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Need satisfaction and organizational citizenship behaviour towards the organization. A process-oriented approach

Andromachi Spanouli¹ · Jemima Bidee² · Joeri Hofmans²

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Abstract

Although citizenship behaviours can vary for each individual over the course of months, weeks, or even days, research has predominantly looked at this concept through a static lens. In this paper, we combine a between- and within-person level approach in examining the circumstances under which people engage in organizational citizenship behaviours towards the organization (OCBO). Drawing from conservation of resources theory, we tested how fluctuations in resources, represented by need satisfaction, relate to fluctuations in OCBO at three different levels: between individuals, within individuals, as well as over time. Seventy-three volunteers working in holiday camps filled out a daily diary study for eight consecutive working days, measuring OCBO and need satisfaction (N=439). Multilevel regression analyses revealed that individuals who were on average higher in need satisfaction performed on average more OCBOs. At the within-person level, higher momentary levels of need satisfaction related to higher levels of OCBO, whereas over time, changes in need satisfaction were positively associated to changes in OCBO. Our focus on the evolution of OCBOs over individuals and over time gives us a more complete account of not only who engages in OCBO but also under which circumstances, an understanding that comes with important implications both for theory and practice.

Keywords Organizational citizenship behaviour towards the organization (OCBO) · Need satisfaction · Volunteers · Multi-level modelling

Introduction

Organizational citizenship behaviour (OCB) includes such diverse acts as volunteering to take up a new assignment, defending the policy of the organization, or working on a task during lunch break (Dalal et al., 2009). What all these behaviours have in common, is that they are generally considered to be acts that are beneficial for the organization in the sense that they enrich an organizations' psychological

and social climate, while promoting its effective functioning (Organ, 1988, 1997). It thus comes as no surprise that since the seminal work of Organ and colleagues (Organ, 1988; Smith et al., 1983), researchers and practitioners alike have focused their efforts on discerning which individual characteristics set apart individuals who engage in OCB from those who do not (see Borman et al., 2001; Pletzer et al., 2021), as well as which organizational characteristics promote these desirable behaviours, versus which do not (e.g., Eatough et al., 2011; LePine et al., 2002).

The result of this undertaking is that there is by now a plethora of between-person studies demonstrating that certain individuals are more likely to engage in OCB than others, and that certain organizational characteristics promote the general likelihood to engage in OCBs whereas others thwart them (Podsakoff et al., 2009, 2014). Our knowledge however is not as developed when it comes to the within-person processes that underlie these behaviours. This knowledge is critical to our understanding of OCB, as we intuitively know that the manifestations of the behaviours that comprise OCB are not stable within an individual (for

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example, the typical employee would not always volunteer for extra tasks but rather would show this behaviour now and then). The studies that researched OCB from a within-person perspective have supported this idea, showing that roughly half of the variability in OCB is located at the within-person level, with these behaviours varying over the course of months, weeks or even days (Dalal et al., 2009; Ilies et al., 2013; Koopman et al., 2016; McCormick et al., 2020; Podsakoff et al., 2019; Spanouli & Hofmans, 2016). Importantly, neglecting to account for this within-person variation can lead to a distorted view of the construct attributes and its underlying processes, since results at the between-person level cannot be generalized to the within-person level -and vice versa- (for a detailed conceptual and mathematical explanation of this issue see Hamaker, 2012). It is for these reasons that if we want to understand *why* people engage in OCB we need to not only focus on differences in the propensity to engage in OCB between individuals, but also on the variation of this propensity within individuals.

In the present paper, we address this issue by combining a between- and a within-person approach to the study of OCB. More specifically, drawing from conservation of resources (COR) theory (Hobfoll, 1989), we study how fluctuations in need satisfaction (reflecting fluctuations in personal resources; see Van den Broeck et al., 2016) relate to fluctuations in organizational citizenship behaviours towards the organization (OCBO) at three different levels. First, on the between-person level, we test whether people who are on average higher in need satisfaction also tend to show more OCBO. Second, on the within-person level, we examine whether momentary, within-person increases in need satisfaction relate to momentary, within-person increases in OCBO. Finally, again on the within-person level, we test whether growth in need satisfaction over time relates to growth in OCBO over time. In doing so our study responds to the call for more episodic approaches in OCB research (Dalal et al., 2020; Organ, 2018; Spector & Fox, 2010; Trougakos et al., 2015), and contributes to theory by adopting a process approach to the study of OCBO. By focusing on the fluctuations of citizenship behaviours over individuals and over time, this study not only examines who engages in OCBO but also under which circumstances individuals tend to do so. Moreover, by studying under which circumstances individuals tend to engage in citizenship behaviours, our study aims to offer recommendations on how to maximise an employee's potential, moving beyond the implications of selecting the ideal employee to selecting the conditions where all employees can thrive.

In what follows, we introduce the role of need satisfaction as a proxy for personal resource fulfilment and the role of OCBO as a resource investment strategy. We proceed by offering predictions on how these two constructs relate both

at the between- and within- person level as well as how this relationship evolves over time.

