



Associations of employees' identification and citizenship behavior in organization: a systematic review and a meta-analysis

Andrey V. Sidorenkov¹ · Eugene F. Borokhovskiy² · Dmitry V. Vorontsov¹

Received: 29 July 2021 / Accepted: 3 January 2022 / Published online: 12 January 2022
© The Author(s), under exclusive licence to Springer Nature Switzerland AG 2022

Abstract

The article provides an overview of the research on the association between identifications (ID) of employees and their organizational citizenship behavior (OCB), and reports findings of a meta-analysis of empirically observed correlations ($k=149$) between the two. Our analyses distinguished among six ID levels (personal, interpersonal, micro-group, group, sub-organizational, and organizational) and five OCB types identified as directed toward: individual performance, other individuals, relationships, organizational (group) performance, and maintaining rules and regulations. In addition, we systematically collected, analyzed, and reported data on geography of research, field of organization's activity, respondents' demographic characteristics, methods of measuring ID and OCB. In particular, we found that organizational identification is more often considered as a correlate of OCB than group and interpersonal identifications are, the cases of correlation between either sub-organizational or micro-group identifications with the OCB measures are exceedingly rare, whereas no empirical investigation of the association between personal identification and OCB could be found. The overall weighted average effect size indicates moderate positive relationships between employees' identifications and their citizenship behaviors. Subsequent analyses of moderator variables discovered various degrees of strength of association between ID and OCB, depending on their specific combinations, so that the same level of identification could have uneven correlations with different types of OCB and vice versa. The associations between identifications and OCB strongly depend on how the latter is assessed: through employees' self-reports, supervisors' evaluation, or colleagues' assessment. Our review also addresses gaps and limitations in the existing empirical literature and discusses directions for future research.

Keywords Employees' identifications · Organizational citizenship behaviors · Meta-analysis · Method of evaluation · Correlation

✉ Andrey V. Sidorenkov
av.sidorenkov@yandex.ru

Extended author information available on the last page of the article

JEL classification Code Z

1 Introduction

Research of various predictors of employees' organizational citizenship behavior (extra-role behavior), such as psychological capital (Nolzen 2018), leader–member exchange (Mumtaz and Rowley 2020), organizational commitment (Podsakoff et al. 2000; Riketta and van Dick 2005), to name just some pays special attention to employees' identifications, e.g., identification with the entire organization or a work group (Lee et al. 2015; Riketta 2005). Organizational citizenship behavior, extra-role behavior, and similar forms of pro-social behavior, for their part, induce positive effects on managerial assessment of workers and decision making (with regard to individual performance, job rating, distribution of remuneration, wage increases, promotions, etc.), as well as on their respective units' productivity, efficiency, cost reduction and customers satisfaction (Podsakoff et al. 2000, 2009, among others). Exploring the assortment of associations between identification (organizational and so on) and organizational citizenship behavior in light of their influence on functioning of the organization is of high relevance and applied importance and thus, of particular interest for both theorists and practitioners.

Because identification (ID) and organizational citizenship behavior (OCB) are both complex multidimensional phenomena, the relationships between them cannot be reduced to a single association but require more detailed analyses stratified by the levels of the former and the specific types of the latter. In particular, it is necessary to consider the ID foci: either collective (organization, division, workgroup, informal subgroup) or individual (an employee personally, a colleague, an immediate supervisor). An employee's personality is always characterized by multiple intertwined identifications: with the entire organization, sub-organizational unit, work group, micro-group, as well as interpersonal and personal. On the other hand, OCB could be directed toward different objects (other individuals, organizational activity, etc.) and manifest itself in different actions. Subsequently, routinely measuring them only on an integral or generalized scale seems to be an oversimplification. Instead, we suggest paying attention to levels and dimensions of ID and OCB, respectively, to enable more meaningful analysis of the complexity of all possible associations between the two. Such an approach should result in more interesting conceptual insights and practical implications. Additionally, we must discern clearly and evaluate the context of OCB manifestation – at which level it is performed or assessed: organization, sub-organization, workgroup, or sub-group. The associations between a specific focus of ID and a particular OCB type within the given organizational context may also be influenced by a number of moderators. However, at the present time the available empirical data are rather sporadic with respect to all these considerations. This review aims to broaden our understanding of ID and OCB associations in their rich variety.

This project pursues two main research objectives. First, it intends to determine how frequently various associations between specific ID foci and OCB types are addressed in the empirical literature and in what contexts (e.g., geographic regions, methods of assessing both constructs, types of participating organizations,

employees' demographics). It would provide an overview of the researchers' interests, scope of research, instruments used, etc. The second objective is to estimate, by means of a meta-analysis, the degree of association between the ID foci/levels and the OCB types/dimensions and to explore variability that surrounds the weighted average effect size (correlation).

The literature review below consists of the three subsections. The first one deals with the presupposition that employees have more than just two identifications (organizational and group)—as could be presumed from looking at the majority of research on the subject. We propose to substantiate the multidimensional ID model in the organizational context. The second section discusses the core concept of pro-social behavior and related constructs intersecting with it (citizenship behavior, extra-role behavior, etc.), with a special emphasis on the great number of their specific dimensions and the subsequent need to systematize them according to some commonly recognized criteria. Then, we introduce a more comprehensive typology which embraces all OCB dimensions and, as such is more capable of discriminating among them than the dichotomous OCB models available in the published papers (including those under review in our meta-analysis). Together, the multidimensional ID model and our newly introduced OCB typology form the foundation for classifying all possible associations between the two and allow for a more accurate estimation of their relative frequencies in the published research. The third section is devoted to identifying the deficiencies and gaps in the current assessments of associations between ID and OCB (including previously conducted meta-analyses). Finally, we put forward major research questions that guided our own meta-analysis.

We realize that some of the suggestions we are about to make, especially with regard to conceptualization of multidimensional nature of both phenomena in question may seem unorthodox to the readership of this review and be challenged. We welcome this challenge and the subsequent dialogue with the opponents to our approach as we see at least three reasons for such discussion to be both timely and beneficial for further developments in the field as there is pressing need to: (1) expand the scope of identifications as potential predictors of OCB; (2) go beyond the boundaries of widespread dichotomous typologies of OCB as rethinking and refining OCB types would suggest; and subsequently (3) reveal and describe specific relationships between identifications and OCB taking into account a refined wider range of these variables. All three are considered, with various degrees of depth and detail though, in this review.

2 Identifications of employees in organization

2.1 Levels/foci of ID

Within an organization, employees can develop different identifications that would correspond to particular levels of formal and informal organizational structure: organization as a whole, its secondary-level division, workgroup / team, informal subgroup, individual employee (oneself or another colleague). Subsequently, in this study we are interested in: (1) identification with the organization as a whole (organizational ID), (2) identification with a secondary-level structural unit/division

(sub-organizational ID), (3) identification with a small work group / team (group ID); (4) identification with an informal subgroup within a small work group (micro-group ID); (5) identification with another person (interpersonal ID); and (6) employee's self-identification (personal ID).

The existing literature, among all possible kinds of IDs, disproportionately (almost exclusively) focuses on the organizational and on its various effects (e.g., Effelsberg et al. 2014; Jones 2010; van Dick et al. 2006; Wilkins et al. 2018). Such limited preoccupation with only one ID level can lead to serious omissions in the research by disregarding the role other IDs play in affecting the multitude of individual and collective activities in the organization and their respective results (van Knippenberg and van Schie 2000). It is, therefore, important for researchers to attend (though it does not happen often enough) to cases where employees identify themselves with a respective group—e.g., self-managing work team, research lab, law enforcement patrol squad, or control room operational shift (Christ et al. 2003; van Dick et al. 2004; van Knippenberg and van Schie 2000). Within large and medium-sized institutions with a tiered structure, alongside organizational and group IDs there are also identifications with secondary-level units/divisions—e.g., production facility at a factory or departments at a university that, in turn, include a variety of different work groups. We will refer to this type (level) of identification as sub-organizational ID, although the term 'work-unit identification' is occasionally used in the literature (e.g., Olkkonen and Lipponen 2006). Workers also identify themselves with so-called informal subgroups, which may (and often do) exist within small groups ('micro-group identification'). Sometimes, the term 'subgroup identification' appears in the relevant sources referring to identification either with a work group in the organization (e.g., Jetten et al. 2002), or with a subcontractor (e.g., Lipponen et al. 2003). In contrast, we define informal subgroup (the suggested term is 'micro-group') as a set of group members who share some personally significant traits and/or social attitudes that clearly distinguish them from other members of the same small group. There is a body of empirical evidence that work groups of five and more members could include from one to four informal subgroups and that, on average, more than half of the group members team-up with such informal subgroups (e.g., Sidorenkov et al. 2014). Most often, informal subgroups are dyads, followed in frequency by triads, whereas micro-groups of four or five members are infrequent. Moreover, research indicates that typically micro-group ID is significantly stronger than group or interpersonal IDs (Sidorenkov et al. 2014). The results of our own study (under review), carried out on three samples from different professional fields, showed that there were differences in strength among organizational, sub-organizational, group and micro-group identifications, dependent on the field of work of the participating samples. There are reasons, therefore, to consider these four identifications relatively autonomous, and as such, differentially connected to various types or dimensions of OCB.

It seems quite logical to combine organizational, sub-organizational, group, and micro-group identifications under the common umbrella concept of social identity (Turner 1985). Such categorization is consistent with the long-standing opinion that an individual possesses as many social identities as the number of social groups this individual is affiliated with (Hogg et al. 2004), and that they vary substantially in

perceived subjective significance, as well as in their relative stability/fluidity and specific manifestations depending on situational contexts.

