations related to impaired levels of

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<sup>1</sup> In a recent paper on state-trait homomorphy (the degree to which traits and aggregated states measure the same construct), Rauthmann, Horstmann and Sherman (2018) found convergent correlations between trait extraversion and aggregated state extraversion of about .40, which is slightly lower than the correlation found in our study. Moreover, they also studied whether the nomological network of state and traits are similar, showing that extraversion had the highest nomological homomorphy of all HEXACO traits. In other words, both their study and the convergent correlation in our study suggests that trait extraversion and aggregates of state extraversion measure the same construct (Rauthmann, et al., 2018).

performance approach goal orientation, we predicted performance approach goal orientation using the person-centered extraversion scores as well as the squared person-centered extraversion scores. Both fixed and random effects were included in the model. This model explained 8.6% of the variance in performance approach orientation at the within-person level and 6.1% at the between-person level. In line with our expectations, we found a negative curvilinear component ( $\beta = -.16$ ;  $p = .045$ ; 95% CI [-.44, -.02]) along with a non-significant linear one ( $\beta = .14$ ;  $p = .109$ ; 95% CI [-.12, .26]). This curvilinear relationship is shown in Figure 1. Interestingly, the inflection point of the curvilinear relationship is located at .40, which is very close to 0 or the point where trait and state extraversion aligns.

\*\*\* Insert Figure 1 about here\*\*\*

Next, we tested whether the curvilinear relationship held across different trait levels. This was done by adding the main effect of average state extraversion, the cross-level interactions between average state extraversion and the linear and quadratic component to the model. This model explained 8.6% of the variation in performance approach orientation at the within-person level (note that no within-person predictors were added), and 13.2% at the between-person level. Moreover, the analysis again showed that the within-person relationship was curvilinear in nature ( $\beta = -.17$ ;  $p = .072$ ; 95% CI [-.43, -.01] for the curvilinear component<sup>2</sup> and  $\beta = .13$ ;  $p = .144$ ; 95% CI [-.12, .27] for the linear component). Moreover, the average level of state extraversion was positively related to performance approach goal orientation ( $\beta = .46$ ;  $p = .064$ ; 95% CI [.11, .99]), and there was no interaction between the average level of state extraversion and deviations from the trait level ( $\beta = .04$ ;  $p = .813$ ; 95% CI [-.45, .42] for the curvilinear and  $\beta = -.01$ ;  $p = .961$ ; 95% CI [-.34, .54] for the

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<sup>2</sup> Note that the effect is statistically significant at the  $p < .05$  level using the nonparametric bootstrap procedure, while it is marginally significant ( $p < .10$ ) with Maximum Likelihood Estimation (ML). Because bootstrap confidence intervals have been shown to be superior to ML (Meijer, Busing, & Van der Leeden, 1998), we use the bootstrap confidence intervals when interpreting our findings.

linear component). Altogether, these findings imply that deviations from the trait level are detrimental to performance approach goal orientation, and that this holds true across trait levels. In other words, no matter what one's trait level of extraversion is (be it high or low), veering from one's trait is disadvantageous to one's performance approach goal orientation.

#### 4. Discussion

The aim of this study was to examine the relationship between extraversion and performance approach goal orientation using an integrative approach to personality. By not only looking at the effects of state and trait extraversion separately, but also at their dynamic interplay, we were able to demonstrate that deviations from one's level of trait extraversion matter. Specifically, and in line with the predictions of the behavioral concordance model (Moskowitz & Côté, 1995), we found that extraversion-related behaviors that are congruent with one's level of trait extraversion relate to higher levels of approach performance goal orientation than behaviors that diverge from one's trait level. It is important to stress that, because of the nature of our study, we exclusively focused on daily effects. This is relevant as Leikas and Ilmarinen (2016) demonstrated that, when using a finer-grained time scale, the effects might not show immediately, but rather in a delayed fashion. They found that behaving extraverted and conscientiously was related to momentary increases in positive mood, but lead to mental depletion three hours later. Provided that timing seems to matter, future studies could look at not only daily effects, as we did, but also delayed effects as well as accumulative effects over time (i.e., what happens when we repeatedly behave in a counterdispositional way over a longer period of time?).

While there is no shortage of literature touting the positive effects of extraversion, our study contributes to studies that demonstrate that concepts that are believed to only lead to advantageous outcomes may boomerang and result in adverse outcomes (see Vergauwe, Wille, Hofmans, Kaiser, & De Fruyt, 2018). Indeed, when looking at performance approach goal orientation, we found that it is more beneficial to act true to your trait level than to maximize your state level of extraversion.

While this finding is in line with previous research showing that counterdispositional behaviors can be costly for those enacting them (Little, 2008; Zelenski et al., 2012), it is important to note that we only looked at this phenomenon among employees at their workplace. Hence, our sample may not represent the population as a whole. However, this limitation is less of an issue in this study because rather than compare individuals to each other, we compare each person to him or herself.