Resources and need satisfaction

COR theory is based on the idea that an individual's level of well-being depends on the resources they possess. As such, individuals expend great efforts to protect their existing resources and to gain new resources (Hobfoll, 1989, 2002; Hobfoll et al., 2018). According to COR theory, resources refer to "anything perceived by the individual to help attain his or her goals" (Halbesleben et al., 2014, p. 1338). As is evident in this definition, a variety of elements can be considered resources, ranging from being in a stable relationship to having high self-confidence. To complicate matters further, their value (or the extent to which these elements are perceived as a resource) can also vary depending on the purpose they serve. For example, the same skill can vary from being absolutely necessary to totally irrelevant, depending on the rater, the context, and the situation at hand. For example, speaking French as a foreign language can be considered as a necessity to an employer that operates in France, irrelevant to your same-nationality spouse, and valuable to your native French speaking friend. Together, these issues create a pressing need for a meaningful representation of resources in research. Thus, in this study we introduce need satisfaction from Basic Psychological Needs Theory (BPNT), one of the mini theories of Self-Determination theory (SDT) (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000, 2017; Vansteenkiste et al., 2020), as a representation of resource fulfilment (see also Rosen et al., 2014; Van den Broeck et al., 2016).

A common tenet that is shared by both Basic Psychological Needs Theory (BPNT) and COR theory is that certain conditions need to be met for individuals to experience high levels of well-being. Whereas in COR theory the route to well-being is paved through the accumulation of resources in general, BPNT suggests that three specific psychological needs have to be fulfilled: the need for autonomy (i.e., being the master of one's own behaviour), the need for competence (i.e., being able to exercise one's capabilities) and the need for relatedness (i.e., experiencing a sense of belongingness) (for a more complete account of BPNT and SDT see Deci & Ryan, 1985, 2000; Ryan & Deci, 2002, 2017; Vansteenkiste et al., 2020). Evidently, in order to satisfy each of these needs one has to possess the corresponding resources. For example, to have one's need for autonomy fulfilled one needs a certain amount of decision latitude in her/his work. Or to satisfy one's need for relatedness the individual should have access to a social network. In this regard, the three basic psychological needs offer an explanation for why people conserve and acquire resources

(Halbesleben et al., 2014), with need satisfaction reflecting the extent to which the underlying resources are present. Interesting in this regard is that “all three of the needs outlined in self-determination theory have been extensively studied in the context of COR theory” (Halbesleben et al., 2014; p. 1341), with some authors even arguing that personal resources as represented in COR theory and satisfaction of the basic psychological needs essentially tap into the same thing (Rosen et al., 2014; Van den Broeck et al., 2016).

As BPNT claims that the needs comprising need satisfaction are universally important, their fulfilment is both fundamental and prevalent (Chen et al., 2015; Deci & Vansteenkiste, 2004). In addition, need satisfaction (similar to OCB and resources in general) has been found to vary both between and within individuals (Bidee et al., 2016; Gagné et al., 2003; Heppner et al., 2008; Reis et al., 2000; Tang & Vandenberghe, 2020; Vandercammen et al., 2014). For the aforementioned reasons, in this study we use need satisfaction as a representation of the level of resources.

OCBO and resource investment

OCB is an umbrella term reflecting employee behaviours that despite not being part of an employee’s formally assigned tasks, promote organizational functioning (Lee & Allen, 2002). The conceptualization of OCB in research can be summarized by three main approaches: one that differentiates between OCBs according to the type of behaviour (i.e., altruism, courtesy, sportsmanship, conscientiousness, and civic virtue; see Organ, 1988), one that differentiates between OCBs according to the target of each behaviour (i.e., OCBI and OCBO- where “I” stands for individuals and “O” stands for organization; see Williams & Anderson, 1991), and one that does not differentiate between the different OCBs (see LePine et al., 2002).

Findings at the within-person level show that the relationship of citizenship behaviours with both antecedents and outcomes varies depending on the target of those behaviours (e.g., see Dalal et al., 2009; Debusscher et al., 2016; Spanouli & Hofmans, 2016). In line with these findings, in the present paper, we conceptualize citizenship behaviours according to their intended target. More specifically, we focus on those behaviours that are directed towards the organization, namely OCBO. The reason for choosing OCBO is twofold: firstly, whereas citizenship behaviours directed towards other individuals include multiple actors, OCBOs represent behaviours consisting of two parties that remain constant: the individual and her/his organization. Since one of the foci of the present study is the involvement of citizenship behaviours within the individual over time, researching OCBO is conceptually clearer as the two parties involved remain the same. Conversely, with OCBI, the behaviours

might be targeted towards different individuals at different points in time, which makes it difficult to straightforwardly relate within-person fluctuations in resources to within-person fluctuations in OCBI, as variation in the characteristics of the different targets (such as liking) might confound the relationship. Secondly, we argue that an employee’s need satisfaction can be determined to a greater extent by the organization in general rather than their colleagues individually. In other words, if the organizational climate does not enable or allow opportunities for employees to satisfy their needs, there is little that other individuals can do to assist in that direction. An example would be a highly monitored and controlling work environment in which employees have little autonomy to decide how to complete their tasks, no opportunities are given for an individual to excel or show their competence, and where interactions with other colleagues are seen as a waste of time and are therefore highly frowned upon. As a result, we expect that employees who experience high levels of need satisfaction are more likely to ascribe these experiences of need satisfaction to their organization (Gagné & Deci, 2005) and therefore, in line with the norm of reciprocity (Gouldner, 1960), direct their OCBs accordingly.