As stated earlier, workers can identify themselves not only with the collective actors (of various levels) within an organization, but also with individual members of their respective workgroup—either with peer colleagues (Farmer et al. 2015; Sidorenkov et al. 2014) or with the group leader / supervisor (Li et al. 2018a; Zhang and Chen 2013). These two can be subsumed under the common concept of interpersonal ID. In other words, an individual employee may experience feelings of being close to somebody who possesses characteristics that the person does not have or expresses feebly but considers of personal significance. Whereas social identifications are based on the individual's relationships with the respective collectives of various levels, interpersonal identifications reflect one's relationships with other individuals. Finally, there is the last form of identification in an organization, namely, personal ID, which reflects the relationship of an individual with their own self and is based upon self-defined physical, psychological, and other forms of individuality and distinctiveness from other group members (Turner 1985; Turner et al. 1987).

2.2 Components of identification

Some scholars do acknowledge that social identifications, particularly organizational and group IDs do indeed have a multidimensional structure, but not in terms of levels of the external relationships. Their approaches to this class of social phenomena focus on how a particular ID is perceived, experienced, and manifested by a person. Accordingly, the following ingredients of the ID construct are often named and studied: cognitive, affective, and evaluative (Tajfel 1978); cognitive, affective, and behavioral (Bouas and Arrow 1995); cognitive, affective, evaluative, and behavioral (Jackson 2002; van Dick et al. 2004). The discussion on structural composition of the ID components continues with the prevalent arguments in favor of a two-fold structure (e.g., Van Dick and Wagner 2002). Specifically, it comes down to the cognitive and affective components, whereas other components are often questioned. For example, it can be argued that the evaluative component is a part of the affective component, since experiencing and responding to any event always stem from some form of assessment. Also, because ID is a certain kind of relationship of an individual to another individual or collective subject, some behavioral manifestation results from it. In any case, we assume that interpersonal and personal identifications, as well as social identifications, all necessarily have at least cognitive and affective components.

2.3 Conceptual model of employees' ID as the framework for the current review

This research covers the full range of employee IDs: (1) self-identification or personal identification (PID); (2) identification with another individual or interpersonal identification (IID); (3) identification with an informal subgroup within the small work group or micro-group identification (MgID); (4) identification with a work

group or group identification (GID); (5) identification with a secondary-level structural unit / division within an organization (such as the office or department) or sub-organizational identification (SoID); and (6) identification with the entire organization or organizational identification (OID). In other words, these IDs reflect specific levels within formal or informal organizational structure: workers, informal sub-groups, work groups, units, and the organization as a whole; each serving as a focus of an individual employee's attention, around which relationships at a workplace are predominantly built. In that sense, we do talk about ID levels, while we do not concern ourselves with any other (generic, social or role) identifications of employees—professional, career, etc.—as those are not focused on either an individual or a collective subject in a work context.

Based on the above, we propose a multidimensional conceptual model of an employee's ID in an organization that accounts for: (1) levels (foci) of ID—personal, interpersonal, micro-group, group, sub-organizational, and organizational, and (2) its components—cognitive and affective. Each level of ID may include both its components. These components have been chosen for the model as the most prevalent in the research literature on the topic. However, our analysis that follows will not be limited to just cognitive and affective components, but will account for any other ID components, as far as they appear in the primary empirical studies under review. The proposed model is plausibly relevant to all types of organizations with any possible set of ID levels. This conceptual model, based on the analyses of empirical studies of different identifications and their components as presented in the literature, supplemented by our logical assumptions, was used primarily to identify and categorize predictor variables in our review.

3 Organizational citizenship behavior and its dimensions

Among the vast variety of pro-social conduct in organizations, the research literature most frequently mentions OCB (Organ 1988, 1990), extra-role behavior (Van Dyne et al. 1995), contextual performance (Borman and Motowidlo 1993; Motowidlo and Van Scotter 1994), and organizational spontaneity (George and Brief 1992). Even from the brief glance at all these concepts, they seem to overlap substantially, so it is quite problematic to make a clear distinction among them (e.g., Podsakoff et al. 2000). However, sometimes the researchers delineate some definitions that specify, for example, the differences between OCB and contextual performance (e.g., Organ 2018). Instead benefit other workers within an organization at its various structural levels including the entire organization. In this review, the term “Organizational Citizenship Behavior” (OCB) is used in a broad sense encompassing all mentioned forms of pro-social behavior. A wide range of OCB types / dimensions is known to the relevant research literature: by the year 2000 there were about thirty definitions of OCB (Podsakoff et al. 2000), and currently one could count over forty.

3.1 Classifying OCB

For such considerable variety of OCB, the need for a meaningful classification is self-evident. There are two commonly known OCB classifications. The first classification is based on distinguishing between the individual and the collective nature of the OCB object, and, according to Williams and Anderson (1991) includes: (1) the OCB-I, or behavior oriented towards other individuals—colleagues, managers (e.g., helping them, providing personal support), and (2) the OCB-O, or behavior directed towards organization (e.g., civic virtue, loyal boosterism). The second classification differentiates between OCB types by its main target/goal and lists the following specific forms of OCB: (1) affiliation-oriented behavior (e.g., helping), and (2) challenge-oriented behavior, such as voice behavior (Van Dyne et al. 1995). Both typologies overlap by the number of OCB dimensions (Podsakoff et al. 2014). For example, voice behavior, named within the second typology as challenge-oriented, can also be attributed to the OCB-O type.

In other words, these classifications, though well structured, suffer some ambiguity. The first classification encompasses excessively broad classes of OCB, each inclusive of behaviors very diverse in their content and focus. For instance, OCB-I includes otherwise very dissimilar altruism and peacemaking. Altruism in the organizational context refers to willingness to benefit other(s) who experience difficulty managing a task on their own, even if it results in disadvantage or loss for the person who provides help. Conversely, peacemaking focuses on actions aimed at preventing or resolving interpersonal conflicts (Organ 1988, 1990). Apparently, altruism is oriented more toward individuals, whereas peacemaking is largely focused on interpersonal relationships. The latter quality prevents attributing peacemaking to the OCB-I type and even less so – to the OCB-O type. The second classification, on the contrary, considers narrower characteristics in pursuing a specific goal of the corresponding OCB and, as such, sets up limits that may not readily accommodate some of the OCB dimensions – for example, conscientiousness, working overtime, or personal industry (all rather very broadly targeted and easily described in terms of affiliation and challenge simultaneously). As a result, those hardly can be unambiguously attributed to a single category within that classification (Podsakoff et al. 2014).

In part to compensate for the limitations of these two categorizations, another one has been introduced by Podsakoff et al. (2000). It encompasses the following seven OCB types: (1) helping behavior; (2) sportsmanship; (3) organizational loyalty; (4) organizational compliance; (5) individual initiative; (6) civic virtue; and (7) self-development. However, this more detailed classification is still not without limitations, namely it: (a) lacks clearly defined sorting criteria; (b) does not cover all known dimensions; (c) represents two well-known and quite complex (multidimensional) OCB types—sportsmanship and self-development—from a single dimension point; (d) includes self-development that can hardly be attributed to OCB at all, as it is neither a behavior as such, nor it is directly aimed at benefiting others, groups, or entire organizations.

3.2 New OCB typology as the framework for the current review

With all these considerations in mind, here we offer an elaborated systematization for OCB dimensions. We believe it is based on more refined and precise criteria and encompasses a wider range of objects and purposes of OCB, as well as broadening its potential implications.

The main criterion for identifying OCB types within an organization is the focus of the behavior, which can be one of the following: (a) person's work; (b) individual actors (other employees) and collective actors (organization, structural unit or work group/team), their functioning and development; (c) the relationships among individual or collective actors; and (d) traditions, norms, and values of a collective actor (organization, department or working group), which employees are members of. These foci determine the content of specific OCB dimensions and their corresponding effects. For example, relationship-oriented behavior helps maintain positive relationships and interactions among employees in an organization (department, group) by preventing or resolving conflicts, for instance. Behavior aimed at observing and maintaining traditions, norms, etc. of a particular collective actor (an organization, unit or group) contributes to stability of its functioning. Accordingly, a five-type OCB classification emerges. For each type, the main focus of the specific behavior and the effects that can be attributed to it are indicated. Construct names of specific behaviors are taken from the OCB research literature. In fact, we have classified all the known OCB dimensions into these five types as follows.

Type 1 Behavior Oriented toward Self-Performance (OSP-B) is directed toward achieving higher efficiency and quality of an employee's performance and may include (in the existing terms): conscientiousness, functional participation, personal industry, sportsmanship, taking initiative, voluntary performance of task activities, overtime work, and selfless pro-organizational behavior.

Type 2 Behavior Oriented toward Other Individuals (OI-B) means promoting activities and efficacy of other employees and takes the forms of: altruism, helping behavior (helping coworkers), interpersonal helping, personal support, assistance and encouragement, interpersonal facilitation, supporting achievement and professional progress of others (cheerleading), and advocacy participation.

Type 3 Behavior Oriented toward Relationships (OR-B) supports positive relationships and interactions and encompasses courtesy, interpersonal harmony, peacemaking, or peacekeeping.

Type 4 Behavior Oriented toward Organization, Division, or Group (OO-B) describes actions that favor the interests and development of the entire organization, its structural divisions, or specific work groups. These are well-known in the related literature: citizenship participation, citizenship virtue, conscientious initiative, individual initiative, taking charge, voice behavior, making constructive suggestions, change-supporting behavior (pro-change behavior), performance improvement, group activity participation (contribution to group activities), endorsing, supporting and defending organizational objectives, loyal boosterism, organizational loyalty, organizational participation, organizational support,

promotion of company image, brand citizenship behavior, protecting or saving organizational resources, social welfare participation, and spreading goodwill. *Type 5 Behavior Oriented toward Maintaining Rules and Regulations (OMR-B)* supports organizational sustainability: it is manifested in a form of organizational obedience, compliance with organizational rules and procedures, generalized adherence to organizational norms, job dedication, conscientiousness, keeping the workplace clean, and OCB directed toward the environment.