Recent research on the nomological homomorphy (the degree that two constructs display parallel links with a specific group of correlates) of states and traits (Rauthmann, Horstmann & Sherman, 2018) concluded that aggregated states is equivalent to traits if sufficient observations were made to characterize participant's day-to-day. In other words, state aggregates of extraversion should estimate trait extraversion with enough observations. Recent research on the nomological homomorphy (the degree that two constructs display parallel links with a specific group of correlates) of states and traits (Rauthmann, et al., 2018) concluded that aggregated states is equivalent to traits if sufficient observations were made to characterize participant's day-to-day. Meaning that state aggregates of extraversion should estimate trait extraversion with enough observations.

Moreover, by adopting an integrative approach to personality, we demonstrated that findings on either the trait or the state level alone might give an incomplete picture of the actual relationship between personality and its consequences. Specifically, for the relationship between extraversion and performance approach goal orientation, previous meta-analytical research found a null-relationship at the trait-level, while the paper by McCabe and Fleeson (2012) demonstrated that state extraversion was unrelated to "trying to get things done". Yet, when combining the between-person and the within-person approach, we found that both trait and state extraversion—and particularly their interplay—are important for the prediction of performance approach goal orientation.

By demonstrating that performance approach goal orientation decreases as individuals veer from their trait level of extraversion, our findings portray a pathway for practical implications in the

workplace. A first implication is that it might be useful to pay explicit attention to person-environment fit, and particularly to personality-environment fit in the selection procedure. This can, for example, be done by giving the correct account of the type of behavior required on the job. By providing a realistic job preview (Rynes, 1991) that includes such required behaviors, job candidates can create an accurate expectation of whether their dispositional tendencies align with these requirements. Second, by permitting employees autonomy, organizations can establish environments that allow employees to work in a way that is in line with their personality (i.e., craft their jobs). Moreover, giving autonomy and allowing employees time allows them to refill their drained self-regulatory reserves in case this is needed (Little, 2008). While the daily nature of our findings as well as the moderate effect sizes might somewhat diminish the practical implication for employees, one should keep in mind that counterdispositional extraversion is just one occurrence of counterdispositional behavior. In everyday life, people typically face numerous situations daily that go against their personality grain and all of these are potentially depleting.

#### **4.2 Limitations and future research**

Notwithstanding the contributions of this paper, some limitations have to be considered. First, the majority of participants in our study were employed as clerks, which begs the question as to how that could impact the generalizability of our results to other employees. Since the depletion of resources is more of a cognitive phenomenon (as opposed to a physical one), the expectation would be that depletion would affect cognitive tasks more than physical tasks, and those cognitive tasks are more prominent in clerk's jobs than in blue-collar work. Hence, future studies might address whether counterdispositional behavior also affects performance approach motivation in more physical jobs.

Second, although self-report measures are less problematic when focusing on within-person differences, using self-reported data does make our findings susceptible to common-method bias. However, since the correlation between state extraversion and performance approach goal orientation was relatively small, common-method bias is most probably not a significant issue in our



data. Diminishing the importance of this issue even further, common-method variance is less problematic when the focus is on interactions or higher-order effects (Siemsen, Roth, & Oliveria, 2010).

Additionally, it is important to emphasize that there is still more to learn about the mechanisms underlying the connection between counterdispositional extraversion and performance approach goal orientation. Demonstrating an association, as we did, is just the first step. Of particular importance is that, although we theorize that it is the depletion of regulatory resources that explains the relation between counterdispositional extraversion and performance approach goal orientation, we failed to test this assumption. This is an important limitation of our study, because, even though the depleting effect of counterdispositional behavior on one's regulatory resources has been demonstrated in both experimental (Gallagher et al., 2007; Study 1; Zelenski et al., 2011) and real-life studies (Gallagher et al., 2007; Study 2; Leikas & Ilmarinen, 2017), it might well be that the curvilinear relation between counterdispositional extraversion and performance approach goal orientation is driven by other mechanisms. One such possibility is that decreased level of performance approach goal orientation are not (only) due to the depletion of regulatory resources, but might also directly result from negative feelings associated with feelings of inauthenticity, which in turn encourage defensive rather than a generative behavior (Frederickson, 2001). To study these alternative explanations, further research is needed on the mechanisms underlying the observed effects. Moreover, if it is truly the case that approach goal orientation requires resources, a similar phenomenon should be observed for mastery goal orientation as well. That is, in that case counterdispositional behaviors would deplete the necessary resources to trigger any mechanism that requires resources and would therefore relate positively to avoidance goal orientation and negatively to mastery and performance goal orientation, as the individual would attempt to keep their resources rather than use them to obtaining goals. Finally, apart from looking at other forms of goal

orientation, further research could also cultivate from this study by looking into other Big Five dimensions.