Performance of citizenship behaviours is a valid way for employees to pay back their employer as it has been repeatedly demonstrated to be beneficial for the organization (Podsakoff & MacKenzie, 1997; Podsakoff et al., 2009; Rose, 2016). At the same time, however, it is clear that engaging in these behaviours also bares costs for their enactors (for an overview see Bolino et al., 2013) as shown by OCBs positive association with constructs such as job stress, emotional exhaustion, work overload and work-family conflict, among others (Bolino & Turnley, 2005; Halbesleben et al., 2009; Koopman et al., 2016). One reason for these associations is that employees need to invest their resources in order to engage in citizenship behaviours. For example, volunteering to take up a new assignment, defending the policy of the organization, or working on a task during lunch break are all OCBO acts that require the investment of time and effort from the side of the employee. Thus, while OCBs are beneficial for the organization, they feed on employees’ limited supply of resources.

The cost that performance of OCB has for employees is only one side of the story, however, as employees who perform these behaviours often benefit themselves as a result (Podsakoff et al., 2000). In particular, past studies have shown that individuals who engage in citizenship behaviours can count on receiving back beneficial treatment expressed in positive performance evaluations, favourable reward allocation and career advancements, among other ways (Donia et al., 2018; Podsakoff et al., 2009). As such, although performance of OCB may necessitate expenditure

of resources on behalf of its enactors, at the same time it has the potential to yield additional resources making it a probable investment strategy for employees (Halbesleben & Wheeler, 2011).

The role of citizenship behaviours as both consuming and creating resources can be explained through the lens of conservation of resources (COR) theory. COR theory builds on the idea that an individual's level of well-being depends on the resources they possess, with potential or actual loss of resources being perceived as threatening to one's well-being (Hobfoll, 1989). As a result, COR predicts that individuals expend great efforts to protect their existing resources and to gain new resources (Hobfoll, 1989, 2002; Hobfoll et al., 2018). In particular, when people experience an actual or perceived loss of resources, they typically try to cut the losses and focus their attention on protecting their remaining resources, whereas when people do not experience resource loss, they typically try to invest resources with the aim to try to gain new ones.

At the same time, while COR theory assumes that resource protection and investment are essential for every individual, it also predicts that individuals who generally have high levels of resources—or in terms of COR theory greater resource pools—are better positioned in comparison with their low resources counterparts to make such investments. As any investment entails, one needs to initially expend some resources, which means that one temporarily loses resources—at least until the ratio of ultimate loss or gain is determined. People with bigger resource pools are therefore better equipped to deal with the temporary or permanent loss of resources associated with resource investment, as they have more resources available to invest to begin with, and they can better afford a potential loss of resources should that occur (Hobfoll, 2002). Taking these arguments to the work context, we expect that employees who on average have more resources as expressed in high average levels of need satisfaction (see Rosen et al., 2014; Van den Broeck et al., 2016), will generally be more likely to engage in resource investment and one way to do so is to engage in OCB towards their organization. In line with this reasoning, past results—at the between-person level—, have shown that high need satisfaction was associated with increased employees' OCB (Stynen et al., 2015) and that autonomy and relatedness need satisfaction were positively related to OCBO (Chiniara & Bentein, 2016). This leads to our first hypothesis:

H1 *Need satisfaction relates positively to OCBO at the between-person level.*

However, differences in resources exist also within individuals, as the resources that one possesses can change over time.

The concept of change is inherent in COR theory as shown by the process of resource fluctuation, which ultimately leads either to resource loss or resource gain (Halbesleben et al., 2014). Essentially, the level of resources that an individual has at present can inform their investment decisions, as it determines which course of action is best: protection of the existing resources or investment in new ones (Hobfoll, 1989, 2002; Hobfoll et al., 2018). Given that resources are of limited supply, individuals need to make choices as to where and when they will invest them (Troughakos et al., 2015) and given that citizenship behaviours typically lie outside an employee's core tasks (Organ, 1997), engagement in such acts is a less probable investment at times of limited resources. For example, the chances that one would volunteer to take up a new assignment are probably lower when s/he is already reaching her/his limits than when one is full of resources. Because of this, we expect that at moments individuals possess high momentary levels of resources (as expressed in high momentary levels of need satisfaction) they will be more inclined to engage in OCBO compared to when they experience low momentary levels of need satisfaction. Previous studies at the within-person level have reported similar mechanisms by showing that low levels of resources represented by high exhaustion, were related to decreased levels of OCBO on a daily basis (Halbesleben & Wheeler, 2011). Similarly, they showed that high levels of job resources were positively linked with daily OCB (Shin, & Hur, 2019) and that daily need satisfaction was positively related with autonomous helping behaviours (Weinstein & Ryan, 2010). As a result, also at the within-person level, we hypothesize a positive relationship between need satisfaction and engagement in OCBO:

H2 *The momentary level of need satisfaction relates positively to OCBO at the within-person level.*

Until now, we have argued that both between-person and within-person fluctuations in resources are expected to relate to between-person and within-person fluctuations in OCBO, respectively. At the same time, it is important to recognize that resource gains do not happen in a vacuum, and that initial gains in resources can generate further resource gains, giving rise to what COR calls gain spirals. In such a gain spiral, a positive self-reinforcing loop is created in the sense that individuals who experience resource gains are in a better position to invest resources, and are therefore more likely to gain additional resources, which makes them again better equipped for resource investment. Similarly, a loss in resources can fire up additional losses, leading to a loss cycle (Hobfoll, 2002; Hobfoll et al., 2018). Such a loss cycle results from the fact that initial resource loss makes people less resilient to further loss, thereby triggering a

negative self-reinforcing loop. Because of these dynamic mechanisms, people can over time become increasingly equipped or increasingly unable to engage in OCB. In terms of the present study, we expect that individuals who are in a resource gain spiral would be increasingly able to engage in citizenship behaviours over time. In other words, when people experience an increase in resources and thus in their level of need satisfaction, they will be increasingly able to invest these won resources, which should be reflected in an increased inclination to engage in OCBO over time. On the other hand, people who are in a loss spiral will have increasingly less resources at their disposal and therefore will experience lower levels of need satisfaction, which should impede their engagement in OCBO. Such gain spiral reciprocal effects have been found in past studies with similar constructs, as in the relationship of perceived co-worker support and organizational citizenship behaviours aimed at that co-worker (Halbesleben & Wheeler, 2015) and in the link between job resources and personal initiative (Hakanen et al., 2008). As a result, we hypothesize that growth in the momentary level of need satisfaction relates to growth in OCBO, while a decline in the momentary level of need satisfaction is associated with a decline in OCBO over time:

H3 *Growth in need satisfaction over time is positively associated with growth in OCBO over time, and decline in need satisfaction over time is positively associated with decline in OCBO over time.*

Methods

Participants and procedure

Three Belgian organizations which organize holiday camps agreed to participate in our study. Our final sample consisted of 73 volunteers who worked for different teams within these organizations. The average age of the respondents was 27.9 years ($SD = 16.24$). The majority were women ($n = 47$; $n = 7$ males; for 19 participants gender was missing) and had completed their secondary education. Their main occupations varied as they reported being students, paid employees in another organization, self-employed, retired, and job seekers, among others. Most participants had volunteering experience in the past.

A paper-pencil daily diary booklet was used to collect our data. Respondents were instructed to answer a daily questionnaire including questions on need satisfaction and OCBO, at the end of each workday. Questions concerning their demographics had to be filled out once (note that the original questionnaire included additional variables that are

not reported in this study). In total, we received 77 completed booklets out of the 133 distributed, which corresponds to a response rate of 57.89%. The number of days that participants volunteered and thus participated in the project varied from one to eight. One respondent that had not filled out any daily questionnaires and three respondents who had only filled out one, were excluded from our analyses (as for these respondents, we had no information about within-person fluctuations), resulting in a total number of 439 daily observations from 73 respondents (the dataset and syntax used for the analyses are available via open science framework https://osf.io/9gwfs/?view_only=e309e434c0864a438a2cac7e7d7c477b). To ensure their anonymity, respondents were instructed to seal their booklet in a prepaid postage envelope that was distributed along with the booklets. Respondents either gave this envelope to their volunteer coordinator, the holiday camp responsible, or mailed it themselves directly to the researchers. We applied the general guidelines of our institution at the time of data collection, which did not require us to ask for permission from an ethical committee. Despite the fact that institutional approval was not required, we followed the American Psychological Association codes of ethics regarding the use of an informed consent.

Measures

OCBO was measured with the corresponding six-item scale by Dalal et al. (2009). This OCBO scale is specifically developed for high-intensity repeated measures designs. An example item is “*Today I chose to work rather than take a break*”. Respondents had to rate each question on a scale of 1 (*not at all*) to 7 (*extremely often*). Omega reliability was tested on the within- and between-person level using multi-level Confirmatory Factor Analysis (Geldhof et al., 2014) in Mplus 8.4. Within-person omega coefficient was 0.51, while between-person omega equalled 0.90. Although the within-person Omega coefficient is low, this is to be expected provided that OCBO is comprised by behaviours that are conceptually related (i.e., discretionary behaviours that benefit the organization) but not necessarily correlated at the within-person level. For example, the fact that today you persisted enthusiastically in completing a task does not necessarily mean that today you also volunteered for additional tasks (see Debusscher et al., 2016). At the between-person level coefficient Omega is higher, which reflects the fact that on the between-person level, OCBO behaviours are generally correlated. That is, people who for example generally persist enthusiastically in completing their tasks also tend to volunteer more for additional tasks.