Some of the OCB dimensions in this systematization could be seen as belonging to more than one category. For example, there are researchers that would treat conscientiousness as a “job or task citizenship performance” (Zhao et al. 2014, p. 184), i.e., within the first category above, and rightfully so if we apply typical descriptions for the Conscientiousness scale: e.g., “Willing to work overtime without receiving extra pay,” or “Works diligently and with a great sense of responsibility even when the job outcomes will not count toward one’s performance evaluation,” or “Arrives early and starts work immediately,” or “Takes initiative to work overtime to complete one’s work whenever it is necessary” (Zhao et al. 2014, p. 185). However, other authors define conscientiousness as going beyond the minimum requirements of the employees’ role in the formal structure of the organization, i.e., belonging to the Type 5 category of our model above—attendance to work, punctuality, keeping workplace clean, saving and protection of resources, etc. (Organ 1988, 1990).

Notwithstanding possible minor overlaps and attribution challenges, this proposed OCB typology is used in our review for frequency counts of the respective categories and for the meta-analyses of associations between ID levels and OCB types.

The proposed typology of OCB is a conceptualization that has yet to be empirically addressed for confirmation. To verify this typology in research, it would be necessary to conduct a large-scale study, whose design and implementation satisfy the following major criteria: (a) measure simultaneously more than 40 specific behaviors in different, but internally homogeneous samples, and (b) select and adapt or develop valid (construct validity that is primarily) tools for assessing each of these behaviors. It is nearly impossible to do this in a single or even in a series of consecutive studies. In particular, few executives and/or employees would agree to spare time sufficient for completion of all these questionnaires (or one large questionnaire with the multitude of subscales). Incidentally, it is worth mentioning that the existing OCB typologies named in the previous subsection (Podsakoff et al. 2014; Van Dyne et al. 1995; Williams and Anderson 1991), extensively used by many researchers, have not been empirically confirmed either. A systematic review, as the one offered here, may be a viable option for overcoming this limitation.

The typology we introduced and advocate is more differentiated than the dichotomous typologies, as it distinguishes among five relatively independent OCB types. It allows combining similar in content behaviors in one type with more clarity to differentiate them from behaviors in other types. This typology could be a meaningful step towards a more comprehensive ‘nomological network of citizenship behavior’ in terms put forward by Spitzmuller et al. (2008). Specifically, this typology will make it possible, in the future, to systematically revisit theoretical underpinnings

of OCB measures within each its type in order to identify overlapping measures of the same constructs and reduce their number in favor of most representative ones. It would also lay out a foundation for: (a) improving our understanding of the nature and varieties (dimensions) of the citizenship behavior phenomena; (b) building a consensus regarding defining specific OCB constructs; (c) empirically verifying and accumulating research evidence in support for the proposed OCB classification; and (d) identifying specific antecedents and outcomes of each of the five OCB types.

4 Relationship between ID and OCB

It would appear a fair assessment to say that most of the empirical research in the field focuses on exploring associations between the organizational level of employees' ID and OCB (e.g., Jones 2010; van Dick et al. 2006; Wegge et al. 2006). Association between group ID and OCB seems to be addressed more rarely (e.g., Haslam et al. 2009; Kellison et al. 2013; Seppälä et al. 2012). Association of OCB with sub-organizational (e.g., Olkkonen and Lipponen 2006) and interpersonal (e.g., Farmer et al. 2015) ID levels are, in fact, sporadic.

Further, it seems that the generalized, one-dimensional concept of OCB (e.g., Blader and Tyler 2009; Helm et al. 2016) dominates the literature, whereas specific OCB types (e.g., Crocetti et al. 2014; Evans and Davis 2014) or dimensions (e.g., Farrell and Oczkowski 2012; Li et al. 2018a, b) are often disregarded. As a result of both tendencies, we still do not have a clear understanding of associations between different ID levels (foci) and OCB—neither generic nor its specific types.

Meta-analytical studies are intended to summarize and provide a more comprehensive description of the variety of correlations between ID and OCB. One of the relevant meta-analyses aggregated data from ninety-six independent samples focusing on the relations between organizational identification and some demographic characteristics, attitudes and behaviors of the respondents, as well as on contextual variables that might moderate the correlations (Ricketta 2005). However, it contained no information about the exact number of correlations specifically between organizational ID and extra-role behavior, though the author argues that these variables were significantly positively correlated, and that this correlation turned out stronger than between organizational ID and the role performance. Another meta-analytical study by Lee et al. (2015) reported seventy-two correlations (derived from 34 separate articles) between organizational ID and extra-role behavior. In fact, the total number of correlations featured by that meta-analysis is higher, but they also reflect the relations of identifications with various attitudes and role behaviors, whereas the above-mentioned seventy-two are of a particular interest for our review. Lee and colleagues specifically noted that organizational ID is positively correlated with extra-role behavior and that this connection is stronger than the connection of organizational ID with the role behavior. This pattern of results largely agrees with the findings of our study described below. Moreover, the correlation between organizational ID and extra-role behaviors appears stronger when the latter is measured by employees' self-reports, and not based on judgment of others, e.g., supervisors.

Additionally, no significant differences were detected between correlations of organizational ID with OCB-I and with OCB-O.

It is unreasonable to expect that a meta-analysis will provide exhaustive answers to a wide range of questions. Nevertheless, it is necessary to point out that several crucial points were overlooked by the two meta-analyses we just discussed. First, for instance, they are focused solely on organizational ID, not group and interpersonal ones, whereas we would expect a difference in the magnitude of the association between ID and OCB depending on the levels of the former (e.g., organizational, group, and interpersonal) and the specific type of the latter. Also of interest would be to know how often primary empirical studies distinguish between and subsequently measure the cognitive and affective components of ID to estimate their respective contribution to the correlations between ID (of various levels) and OCB. Second, these previous meta-analyses were treating OCB as a generalized one-dimensional construct, although one of them did also differentiate between OCB-I and OCB-O. We see value in a more refined approach that would consider correlations between different levels of ID (not exclusively organizational) and the OCB types as they are classified in our typology. Additionally, associations between different identifications and OCB types may depend on the measurement of the latter—specifically, whether the OCB was self-reported or estimated by colleagues—either the supervisor or peers. In this respect, our review intends to go beyond the analyses of ID–OCB associations carried out by our predecessors (e.g., Lee et al. 2015). Third, the reviewed meta-analyses intrinsically consider blended samples—mixed-up work units, student groups, volunteer teams, research labs, etc. However, those diverse groups differ markedly from each other, which may seriously affect the degree of association between ID and OCB in them. Considering specific participating samples, i.e., what type of the group / industry they represent, should boost the explanatory power of the current meta-analysis. Finally, other moderator variables, previously unaccounted for, such as demographic characteristics (age, gender) of participants, length of employees' tenure with the organization, and geographical location should be addressed in the analyses of the ID–OCB associations.

5 Rationale and research questions for the meta-analysis

Based on what has been known so far, as well as on our best understanding of the ID levels and our categorization of the OCB types, and in an attempt to overcome limitations of previous meta-analyses, our research team engaged in yet another meta-analytical review. To that end, we identified and selected relevant primary empirical research and first ran detailed frequency analyses of different associations between various ID levels and OCB types, and available accompanying moderator variables, according to the upcoming Method section. Next followed the full-scale meta-analyses (all its components—from the sensitivity and publication bias analyses, through weighted aggregation of correlations to the moderator variable analyses) to derive a more refined comprehensive picture of the body of research outcomes that explore and describe the relationships between employees' identifications in an organization

and their citizenship behavior. Specifically, we formulated the following research questions that guided our meta-analysis:

1. What is the overall degree of association between employees' identifications (ID) and organizational citizenship behavior (OCB), as reflected by the aggregated across all levels of ID and all measures of OCB weighted average correlation coefficient?
- 2a. What is the degree of association between each level of ID and the combined (across all types, including indiscriminate generalized) measure of OCB?
- 2b. Is there a significant difference in ID–OCB correlations across ID levels: OI–OCB, SoID–OCB, GID–OCB, MgID–OCB, IID–OCB, and PID–OCB?
- 3a. To what extent does each level of identification (organizational, sub-organizational, group, etc.) correlate with each OCB type (i.e., OSP-B, OI-B, OR-B, etc.)?
- 3b. Are there significant differences in associations specifically between organizational level of ID and each OCB type, e.g., OI–OSP-B, OI–OI-B, OI–OR-B, OI–OO-B, and OI–OMR-B?
- 3c. Are there significant differences in the associations between different ID levels and specific OCB type, e.g., OI–OI-B, GID–OI-B, and IID–OI-B?
- 4a. Does the source of OCB assessment (i.e., self-reports, expert evaluation by supervisors, and peer assessment) affect the strength of the overall association between ID and OCB?
- 4b. Are there significant differences across levels of source of OCB assessment when specific levels of ID are considered?

We realize that the ability to answer these questions comprehensively depends on a sufficient number of respective associations found in the reviewed empirical literature and so, the less represented ID–OCB correlations may not be addressed in the meta-analysis, but just reflected in the frequency count.