### 3.3 Conclusion

This study demonstrates that being true to one's level of trait extraversion is beneficial for performance approach goal orientation. Counterdispositional extraversion, in contrast, turns out to be associated with decreased levels of performance approach goal orientation, and this is true for individuals with different trait extraversion levels. Besides showing that within-person fluctuations in state extraversion do relate to performance approach goal orientation, this finding helps reiterate that the interplay of personality traits and states is a complex question that is in need of further study.

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Figure 1

*The curvilinear relationship between state extraversion and performance approach goal orientation.*

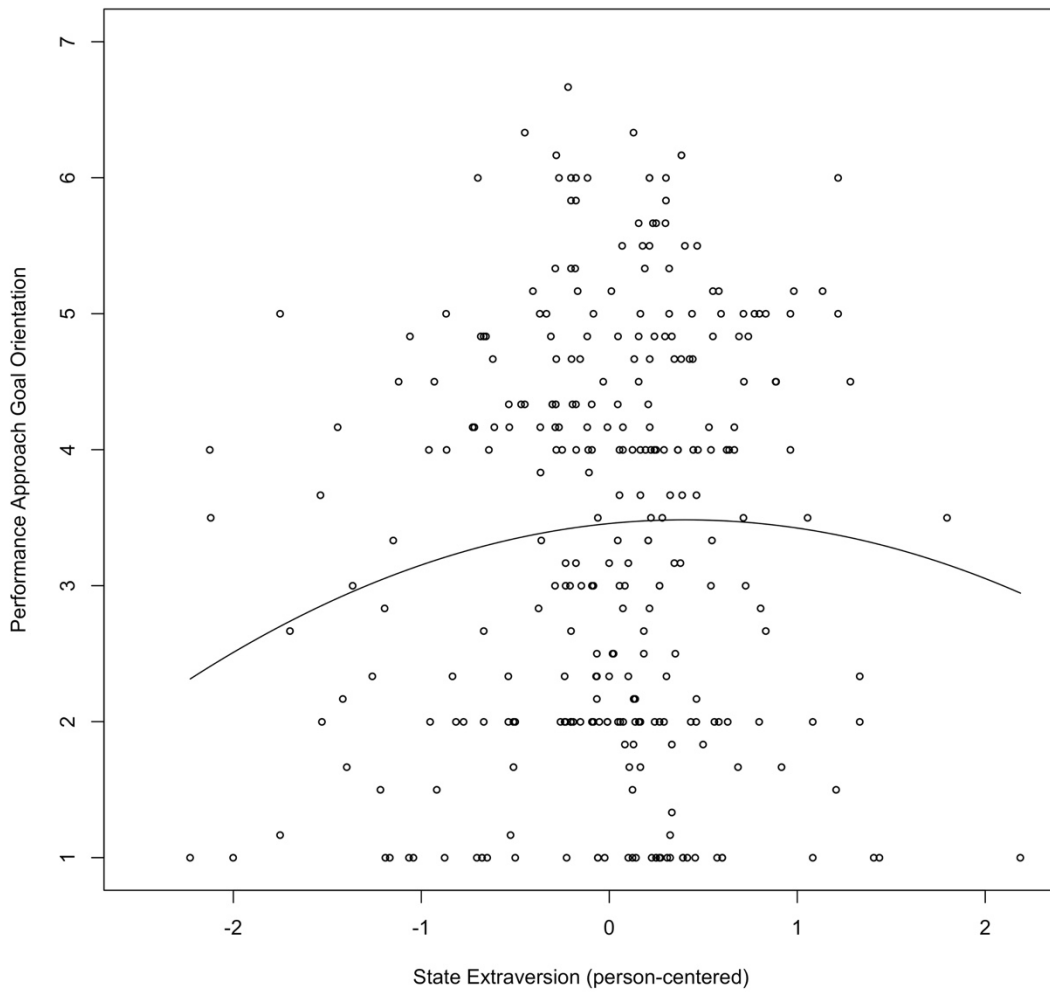


Table 1

*Descriptive statistics, intra-class correlation coefficients (ICCs) and zero-order correlations for all study variables. Within-person correlations are above and between-person-correlations are below the diagonal.*

	<i>M</i>	<i>SD<sub>within</sub></i>	<i>SD<sub>between</sub></i>	<i>ICC</i>	1	2	3
1. Trait extraversion	5.17	-	.82	-	-	-	-
2. State extraversion	4.67	.65	.79	.47	.61***	-	.17***
3. Performance approach goal orientation	3.36	.70	1.36	.75	.20	.28	-

Notes: \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$



## Highlights

- We studied how extraversion relates to performance approach goal orientation (PAGO)
- Behaving in line with one's level of trait extraversion increases PAGO
- Deviations from one's trait extraversion level are linked to decreases in PAGO
- Our results support the call for an integrative approach to personality

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