Need satisfaction was measured with a selection of six items from the Basic Psychological Needs Scale (Chen et al., 2015). To avoid dropouts given the daily repetition of

the questionnaire, we opted for a shorter version of the scale by selecting two items with a high factor loading and face validity for each need (see Bidee et al., 2016; Fisher & To, 2012 for a similar approach). Items included “*Today I had a sense of choice and freedom in the things that I undertook*” for need of autonomy, “*Today, I felt confident that I can do things well*” for need of competence and “*Today, I experienced a warm feeling with the people I spent time with*” for need of relatedness. Respondents rated the items with a scale ranging from 1 (*not true at all*) to 7 (*completely true*). Following Geldhof et al.’s approach (2014), we tested the within- and between-person omega reliability coefficients for need satisfaction using multilevel Confirmatory Factor Analysis in Mplus 8.4. We found that the within-person Omega coefficient was 0.64, which signifies that 64% of the within-person variance in the item scores is captured by a general need satisfaction factor¹. Between-person Omega equalled 0.77.

Analyses

In our study, participants rated their level of need satisfaction and OCB for eight consecutive days. As such, the data have a nested structure with i daily measurements being nested within j persons.

To test our first hypothesis (i.e., resources relate positively to OCBO at the between-person level), we aggregated the daily measurements across the eight days, obtaining one need satisfaction score and one OCBO score per participant. Next, the aggregated need satisfaction and OCBO scores were correlated. With 73 observations, and a target power of ≥ 0.80 , this analysis allows detecting effects larger than $r = .23$ (with $r = .10$ being a small effect, $r = .30$ a medium one and $r = .50$ a large effect).

To test the second hypothesis (i.e., resources relate positively to OCBO at the within-person level), we first group-mean centered (or person-centered) the need satisfaction scores. By doing this, we removed all between-person

variability from the scores, which means that the group-mean centered need satisfaction scores contained within-person variability only. Subsequently, we regressed OCBO on the group-mean centered need satisfaction scores using formulas 1–3:

$$OCBO_{ij} = \beta_{0j} + \beta_{1j} \text{need satisfaction}_{ij} + e_{ij} \quad (1)$$

$$\beta_{0j} = \gamma_{00} + \mu_{0j} \quad (2)$$

$$\beta_{1j} = \gamma_{10} + \mu_{1j} \quad (3)$$

Having 439 daily observations from 73 respondents, this analysis allows detecting a standardized effect size of about 0.17 (with 0.10 being a small effect, 0.30 a medium one and 0.50 a large effect) with a target level of power ≥ 0.80 (see Arend & Schäfer, 2019).

The third hypothesis (i.e., the presence of correlated growth in need satisfaction and OCBO over time) was tested by first fitting a linear growth model to the need satisfaction and OCBO data. In these linear growth models, the levels of need satisfaction and OCBO are expressed as a function of time, and growth is captured by an intercept parameter (β_{0j}) and a linear slope parameter (β_{1j}) (see Eqs. 4–6). Next, we saved the random intercepts (β_{0j}) and random slopes (β_{1j}) for need satisfaction and OCBO and regressed the slope for OCBO on (1) the intercept of OCBO, (2) the intercept of need satisfaction, and (3) the slope of need satisfaction. With 73 observations, and a target power of ≥ 0.80 , this analysis allows detecting effects larger than $f^2 = 0.11$ (with $f^2 = 0.02$ being small, $f^2 = 0.15$ being medium and $f^2 = 0.35$ being large).

$$\text{need satisfaction}_{ij} = \beta_{0j} + \beta_{1j}t + e_{ij} \quad (4)$$

$$\beta_{0j} = \gamma_{00} + \mu_{0j} \quad (5)$$

$$\beta_{1j} = \gamma_{10} + \mu_{1j} \quad (6)$$

All analyses were performed in R, version 4.1.2, with hypotheses 2 and 3 being tested using the lme4 package (Bates et al., 2015).

Results

Means, intra-class correlation coefficients (ICCs), standard deviations and the between-person (above the diagonal) and within-person correlations (below the diagonal) between need satisfaction and OCBO are shown in Table 1. As is clear from the ICCs, an important share of the variance in need satisfaction (i.e., 42.56%) and OCBO (i.e., 24.69%) is located at the within-person level. This means that need

Table 1 Means, ICC’s, standard deviations and correlations of study variables

	Mean	SD	ICC	1	2
1. Need satisfaction	5.49	0.58	0.57	-	0.36**
2. OCBO	4.30	0.92	0.75	0.30***	-

Note. Within-person correlations are below and between-person are above the diagonal

*** $p < .001$. ** $p < .01$. * $p < .05$

¹ Even though the Omega coefficient does not meet the widely used 0.70 threshold, it is important to keep in mind that scales used in high intensity repeated measures studies often contain less items than typical one-off measures. Because Omega increases as the number of items increases (holding the inter-item correlations constant), Nezlek (2017) suggests more relaxed standards for such scales.

satisfaction and OCBO fluctuate substantially both across individuals and within the individual across situations and time. With regard to the correlations, we found a positive correlation between need satisfaction and OCBO, both at the between- ($r_{between}=0.36$; $p=.002$) and at the within-person level ($r_{within}=0.30$; $p<.001$), which supports both Hypothesis 1 and Hypothesis 2².