6 Method

6.1 Search strategy

To identify relevant primary empirical research published from 1995 to the end of April 2019, we used the following search strategies. The search was performed in the Academic Search Complete (EBSCO), Business Source Complete (EBSCO) and PsycINFO & PsycArticles (APA PsycNET) databases using the key *identi** concepts (*organiz*/organis*/group/intragroup/in-group/team/micro-group/interpersonal/personal*) in combination with other key concepts such as: *behav** (*citizen*/extra-role/performance/civic/help*, etc.) and *workplace* (*at work/job/employ/organization*, etc.) As a result, 1,143 sources were identified. After referring to other sources (e.g., tables of content of the major journals in the field, Google Scholar browsing, and references from the two above-mentioned meta-analytical publications),

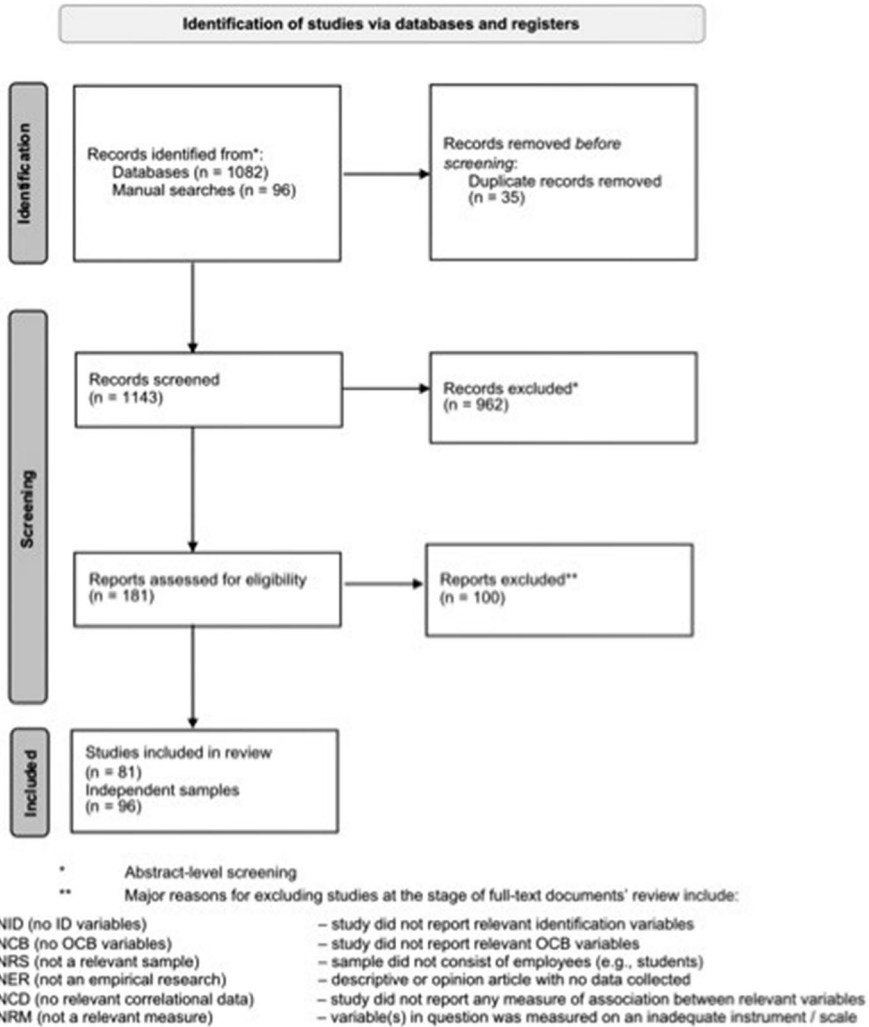


Fig. 1 PRISMA diagram: inclusion/exclusion decision-making

the collection was supplemented by another 61 publications. Search results and the outcomes of the review process are reflected in the PRISMA flowchart below (Fig. 1). The following reasons warranted study exclusion at the stage of the full-text review: NID (no ID variables reported)—15% of cases, NOCB (no OCB variables reported)—25%, NCD (no relevant correlation reported)—17%, NRS (not a relevant sample)—21%, NER (not an empirical research)—10%, and NRM (not a relevant measure of either variable used)—12%.

6.2 Criteria for selecting studies

To be considered for inclusion in the meta-analysis, primary empirical studies had to satisfy particular criteria with respect to publication type, nature and measures of organizational identifications and citizenship behavior, and research methodology. Particularly, the study had to:

- Contain measures of both participants' identifications and their citizenship behaviors and report the degree of association between the two either as direct correlations or based on related inferential statistics (e.g., regression analyses, in which case standardized regression coefficients and the associated standard errors were used to calculate Cohen's d , which was then converted into Pearson's r).
- More specifically, empirically derived degree of association between at least one of the levels of organizational identification (personal, interpersonal, micro-group, group, sub-organizational, or organizational) and at least one of the measures of OCB (e.g., helping behavior, altruism) should be available in extractable form in the selected texts.
- The study sample should represent employers of commercial, non-profit, and public sector entities. That would include higher education institutions, schools, medical facilities, manufacturing and retail enterprises, military and law enforcement agencies, etc. Studies that addressed samples of volunteers, sport teams and their fans, full-time students and the like, were not selected for the final collection of the meta-analysis.
- Special attention was paid to the representativeness and psychometric quality of the assessment tools used in primary empirical research under consideration. We discarded studies in which not workers' identifications, but related constructs (e.g., commitment, attractiveness of the identifications or consequences of identification) were the outcomes. As an illustration of the rational for these determinations, consider that the Organizational Identification Questionnaire (Cheney 1983) is analogous to the Affective Commitment Scale (Allen and Meyer 1990) and to the Organizational Commitment Questionnaire (Mowday et al. 1979), where operationalization of the 'identification' concept resembles that of the 'commitment' concept (Lee et al. 2015). The list of scales for measuring the identification constructs excluded that are excluded from the review is available in the Appendix. On the side of measures of behavior, discarded were the studies that used the following assessment tools: Compulsory Citizenship Behavior Scale (Vigoda-Gadot 2007), Normative and Rule-bounded Citizenship Behavior Scales (Agarwal 2016), Unethical Prosocial Behavior Scale (Matherne et al. 2018). The main reason for this decision is that compulsory and normative citizenship behaviors are rather imposed on workers (as opposed to self-determination of the OCB which is one of its key features), whereas rule-bounded citizenship behavior overlaps with the job performance and unethical prosocial behavior is very specific and stands largely outside of the OCB domain.

In case of longitudinal studies (or studies with multiple assessment points—e.g., related to evaluating effects of some experimental exposure), the results of the first measurement (i.e., Time 1) were taken into account in order to avoid duplication of data in the related samples.

The review of studies for inclusion unfolded in two stages—at the level of abstracts and full-text documents—carried out by two coders per individual study, working independently. There were four alternating pairs of reviewers. In case of a disagreement within a pair, the first author took part in the discussion and made the final determination on the inclusion / exclusion of the controversial document. The initial level of consistency (inter-rated agreement rate) within pairs at all stages of the review did not fall below 84% (Cohen's $\kappa=0.68$). The two-stage review process resulted in selection of 81 publications that reported 96 studies conducted on independent samples. One hundred and forty-nine correlation coefficients ($k=149$) between various levels of ID and types of OCB, based on 26,963 individual participants, were extracted and analyzed.

6.3 Data analysis and aggregation

Relevant to the research questions, individual correlation coefficients were extracted from the selected studies, and after adjusting and weighting according to procedures suggested by Hunter and Schmidt (2004), aggregated within the random effects analytical model. To address the issue of data dependency, as some included individual studies contained multiple correlation coefficients, the robust variance adjustment procedure, as outlined in Hedges et al. (2010) was used. For all data analyses (including sensitivity and publication bias) the review employed *Comprehensive Meta-Analysis*TM 2.2.048 software (Borenstein et al. 2008).

In addition to frequency analyses of the coded study characteristics, moderator variable analyses were carried out within the mixed effects model (Borenstein et al. 2010) and included examination of the following factors: geographical region of the research conduct, field of activity of the organization in question, workers' demographic characteristics, methods/measure of the study major variables—the ID level and the OCB type—and the nature of association between them. In the latter case, where it was possible to do, the OCB measurements were categorized as having their primary focus on one's own activities, on other people, on relationships, on the activities of the organization (either as a whole or its subdivisions), and on compliance with the rules and regulations of that organization. When the study assessed specific manifestations of OCB (for example, helping behavior or altruistic behavior), they were clearly assigned to the appropriate category. When the OCB assessment tool featured a unidimensional construct or its variations (e.g., OCB-I or OCB-O), a careful review of individual items that composed the scale was undertaken to decide to what extent these items predominantly reflected a specific OCB category. If they did, the score of the tool was attributed to the specific OCB category. Otherwise, it was marked as a generic OCB construct, recorded, and analyzed as such (i.e., Generalized Citizenship Behavior Composite Measure).

7 Results

7.1 Geography of the research

As the area of research was sufficiently broad, we report the distribution of individual studies by country (and the corresponding larger world region) of their origin. A frequency histogram below shows the distribution of the included studies by the world regions (Fig. 2). Forty studies were conducted in Europe, specifically: Germany—23, Great Britain—6, Italy—3, Finland—4, Russia—1, Netherlands—1, Belgium—1, and Greece—1. East Asia produced 27 studies (China—20, South Korea—5 and Taiwan—2), North America—15 studies (all conducted in USA); the Middle East—8 (Turkey—4, Lebanon—2, Egypt—1 and United Arab Emirates—1), Southeast Asia—5 studies (Philippines—2, Malaysia—1, Singapore—1 and Thailand—1); Australia and New Zealand—4 (all conducted in Australia); South Asia—2 (India—1 and Pakistan—1). Some studies took place simultaneously in several countries. One sample was multinational, i.e., consisted of virtual teams within a multinational company. In one study reported, only the region was specified—Asia.

7.2 Areas of professional activity, size of organization and demographic characteristics of research participants

The studies were carried out in different professional fields, namely: services and retail (27.4% of studies); education—from pre-school to postsecondary (24.2%); industry and manufacturing (11.6%); healthcare and nursing (7.4%); government and municipal institutions (3.1%); and research, development, and analytics (2.1%). Samples in 24.2% of the studies were mixed, for example: an anonymous survey

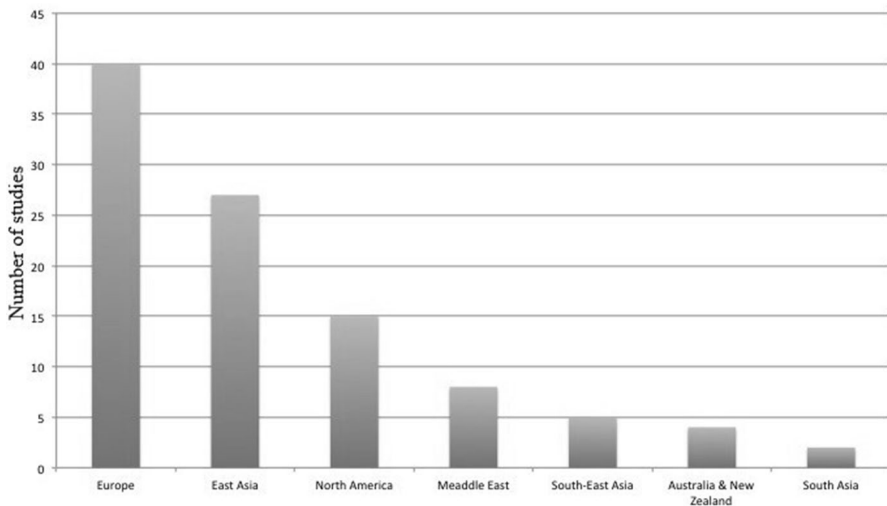


Fig. 2 Frequency Histogram: Study by World Region

(Humphrey 2012) of workers covered different organizations in two US states, or a study (Effelsberg et al. 2014) of workers remotely attending classes at the same university, while employed in different professional fields (healthcare, manufacturing, financial services, public administration, etc.) One study did not specify the scope of its sample. Neither military nor law enforcement samples were found in the studies included in our review. Additionally, in 71.9% of studies it was possible to identify the form of ownership of the organizations in question, of which number, 65.4% were commercial enterprises and 34.6% are state-owned organizations and municipal institutions. Samples in 12 studies represented both categories.

Only ten publications (featuring in total 17 correlation coefficients) indicated the size of organizations, i.e., the number of employees (either as an exact number or as a range). A few other studies reported size of organization as a category—"small", "medium", or "large".

Gender composition of the samples of participants was reported in 85.4% of the studies (i.e., leaving the rest 14.6% of the studies with the employees' gender unspecified). When known, the proportion of female and male participants across the studies was 52% and 48%, respectively. However, there were studies with either gender-balanced or predominantly one-gender samples of employees. Information about the age of respondents appeared in 74.0% of studies. Aggregated across studies, the average age of participants was 34.6 years. Another moderator variable—duration of employment with the organization—was reported in 62.5% of the included studies and on average counted 7.1 years.

7.3 Methods of assessing employees' identifications and citizenship behaviors

Across studies admitted to our meta-analysis, 29 different instruments were used to assess identifications of workers in an organization. Specifically, organizational and group identifications were most frequently measured by means of the Mael and Ashforth (1992) scale (55 studies), followed by the scale authored by van Dick et al. (2004)—used in 14 studies. Other assessment tools were used in 1–3 studies, on average. Almost all instruments were verbally constructed scales of various ranges, with the only exception of a graphically represented identification scale used in Shamir and Kark (2004).

The range of OCB assessment tools used in the analyzed literature turned out to be even wider and included 49 various questionnaires. The most frequently employed (in 12 studies) was the scale by Staufienbiel and Hartz (2000), though largely because of its multiple use in one particular publication (van Dick et al. 2006) that encompassed a large number of different independent samples. The next most frequent instrument (used in 9 studies) was the scale by Podsakoff et al. (1990), followed by the Lee and Allen (2002) scale (used in 8 studies). In 67 studies, OCB was assessed by means of participants' self-reports. Twenty-eight studies presented data based on assessment carried out by managers and in three studies the assessors were employees' colleagues (peers). Two studies reported both self-reports and evaluations by supervisors. Most studies measured OCB as one-dimensional construct (e.g., John et al. 2019). Less often tools based on differentiation among OCB types

were employed, for example: distinguishing between OCB-I and OCB-O (Evans and Davis 2014) or challenge-oriented behaviors (Seppälä et al. 2012). Even more rare were scales that measured specific OCB, such as conscientiousness, sportsmanship, helping and citizenship virtue, as in Kesen (2016).

The researchers could use either original instruments for assessing identifications and citizenship behaviors, or their modified versions (for example, reduced in number or two scales combined into one), as well as adapted through translation into another language.

7.4 Statistics of the number of correlations between ID levels and OCB types

Table 1 below summarizes data on correlations between employees' identifications (at various levels) and their citizenship behavior (of various types). The vast majority of correlation coefficients (131 out of total 149) are statistically significant, of which number 129 are positive and only 2 are negative. As described in the method section, for fifteen studies that used regression analyses (with no zero-order correlation reported for the variables in question), standardized regression coefficients with the associated standard errors were used to calculate Cohen's *d*, which then were converted into *r*.

Out of 149 correlations accumulated for our meta-analysis, in 112 cases measures of OCB were correlated with organizational identification, 20—with group, 11—with interpersonal (6 of them were identifications with colleagues and 5—with a leader), and 3—each with sub-organizational and micro-group identifications, respectively. None of the publications examined the relationship between personal identification and OCB. Due to the absence or a small number of studies that addressed personal, micro-group, and sub-organizational identifications, we did not further analyze correlations with the OCB of those ID levels. It may be worth noting that of the three correlations each at the micro-group and sub-organizational levels, there were two significant positive correlation coefficients for the latter and one for

Table 1 Identifications and citizenship behaviours (Number of pair-wise correlations)

Identification levels	Types of OCB					GC-B
	OSP-B	OI-B	OR-B	OO-B	OMR-B	
Organizational	7 (5/1)	18 (17/0)	4 (4/0)	25 (23/0)	7 (6/0)	51 (47/1)
Sub-organizational	0	0	0	1 (1/0)	0	2 (1/0)
Group	1 (1/0)	5 (4/0)	1 (1/0)	8 (7/0)	0	5 (4/0)
Micro-group	0	0	0	3 (1/0)	0	0
Interpersonal	0	5 (5/0)	0	4 (2/0)	0	2 (2/0)
Personal	0	0	0	0	0	0

OSP-B—behavior oriented toward self-performance, OI-B—behavior oriented toward other individuals, OR-B—behavior oriented toward relationships, OO-B—behavior oriented toward organization (secondary-level structural division, or work group), OMR-B—behavior oriented toward maintaining rules and regulations, and GC-B—generalized citizenship behavior (composite measure). Numbers in parentheses represent: before 'slash'—significant positive correlations; after 'slash'—significant negative correlations

the former. Similarly, we did not consider correlations involving, on the ID side, identifications with co-workers and with leaders, separately (as represented in limited numbers), but instead collapsed them together in a single category of “Interpersonal identification” and analyzed as such. Also, of interest could be the observation that only two publications (Sidorenkov et al. 2019; van Dick et al. 2004) reported studying identifications independently by two components—cognitive and affective.

In 40.3% of cases, OCB was defined and assessed as a generalized construct (or a composite), without identifying its specific type. Among those, the more clearly categorized most frequent OCB types were: behavior aimed at (aligned with) activities of an organization (unit, group)—Behavior Oriented toward Organization (its Improvement and Promotion) and behavior directed toward other people—Behavior Oriented toward Other Individuals—observed in 41 and 28 correlations, respectively. In addition, our close examination of individual items of the scales used for studying OCB types led us conclude that in most cases the assessment was carried out in the context of the corresponding organization as a whole, i.e., these items did not refer to behaviors at the levels of workgroups or units (secondary-level structural divisions). It is extremely rare for OCB to be described by manifestations at levels other than the organizational one. As an illustration, even for the correlations involving group identification, only seven (out of 20) represented assessment also carried out specifically in the context of work groups.

Additionally, the reviewed publications considered not only the direct connections between ID levels and OCB types, but also indirect relationships, i.e., those mediated by some other variables, such as: burnout (Haslam et al. 2009); part-time/full-time employment status (Wegge et al. 2006); ambivalent or dual identification (Schuh et al. 2012); collectivism (Lam et al. 2016); work experience (van der Borgh et al. 2019), task performance skills (Lin et al. 2017); work autonomy (Bell and Menguc 2002); and involvement or non-involvement of respondents in informal subgroups (Sidorenkov et al. 2019). In one publication, organizational identification was considered a predictor of OCB, whereas group identification served as a moderator variable (Van Dick et al. 2008). In two other publications, the same level of identification appeared as either an antecedent (leader organizational identification) or as a mediating variable (follower organizational identification) (Schuh et al. 2012; Van Dick et al. 2007).

7.5 Major research questions

Preliminary analyses Before addressing the essence of the major research questions, we report the results of publication bias and sensitivity analyses. Sensitivity analysis by means of the “One study removed” *CMA* routine found no outliers in the collection of effect sizes; hence, they all were retained for further analyses. Both visual examination of the funnel plot (please, see the online supplemental materials) and Duval & Tweedie’s “Trim and fill” routine of the *CMA* software revealed a minor case of publication bias suggesting that 21 “null-effects” could be potentially missing from the distribution at hand. Subsequently, weighted averages in both analytical models were the subject of minor adjustments, which however, did

not affect significance of the findings. Specifically, under the random effects model (more suitable for the present collection of data) the imputation of potentially missing “null-effects” would reduce the observed effect of 0.318 to 0.277. Table 2 below reports the unadjusted values under both models, as the overall effects were quite robust, e.g., according to Classic fail-safe” procedure, 81,530 “null-effects” would be required to render the observed weighted average statistically insignificant. In addition, to make sure that the source of data for ES extraction did not affect the outcomes, we tested this variable (i.e., reported correlations vs. regression statistics) as a moderator and found no significant difference: $Q_{Between} = 0.831$, $df = 1$, $p = 0.362$ with the corresponding r^+ of 0.32 and 0.25 for reported correlations and effects derived from regression data, respectively.