To further test Hypothesis 2, we examined whether within-person fluctuations in need satisfaction related to within-person variation in OCBO using multi-level regression analysis. In line with our hypothesis, we found that the group-mean centered need satisfaction scores were positively related to OCBO ($\gamma_{10}=0.31$; $p<.001$).

Finally, we tested whether growth in need satisfaction was related to growth in OCBO. In line with Hypothesis 3, we found that linear growth in need satisfaction positively predicted linear growth in OCBO ($\beta=0.76$; $p<.001$), over and beyond the initial level of need satisfaction ($\beta=0.01$; $p=.624$) and the initial level of OCBO ($\beta=0.04$; $p=.003$)³. Adding growth in need satisfaction as a predictor to the model increased the R^2 from 0.12 to 0.28, implying that growth in need satisfaction uniquely accounts for 15.77% of the variance in growth in OCBO.

Discussion

In the present paper, we took an integrative approach to the study of organizational citizenship behaviours by examining how resources, represented by need satisfaction, relate to OCBO at different levels of analysis: between individuals, within an individual, and over time. Our results align with the line of research suggesting that several work-related phenomena, including OCBO and need satisfaction, do not only vary between individuals but also within the individual, from situation to situation and from moment to moment (e.g., Dalal et al., 2009; Heppner et al., 2008; Ilies et al., 2013; McCormick et al., 2020; Spanouli & Hofmans, 2021; Vandercammen et al., 2014).

² We also tested the between-person correlation between need satisfaction and OCBO, while controlling for age, gender, educational level, and the volunteering organization participants worked for. Accounting for those control variables did not change the correlation between need satisfaction and OCBO ($r_{partial}=0.36$). Because between- and within-person variation are orthogonal to each other, between-person differences cannot explain within-person fluctuations. Therefore, the control variables (which are all between-person constructs) are irrelevant to the within-person correlation.

³ When controlling for age, gender, educational level, and the volunteering organization participants worked for, need satisfaction still positively predicted linear growth in OCBO ($\beta=0.78$; $p=.003$), over and beyond the initial level of need satisfaction ($\beta=0.02$; $p=.484$) and the initial level of OCBO ($\beta=0.05$; $p=.012$).

Our results suggest that at all levels of analysis there is a positive link between fluctuations in need satisfaction and OCBO: between- and within-person fluctuations in need satisfaction positively predict between- and within-person fluctuations in OCBO, respectively, and growth in the momentary level of need satisfaction relates positively to growth in OCBO over an eight-day period. COR theory predicts that those with greater levels of resources are more capable in resource gains and less vulnerable to losses (Hobfoll et al., 2018). Our results show that individuals that on average score higher in need satisfaction also score higher in OCBO compared to individuals who score lower in need satisfaction. This finding is in line with studies showing that high need satisfaction is associated with increased employees' OCB (Stynen et al., 2015) and that autonomy and relatedness need satisfaction are positively related to OCBO (Chiniara & Bentein, 2016). As a set, these studies possibly suggest that because individuals in a need-supportive environment have more resources at their disposal (i.e., larger resource pools), they can more easily invest these resources (for example by engaging in citizenship behaviours).

A similar relationship was found at the within-person level, as shown by the finding that at times when individuals experience higher levels of need satisfaction they are more likely to engage in OCBOs. This finding is in line with the often-cited reciprocal nature of citizenship behaviours (e.g., Podsakoff et al., 2000, 2009), as citizenship behaviours aimed towards the organization can be seen as a way for employees to pay back the organization for providing them with the needed resources, or in a similar manner, as an investment strategy used by employees to receive more of such resources in the future. As we argued in our introduction, however, OCBOs serve a dual function in the sense that they not only create resources (in the long run), but also consume them (in the short term). In line with our predictions, our results show that employees engage in OCBOs only when they feel they have sufficient resources to make the investment.

Finally, our results also showed the existence of correlated growth in need satisfaction and OCBO, suggesting that the unfolding of OCBO and need satisfaction over time goes hand in hand. According to COR theory, resource gains create a positive self-reinforcing loop in the sense that individuals who experience resource gains are in a better position to invest resources, and are therefore more likely to gain additional resources, which makes them again better equipped for resource investment (Hobfoll, 1989). Similarly, our findings suggest that when people are high in resources (as indicated by high need satisfaction), the odds to engage in OCBO are higher, which in turn makes that they obtain more resources in the future, leading to more OCBO. Conversely, when people are low in resources (as

indicated by low need satisfaction), they refrain from engaging in OCBO, which in turn means that they receive less resources in the future, leading to an even lower probability of engaging in OCBO. In other words, momentary increases and decreases in need satisfaction and OCBO can over time form gain and loss spirals, thus reinforcing the same pattern of relationships (in which gains in need satisfaction go hand in hand with increases in OCBOs, and declines in need satisfaction go hand in hand with decreases in OCBOs).