Degree of association between aggregated ID and OCB dimensions Research Question 1: What is the overall degree of association between employees’ identifications and organizational citizenship behavior (as reflected by the aggregated across all levels of identification and all measures of OCB weighted average correlation coefficient)?

In response to the first research question, our meta-analysis aggregated all coefficients of correlation available in the included studies according to the random effects model with the RVE adjustment to compensate for dependency among samples. The results of this analysis are presented Table 2. The overall weighted average effect size was $r^+ = 0.318$ ($p < 0.001$, $k = 149$). Thus, a positive and statistically significant relationship between two classes of variables under review was established. The distribution of individual effects was highly heterogeneous ($Q_{Total} = 750.13$, $p < 0.001$, $I^2 = 80.27$), which would warrant further systematic exploration through subsequent analyses of substantive (i.e., identification levels and OCB types), contextual, and demographic moderator variables.

To address possible influence on the degree of association between employees’ identifications and OCB of the coded contextual and demographic characteristics of the studies included in the meta-analysis, a series of moderator variable analyses according to the mixed model were performed. Volume restrictions of the current publication do not allow the complete reporting of the findings—but it would suffice to say that some moderators (such as: geographic region, field of professional activity, gender composition of the research samples) produced significantly different effect sizes across their levels.

Connections between individual ID levels and aggregated OCB index The second research question aimed to explore the moderating effects of levels of employees’ ID

Table 2 Overall identification—organizational citizenship behavior degree of association

Analytical model:	k	r^+	Lower 95%	Upper 95%
<i>Random effects</i>	149	.318	.29	.35
<i>Fixed-effect</i>	149	.341	.33	.35
Heterogeneity (Fixed Effect Model)	$Q_T = 750.13$	$df = 148$	$p < .001$	$I^2 = 80.27$

on correlations between the ID and OCB, as reflected in its two complementary sub-questions: 2a. What is the degree of association between each level of ID and the combined (across all types, including indiscriminate generic) measure of OCB? 2b. Is there a significant difference in ID–OCB correlation across ID levels? Results of the corresponding moderator variable analysis are presented in Table 3. Given that some levels of employees' ID were represented by a very limited number of cases, this analysis only accounted for three (most frequently represented) of them, namely: Organizational ID (OID); Group ID (GID); and Interpersonal ID (IID). All three ID levels are significantly positively correlated with all measures of OCB, though not to the same degree. Weighted average correlation coefficient with OCB is significantly higher for Organizational ID than for Interpersonal ID.

Correlations between individual ID levels and OCB types To follow-up, the three parts of the third research question addressed the moderating effects of different types of OCB (if they are reported in sufficient quantities, i.e., $k > 3$) when correlated separately with Organizational ID, Group ID, and Interpersonal ID (Tables 4). Subsequently, we analyzed: correlations of OID with five different types of OCB manifestation (Generic OCB measures excluded); correlations of GID with two OCB types (behavior oriented toward organization and behavior oriented toward other individuals); and correlations of IID with the same two OCB types. There were no significant differences among OCB types correlated to organizational level of ID (Table 4), though OID correlation with self-performance CB (OSP-B) appeared to stand rather apart from other correlations as the lowest among them. Similarly, weighted average Group ID correlation with CB oriented toward organization (OO-B) was not significantly different from that with CB oriented toward other individuals (OI-B), with the latter being higher in magnitude, though not significant by itself. Finally, and somewhat contrary to previously reported outcomes, correlation of Interpersonal ID with CB oriented toward other individuals was significantly higher in magnitude than its correlation with CB oriented toward organization (which by itself was not appreciably significant).

Thus, to summarize responses to all aspects of the third research question, we observed the following patterns of correlations dependent on levels of employees' ID and types of their OCB: (1) Associations of Organizational ID with all five reviewed types of OCB were positive and statistically significant; (2) Though both investigated associations of Group ID with OCB were positive, only one of them,

Table 3 Analyses by Identification Levels

ID Levels	Effect size and 95% confidence interval				Test of null		Homogeneity		
	k	r^+	Lower	Upper	z	P	Q_b	df	p -value
Organizational ID	112	.339	.31	.37	21.77	.000			
Group ID	20	.253	.11	.39	3.36	.001			
Interpersonal ID	11	.249	.19	.31	7.53	.000			
Total between groups							7.97	2	.019

Statistically significant difference is between OID & IID: $Q_{Between} = 7.02, p = .008$

Table 4 Analyses of Connections between Identification Levels and OCB Types ($k > 3$)

OCB Types	Effect size and 95% confidence interval				Test of null		Homogeneity		
	k	r^+	Lower	Upper	Z	p	Q_b	df	p -value
Organizational ID									
OO-B	25	.354	.30	.41	11.49	.000			
OI-B	18	.337	.28	.39	11.58	.000			
OMR-B	7	.377	.22	.52	4.45	.000			
OR-B	4	.368	.24	.48	5.37	.000			
OSP-B	7	.265	.20	.33	7.39	.000			
Total between groups							5.21	4	.266
Group ID									
OO-B	8	.192	.02	.35	2.20	.028			
OI-B	5	.372	-.01	.66	1.93	.053			
Total between groups							.79	2	.373
Interpersonal ID									
OO-B	4	.132	-.02	.28	1.70	.089			
OI-B	5	.297	.23	.36	8.98	.000			
Total between groups							4.18	1	.041

OO-B—behavior oriented toward organization (secondary-level structural division, or work group), OI-B—behavior oriented toward other individuals, OMR-B—behavior oriented toward maintaining rules and regulations, OR-B—behavior oriented toward relationships, and OSP-B—behavior oriented toward self-performance

namely with CB oriented toward organization (OO-B), was statistically significant; and (3) A similar (but reversed) pattern was observed for Interpersonal ID—its association with CB oriented toward other individuals was statistically significant (OI-B), while association with CB oriented toward organization was not (OO-B), both—positive. In the first two cases differences among OCB types did not reach the level of statistical significance, whereas associations IID—CB oriented toward organization ($r^+ = 0.132$) and IID—CB oriented toward other individuals ($r^+ = 0.297$) were significantly different from one another ($Q_{between} = 4.18, p = 0.041$).

Due to the limited number of cases for some levels of either variable, we were able to compare Organizational ID, Group ID, and Interpersonal ID relationships consistently with only two types of OCB: OO-B (CB oriented toward organization) and OI-B (CB oriented toward other individuals). It was found that OO-B had strong positive association with Organizational ID ($r^+ = 0.354$), stronger than with either Group ID or Interpersonal ID – in the latter case the difference was statistically significant, while these two were not significantly different from one another. There were either no significant differences: a) between OO-B associations with Organizational ID and Group ID, and b) between OO-B associations with Group ID and Interpersonal ID.

Table 5 “Whose Assessment/Evaluation” Analyses

Source of OCB assessment	Effect size and 95% confidence interval				Test of null		Homogeneity		
	<i>k</i>	<i>r</i> ⁺	Lower	Upper	<i>Z</i>	<i>P</i>	<i>Q</i> _{-<i>b</i>}	<i>df</i>	<i>p</i> -value
Peers	12	.164	.02	.30	2.19	.029			
Supervisor	36	.265	.22	.31	10.99	.000			
Self-evaluation	101	.354	.32	.39	18.94	.000			
Total between groups							14.39	2	.001

Statistically significant difference is between:

(1) Self-evaluation & Supervisor's assessment: $Q_{Between} = 9.693$, $p = .002$, and

(2) Self-evaluation & Peers' assessment: $Q_{Between} = 6.882$, $p = .009$

Table 6 Analyses of Interaction Effects: Evaluator by Identification Levels

Type of Interaction	Effect size and 95% confidence interval				Test of null		Homogeneity		
	<i>K</i>	<i>r</i> ⁺	Lower	Upper	<i>z</i>	<i>P</i>	<i>Q</i> _{-<i>b</i>}	<i>df</i>	<i>p</i> -value
Peers × Group ID	3	.149	-.05	.33	1.50	.134			
Peers × Interpersonal ID	3	.047	-.15	.24	0.47	.641			
Peers × Organizational ID	3	.333	.04	.58	2.19	.029			
Supervisor × Group ID	5	.181	-.03	.38	1.65	.099			
Supervisor × Interpersonal ID	7	.262	.21	.31	9.65	.000			
Supervisor × Organizational ID	24	.284	.23	.33	10.13	.000			
Self × Group ID	12	.329	.15	.49	3.44	.001			
Self × Interpersonal ID	1	–	–	–	–	–			
Self × Organizational ID	85	.355	.32	.39	19.98	.000			
Total between groups							32.11	7	< .001

Connections between different ID levels and aggregated OCB dependent on the method of its evaluation Of utmost interest for us was the analysis, associated with the fourth research question that investigated whether the degree of associations between ID (its three major levels) and OCB depended on who carried out the assessment of OCB: respondents themselves (employees' self reports) or an external evaluator—either a supervisor or a colleague (i.e., peer assessment). The detailed results of this moderator variable analysis are presented in Table 5.

As evident from Table 5, employees' self-evaluations were significantly different from either peer assessments of evaluations by a supervisor with the tendency to overestimate the magnitude of association between identifications and OCB. Statistically significant positive correlations between identifications and OCB were observed for the cases with OCB assessed by self-reports and supervisors' evaluation, and to a much lesser extent – based on peer assessment. The next step we

took was looking at the differences due to the source of OCB evaluation across three major levels of ID (Table 6). Speaking in terms of specific levels of identification, Organizational ID is positively and significantly associated with OCB according to all three types of OCB assessment, whereas significant Group ID–OCB association was only observed for self-reports. Similarly, Interpersonal ID was significantly associated with OCB only when the latter was evaluated by the supervisors.

8 Discussion

Identifications play an important role in professional activities of individual employees and entire structural units in an organization. For example, social identifications (organizational, sub-organizational, group and micro-group) contribute substantially to self-determination of individuals in various social environments, could satisfy personal need for self-esteem, reduce egocentrism, strengthen psychological integrity of a professional team, etc. Interpersonal identification deepens one's knowledge of other people, facilitates perception of their personal traits and models of behavior, and helps to maintain stable interpersonal connections. Virtually any identification can influence (reflect on) various types and specific OCB dimensions.

Using 149 correlations from 96 studies that investigated the relationship "identification–citizenship behavior" among employees in an organization, we aimed to accomplish two major research tasks. First, we wanted to draw a comprehensive picture of the research in this field—employing frequency analysis of countries and regions where the studies were conducted, types of samples (areas of workers' professional activity), identification and OCB assessment tools, number of correlations depending on the levels of identification and type of OCB, etc. To that end, we identified six levels of identification and used our own typology of OCB.

Within the second task we conducted a meta-analysis to systematically summarize data not only the about the relationship between identification and OCB in general, but also about the unique relationships between each level of identification and each type of OCB. Due to the limited number of correlations between particular levels of identification and types of OCB, we could only meaningfully analyze some pair-wise relationships between the two variables (not all that are theoretically possible). Below we will discuss this and some other limitations of the body of analyzed literature in more detail, as well as consider future research perspectives and their implications from both theoretical and practical points of view.

8.1 Study limitations and future research direction

Levels and components of identification as antecedents of organizational citizenship behavior Our review found very few studies that addressed OCB correlations with either sub-organizational and micro-group identifications and no studies of personal identification as an antecedent of OCB. However, these levels of identifications can also affect the OCB as a whole or its individual manifestations. For instance, a

significant positive relationship has been shown between sub-organizational identification and OCB of workers at the unit level (Olkkonen and Lipponen 2006), and between micro-group identification and contributions to group activities, i.e., at the group level (Sidorenkov et al. 2019). It is likely that micro-group identification will have stronger association with contributions to group activities in the context of an informal subgroup than in the context of a formally defined work group.

In addition, only one study investigated the interactive effects of different identifications on OCB (Van Dick et al. 2008). It found that the combined high levels of group identification and organizational identification are more closely associated with extra-role behavior than either of them alone, i.e., one identification increases the effect of the other on OCB. Therefore, it is imperative not to limit research to studying individual effects in isolation, but rather to address the role of interactions among identifications (for example, personal–group, micro–group–group) in their correlations with OCB. For example, stronger micro-group identification combined with weaker group identification is likely to result in stronger manifestations of OCB within an informal subgroup compared to the context of a formal work group. Particular attention needs to be paid to the combination of personal identification and various social identifications (micro-group, group, sub-organizational and organizational). Presumably, a weak personal identification combined with a strong social identification (e.g., group identification) will have a stronger effect on OCB (respectively, at a group level).

Our analysis found a lack of research (just two studies in total) on the contribution of different identification components (rather than levels) to employees' OCB. One study showed two significant positive associations: between cognitive and affective organizational identification, on the one hand, and sportsmanship type of OCB, on the other (Van Dick et al. 2004). Another study found significant positive associations between affective interpersonal, micro-group and group identifications and workers' contribution to group activities, as well as between cognitive group identification and the same OCB (Sidorenkov et al. 2019). These data, however, are hardly sufficient to confidently conclude which identification component (affective or cognitive) is more influential for the different levels of identification to be reflected in various forms of OCB. It is possible that the affective component of some levels of identification, compared with the cognitive component, will be a stronger predictor of OCB. To that assumption, a study carried out on a sample of students showed that affective organizational identification is more predictive of OCB (interpersonal helping and loyal boosterism) than cognitive identification (Johnson et al. 2012). However, the question remains: at what levels of identification and depending on what conditions does the affective component, as opposed to the cognitive one, have a stronger effect on OCB? It is also important to consider in what context the OCB occurs—in a subgroup, group, department (other structural units) or organization as whole.

Connections between levels of identification and OCB types A large portion of the research has conceptualized OCB as a generic construct, regardless of its specific manifestations and subsequently measured OCB as a composite score or as its most common types – OCB-I or OCB-O. However, research literature identifies a wide

range of specific OCB measures (assessment tools), many of which differed substantially from each other. In this regard, we need to be conscious of a potentially serious problem of reducing all OCB dimensions to either a generic construct or a binary typology. Therefore, in upcoming studies, it is desirable to use more fine-tuned categorization of OCB, for example, the one proposed in the current study. This will allow a more accurate assessment of the effects of a certain level of identification with respect to various meaningfully different types of OCB.

We suggest that the same levels of identification can show both comparable and quite dissimilar degrees of connection with different types of OCB, including specific forms (dimensions) of its manifestation and vice versa—different identifications can be associated with the same OCB with similar or different degrees of strength. Using examples of the most prevalent (i.e., sufficiently represented in the included studies) three levels of identification and two types of OCB, our meta-analysis found the following: (a) organizational identification was significantly associated with both organization-oriented (OO-B) and other people oriented (OI-B) behaviors; (b) group identification was significantly associated with organization-oriented behavior, but did not significantly correlate with behavior oriented towards other people; and (c) interpersonal identification, on the contrary, was significantly associated with behavior oriented towards other people, but not significantly correlated with behavior oriented toward organization. It is our assumption that the difference in associations between specific identifications and the OCB types may be even more pronounced when the assessment of the OCB is not based on the employees' self-reports, but carried out by managers and colleagues. Unfortunately, up to date there have been too few studies that reported peer-to-peer evaluations to reliably test this assumption.

Methods of OCB assessment More than half of the studies (69.8%) measured OCB based on employee self-reports. The meta-analysis showed that the Identification–OCB relationships in large part depend on who evaluated the OCB. Specifically, this relationship was strongest and most significant when OCB was measured by self-reports, followed by correlations in which OCB was evaluated by a supervisor, whereas weakest and just marginally significant correlations were observed when OCB was assessed by peers. The correlations in the former set were also significantly different from correlations of the other two types. More differentiated results were obtained when the relationships between different levels of identifications and OCB types were considered.

Subsequently, the question arises about the compatibility of research results, in which different approaches to OCB assessment are used—i.e., to what extent we could equally rely on self-reports, expert (supervisor's) and peer evaluation, up to the point of the overall trustworthiness of the former (as the most subjective form of measures). Organ (2018) notes that one type of methodology that we no longer need is self-report measures. He is referring in particular to studies in which people report their own contribution to OCB: “The problem with such studies is that the response bias of the individuals can lead to artificial correlations in their response patterns” (p. 304).

Another important issue concerns the evaluation of OCB manifestations at a particular organizational level. In large organizations, most ordinary employees demonstrate OCB (for example, helping behavior, voice behavior) in a work group or a team they are a part of, but hardly at the secondary-level structural divisions, and even less so in the context of the entire organization. Therefore, it is difficult for employees to assess OCB (their own and that of the colleagues) across the organization (as these behaviors are almost exclusively in-group constrained). Likewise, many direct managers find it difficult to assess OCBs of their subordinates at the higher levels of departments and/or organizations, since they do not observe such behaviors in these organizational strata. We must assume that when managers or employees are asked to grade OCB on a specific scale in the context of an organization, they project the content of the items to the group level and respond accordingly. Subsequently, such scales are used to assess the OCB in the context of the group rather than the organization. This problem should be specially addressed in future research.

9 Conclusion

The importance of identification in determining citizenship behaviors of employees in an organization has been confirmed by numerous empirical studies and meta-analyses, including the current one. However, our study also discovered several gaps and limitations in the research on the relationship "identification—organizational citizenship behavior". They relate to insufficient attention to / knowledge of: the role of personal, micro-group and sub-organizational identifications in OCB; interactive effects of different identifications in relation to OCB; contribution of different components (e.g., cognitive and affective) of identifications to OCB; methods of OCB assessment, etc. Understanding this and similar problems with the relationships between identifications and organizational citizenship behavior provides valuable benchmarks for future empirical research on the topic.

Appendix

List of instruments/scales of identification assessment used in the excluded studies

Affective Commitment Scale, ACS (Allen and Meyer 1990).

Organizational Commitment Questionnaire, OCQ (Mowday et al. 1979).

Organizational Moral Identity Centrality and Individual Moral Identity Centrality Scales (Matherne et al. 2018).

Attractiveness of Perceived Organizational Identity Scale (Dukerich et al. 2002).

Organizational Identification Questionnaire, OIQ (Cheney 1983).

Organization Identification Subscale (O'Reilly and Chatman 1986).

Organizational Identification Subscale, a part of the Contextual Performance Scale (Hu et al. 2015).

Subscale Identification with the Company (Farh et al. 1997).

Subscales of Disidentification, Ambivalent Identification, and Neutral Identification (Kreiner and Ashforth 2004).

Ingroup Identification Questionnaire (Leach et al. 2008).

Group Identity Scale (Bouas and Arrow 1995).

Collective Self-Esteem Scale, CSE (Luhtanen and Crocker 1992).

Supplementary Information The online version of this article (<https://doi.org/10.1007/s11301-022-00258-9>) contains supplementary material, which is available to authorized users.

Acknowledgements The authors express their sincere gratitude to Ph.D. and Master students of the Southern Federal University (Russia): A. Filatova, M. Grishina, A. Kondryukova, E. Sal'nikova, S. Sukhorukov, N. Senkina and D. Nikiforova—for their help in selecting and reviewing empirical research for inclusion in the meta-analysis and to the Information Specialist of the Centre for the Study of Learning and Performance at Concordia University (Canada) D. Pickup—for his contribution to designing and implementing systematic search strategy for the meta-analysis.