As a set, our results show that the tendency to engage in citizenship behaviours is not only a matter of personality or stable working conditions, but that citizenship behaviours are dynamically related to one's available resources. This finding has major theoretical implications as it reveals that it does not suffice to look at stable, between-person factors or stable working conditions when explaining citizenship behaviours. Instead, if we want to better understand what triggers these behaviours, we can only do so by theorizing and testing models on all levels of analysis. In the words of Scott et al. "if scholars only concentrated on between-person variance in OCB, which was the case only a decade ago, they would be missing half of the story" (2016, p. 14). Our results not only align with past findings showing within-person fluctuations in OCB (e.g., Dalal et al., 2009; Ilies et al., 2013; McCormick et al., 2020; Spence et al., 2014), but also with studies showing intraindividual differences in task performance (e.g., Debusscher et al., 2016; Miner & Glomb, 2010; Yang et al., 2016), and counterproductive work behaviour (e.g., Dalal et al., 2009; Germeys & De Gieter, 2017; Spanouli & Hofmans, 2021). Taken together, these results confirm that job performance is dynamic and that "within-person variability in performance is substantial and meaningful" (Beal et al., 2005, p. 1055). Our findings suggest that need satisfaction is related to employees' propensity to engage in citizenship behaviours towards the organization and that COR can be a useful theoretical framework in providing us with an understanding of how these relationships can materialize at different levels of analysis.

COR theory is also useful in providing a framework on what constitutes meaningful resources by maintaining that resources need to be objectively determined, in the sense that they are centrally valued and universal among people (Hobfoll et al., 2018). In this paper the condition of universality is met by focusing on the often-cited universal nature of need satisfaction as a representation of personal resources (Chen et al., 2015; Deci & Vansteenkiste, 2004). Moreover, even though personal resources in general and need satisfaction in particular are subjective in nature, they do reflect the extent to which objective need-supportive conditions are present because to satisfy one's basic psychological needs one has to possess the corresponding need-based resources (e.g., to have one's need for autonomy fulfilled one needs a

certain amount of decision latitude in her/his work). Despite the universality of basic need satisfaction and despite its logical connection to objective need-based resources, disentangling the underlying resources from the evaluation of these resources is an important avenue for future research. The reason is that COR holds that it is the presence of objective conditions, rather than the subjective appraisal of these conditions, that ultimately matters (Hobfoll et al., 2018). Taken in the context of the present study, although we essentially focus on perceptions or appraisals of need satisfaction, it is important to stress that we do acknowledge that resources are not (only) in the eye of the beholder and as such it is important to compare these appraisals with the underlying objective need-based resources and examine their relative influence on OCBO. Even though this comparison is beyond the scope of this study, we maintain that capturing both the objective conditions of the environment and the individual's evaluation on these conditions is needed in order to gain a better understanding of reality.

Practical implications

Next to its theoretical contributions, our study also has important practical implications. By showing that both need satisfaction and citizenship behaviours vary on a daily basis, our results suggest that organizations have the ability to contribute to employees' everyday work experiences. Work environments that facilitate the acquirement of resources and the satisfaction of psychological needs can contribute to an individual's growth both inside and outside the workplace; at the same time, environments that thwart their employees' need satisfaction or that overuse OCBOs—thus catalysing their depleting nature—, can give rise to a negative spiral, potentially at the cost of both an individual's well-being and her/his performance.

Our findings also suggest the existence of an alternative route to employee performance. Whereas cross-sectional studies conclude that selecting the "appropriate" employees would suffice to secure high levels of performance (of which citizenship behaviours are a key component), our results suggest that performance is not as stable as previously thought. Instead, organizations can focus on providing their employees with enough resources which can assist in satisfying their needs and promoting citizenship behaviours. All in all, we conclude that investments in employees' need satisfaction should be in organizations' interest, not only from a corporate responsibility perspective, but also as a way to enhance employees' favourable behaviours.

Limitations and future research

When interpreting our results, it is important to acknowledge that our study is subject to a number of limitations. Our data were collected via self-reports, which means that common method bias may influence our results. We nonetheless opted for self-reported measures as an individual's need satisfaction cannot be measured via another source, and even though other source ratings are possible with OCBO, a meta-analytical study by Carpenter and colleagues concluded that the use of self-reports is a viable choice for this construct (Carpenter et al., 2013). We partly dealt with common method bias by person-centering our data and thus removing any between-person variance that accounted for systematic over or under-estimation of the ratings, however future studies providing co-worker or supervisor reports for OCBO can overcome this limitation.

Another limitation of relying on self-reports is the inability to directly test a fundamental premise of COR theory, which posits that the influence of objective conditions surpasses that of subjective appraisals in determining outcomes (Hobfoll et al., 2018). To address this limitation, future studies could incorporate both self-reports of need satisfaction and objective measures of the underlying need-based resources. This approach would help determine whether individuals' self-reported need satisfaction accurately reflects the presence of these objective resources, and help access the relative influence they have on OCBO and other organizational outcomes⁴.

Another limitation of our study is that due to the correlational nature of our data we cannot infer causality. As a result, we cannot conclude that higher need satisfaction leads to more acts of OCBO. In fact, in line with the predictions of COR theory and given citizenship behaviours' reciprocal nature, it is probable that there exists a circular relationship, where need satisfaction leads to more OCBOs and where more OCBOs lead to more need satisfaction. Future studies, using an experimental design or with shorter time lags between the measurement moments are better suited to show the directionality of our findings.

In a similar vein, it would be interesting for future research to examine how citizenship behaviours relate to different antecedents and outcomes over different periods of time. For example, an interesting question is whether we can determine a breaking point when the accumulating depleting effect of OCBs takes a toll on employees' overall performance and/or well-being. In a similar manner, future research can examine potentially beneficial outcomes of OCBs for the individuals who engage in them, be it for example in the form of positive work evaluations or social

support, and see how these shape their work experience in the short and in the long term.

The use of a volunteer sample can be seen as another limitation of our study. The fact that these individuals were not paid for their services might affect their levels of need satisfaction and OCBOs. One might argue, for example, that these workers might experience higher levels of need satisfaction or engage in more OCBOs than paid workers, as they were probably intrinsically motivated to volunteer. Similarly, another point of view might suggest that volunteers are less likely to engage in OCBOs as fulfilling their day-to-day tasks can already be perceived as going the extra mile. This difference in viewpoints is also reflected in the literature on volunteering, showing that volunteers (like paid employees) have different motives for working (Bussell & Forbes, 2002; Rodell et al., 2016). We were able to find only one study that directly compared volunteers' and paid employees' engagement in OCB (Erks et al., 2021). In this study, the mean score of OCBs was significantly higher for volunteers compared to paid employees, we therefore urge our readers to exercise caution in generalizing our between-person findings to paid workers.

Another constraint to the generalizability of our between-person findings, is the fact that although our respondents were recruited through three organizations, all of them were active in the field of organizing summer holidays. As a result, we can not test how the resource caravan passageways (Hobfoll et al., 2018) in these types of companies compare to those of other companies, which means that we can not rule out that the characteristics particular to these types of organizations might have influenced our results. We must note however that generalizability is less of an issue when it comes to our within level findings, as between-person differences cannot account for within-person fluctuations. Future studies using a sample of both volunteers and paid employees working in different types of organizations, shall be able to control for and determine if there are any potential differences.

The choice to focus on OCBOs can also be seen as a limitation of our study as it does not allow us to draw conclusions on whether our results can be generalized to other types of OCBs. Halbesleben and colleagues, for example (Halbesleben & Bowler, 2007; Halbesleben & Wheeler, 2011), have found that the relationship between emotional exhaustion and OCB varied depending on the target of OCBs. In a similar note, our measurement choice could have impacted the level of reported OCBOs among our volunteer respondents. Although we chose a scale typically used in high-intensity repeated measures designs (Dalal et al., 2009), this scale was comprised of six items and therefore we can not rule out the scenario that the behaviours reflected in these items might be under or overrepresented among volunteers.

⁴ We thank an anonymous reviewer for this suggestion.

Future research, differentiating among the diverse types of OCB, and using a sample of both paid workers and volunteers can determine whether the relationship between need satisfaction and OCB is the same for all types of OCBs and among all types of workers.

Finally, similarly to resources, individuals do not exist in a vacuum. It would therefore be interesting to research how one's resources from their private domain spill over to their work domain, and vice versa. The same idea can be applied between individuals, looking at how spouses or co-workers' resources interact. Taking a more in-depth approach, qualitative research can examine which resources correspond to each need so as to provide us with more accurate predictions on how need satisfaction is shaped at the workplace.

Conclusion

In this paper, we examined the relationship between need satisfaction and OCBO at three different levels: between individuals, within individuals, as well as over time. At the between-person level, we found that individuals with higher average levels of need satisfaction performed on average more OCBOs. At the within-person level, we demonstrated that when people experienced higher levels of need satisfaction, they engaged in higher levels OCBO. Lastly, our findings revealed that throughout the course of the eight-day period, changes in need satisfaction were positively related with changes in OCBO. Our findings hold important theoretical and practical implications as our study's emphasis on how need satisfaction evolves among individuals over time provides us with a more comprehensive picture of not just who participates in OCBO but also under which conditions.

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Data availability The datasets generated and analysed during the current study are available at https://osf.io/9gwfs/?view_only=e309e434c0864a438a2cac7e7d7c477b.

Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethics approval All procedures performed in this study were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments.

Informed consent Informed consent was obtained from all individual participants included in the study.

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