Funding This study was supported by the Russian Foundation for Basic Research (Project N 19–013–00393, “Identities and organizational behaviours of employees: A multilevel analysis”).

Data availability statement The datasets generated during and/or analysed during the current study are available in the Figshare repository (DOI: 10.6084 / m9.figshare.13400660).

Declarations

Conflict of interest The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval Not applicable.

Consent to participate Not applicable.

Consent for publication Not applicable.

References

References marked with asterisks indicate studies included in the review.

- *Bell SJ, Menguc B (2002) The employee-organization relationship, organizational citizenship behaviors, and superior service quality. *J Retail* 78(2):131–146. [https://doi.org/10.1016/S0022-4359\(02\)00069-6](https://doi.org/10.1016/S0022-4359(02)00069-6)
- *Bellou V, Thanopoulos J (2006) Enhancing service quality in a hospital setting. *Rev Bus* 27(1):26–32
- *Blader SL, Tyler TR (2009) Testing and extending the group engagement model: linkages between social identity, procedural justice, economic outcomes, and extrarole behavior. *J Appl Psychol* 94(2):445–464. <https://doi.org/10.1037/a0013935>

- *Bravo R, Buil I, de Chernatony L, Martínez E (2017) Managing brand identity: Effects on the employees. *Int J Bank Market* 35(1):2–23. <https://doi.org/10.1108/IJBM-10-2015-0148>
- *Callea A, Urbini F, Chirumbolo A (2016) The mediating role of organizational identification in the relationship between qualitative job insecurity, OCB and job performance. *J Manage Dev* 35(6):735–746. <https://doi.org/10.1108/JMD-10-2015-0143>
- *Campbell JW (2015) Identification and performance management: An assessment of change-oriented behavior in public organizations. *Pub Personnel Manage* 44(1):46–69. <https://doi.org/10.1177/0091026014549473>
- *Carnevale JB, Huang L, Paterson T (2019) LMX-differentiation strengthens the prosocial consequences of leader humility: An identification and social exchange perspective. *J Bus Res* 96:287–296. <https://doi.org/10.1016/j.jbusres.2018.11.048>
- *Cha J, Chang Y, Kim T-Y (2014) Person-organization fit on prosocial identity: Implications on employee outcomes. *J Bus Ethics* 123(1):57–69. <https://doi.org/10.1007/s10551-013-1799-7>
- *Chen S-H, Yu H-Y, Hsu H-Y, Lin F-C, Lou J-H (2013) Organisational support, organisational identification and organisational citizenship behavior among male nurses. *J Nurs Manag* 21(8):1072–1082. <https://doi.org/10.1111/j.1365-2834.2012.01449.x>
- *Christ O, Van Dick R, Wagner U, Stellmacher J (2003) When teachers go the extra-mile: Foci of organizational identification as determinants of different forms of organizational citizenship behavior among schoolteachers. *Br J Educ Psychol* 73(3):329–341. <https://doi.org/10.1348/00070990322275867>
- *Creasy T, Stull M, Peck S (2009) Understanding employee-level dynamics within the merger and acquisition process. *J Gen Manag* 35(2):21–42. <https://doi.org/10.1177/030630700903500203>
- *Crocetti E, Avanzi L, Hawk S, Fraccaroli F, Meeus W (2014) Personal and social facets of job identity: A person-centered approach. *J Business Psychol* 29(2):281–300. <https://doi.org/10.1007/s10869-013-9313-x>
- *Demir K (2015a) Teachers' organizational citizenship behaviors and organizational identification in public and private preschools. *Procedia – Social and Behavioral Sciences* 174:1176–1182. <https://doi.org/10.1016/j.sbspro.2015.01.734>
- *Demir K (2015b) The effect of organizational justice and perceived organizational support on organizational citizenship behaviors: The mediating role of organizational identification. *Eurasian Journal of Educational Research* 15(60):131–148. <https://doi.org/10.14689/ejer.2015.60.8>
- *Du J, Choi JN, Hashem F (2012) Interaction between one's own and others' procedural justice perceptions and citizenship behaviors in organizational teams: The moderating role of group identification. *Group Dyn Theory Res Pract* 16(4):289–302. <https://doi.org/10.1037/a0028524>
- *Effelsberg D, Solga M, Gurt J (2014) Getting followers to transcend their self-interest for the benefit of their company: testing a core assumption of transformational leadership theory. *J Business Psychol* 29(1):131–143. <https://doi.org/10.1007/s10869-013-9305-x>
- *El-Kassar A-N, Yunis M, El-Khalil R (2017) The mediating effects of employee-company identification on the relationship between ethics, corporate social responsibility, and organizational citizenship behavior. *J Promot Manag* 23(3):419–436. <https://doi.org/10.1080/10496491.2017.1294872>
- *Evans WR, Davis WD (2014) Corporate citizenship and the employee: An organizational identification perspective. *Hum Perform* 27(2):129–146. <https://doi.org/10.1080/08959285.2014.882926>
- *Evans WR, Davis WD, Frink DD (2011) An examination of employee reactions to perceived corporate citizenship. *J Appl Soc Psychol* 41(4):938–964. <https://doi.org/10.1111/j.1559-1816.2011.00742.x>
- *Farmer SM, Van Dyne L, Kamdar D (2015) The contextualized self: How team-member exchange leads to coworker identification and helping OCB. *J Appl Psychol* 100(2):583–595. <https://doi.org/10.1037/a0037660>
- *Farrell MA, Oczkowski E (2012) Organisational identification and leader member exchange influences on customer orientation and organisational citizenship behaviors. *J Strateg Mark* 20(4):365–377. <https://doi.org/10.1080/0965254X.2011.643917>
- *Feather NT, Rauter KA (2004) Organizational citizenship behaviors in relation to job status, job insecurity, organizational commitment and identification, job satisfaction and work values. *J Occup Organ Psychol* 77(1):81–94. <https://doi.org/10.1348/096317904322915928>
- *Frenkel S, Restubog SLD, Bednall T (2012) How employee perceptions of HR policy and practice influence discretionary work effort and co-worker assistance: evidence from two organizations. *Int J Human Resour Manage* 23(20):4193–4210. <https://doi.org/10.1080/09585192.2012.667433>

- *Fuchs S, Edwards MR (2012) Predicting pro-change behavior: the role of perceived organisational justice and organisational identification. *Hum Resour Manag J* 22(1):39–59. <https://doi.org/10.1111/j.1748-8583.2011.00167.x>
- *Ge J, Su X, Zhou Y (2010) Organizational socialization, organizational identification and organizational citizenship behavior: an empirical research of Chinese high-tech manufacturing enterprises. *Nankai Business Rev Int* 1(2):166–179. <https://doi.org/10.1108/20408741011052573>
- *Goswami A, O'Brien KE, Dawson KM, Hardiman ME (2018) Mechanisms of corporate social responsibility: The moderating role of transformational leadership. *Ethics Behav* 28(8):644–661. <https://doi.org/10.1080/10508422.2018.1467764>
- *Hakonen M, Lipponen J (2007) Antecedents and consequences of identification with virtual teams: Structural characteristics and justice concerns. *J e-Working* 1(2):137–153
- *Haslam SA, Jetten J, Waghorn C (2009) Social identification, stress and citizenship in teams: a five-phase longitudinal study. *Stress Health* 25(1):21–30. <https://doi.org/10.1002/smi.1221>
- *Helm SV, Renk U, Mishra A (2016) Exploring the impact of employees' self-concept, brand identification and brand pride on brand citizenship behaviors. *Eur J Mark* 50(1/2):58–77. <https://doi.org/10.1108/EJM-03-2014-0162>
- *Humphrey A (2012) Transformational leadership and organizational citizenship behaviors: the role of organizational identification. *Psychol-Manager J* 15(4):247–268. <https://doi.org/10.1080/10887156.2012.731831>
- *Jiang JY, Law KS (2013) Two parallel mechanisms of the relationship between justice perceptions and employees' citizenship behavior: a comparison of the organizational identification and social exchange perspective. *Eur J Work Organ Psy* 22(4):423–435. <https://doi.org/10.1080/1359432X.2012.658157>
- *John A, Qadeer F, Shahzadi G, Jia F (2019) Getting paid to be good: How and when employees respond to corporate social responsibility? *J Clean Prod* 215:784–795. <https://doi.org/10.1016/j.jclepro.2019.01.074>
- *Jones DA (2010) Does serving the community also serve the company? Using organizational identification and social exchange theories to understand employee responses to a volunteerism programme. *J Occup Organ Psychol* 83(4):857–878. <https://doi.org/10.1348/096317909X477495>
- *Kellison TB, Kim YK, Magnusen MJ (2013) The work attitudes of Millennials in collegiate recreational sports. *Journal of Park and Recreation Administration* 31(1):78–97. Retrieved from: <https://js.sagamorepub.com/jpra/>
- *Kesen M (2016) Linking organizational identification with individual creativity: Organizational citizenship behavior as a mediator. *Journal of Yasar University* 11(41):56–66. <https://doi.org/10.19168/jyu.47683>
- *Ko S-H, Moon T-W, Hur W-M (2018) Bridging service employees' perceptions of CSR and organizational citizenship behavior: The moderated mediation effects of personal traits. *Curr Psychol* 37(4):816–831. <https://doi.org/10.1007/s12144-017-9565-0>
- *Koivisto S, Lipponen JA (2015) Leader's procedural justice, respect and extra-role behavior: the roles of leader in-group prototypicality and identification. *Soc Justice Res* 28(2):187–206. <https://doi.org/10.1007/s12111-015-0243-9>
- *Lam LW, Liu Y, Loi R (2016) Looking intra-organizationally for identity cues: Whether perceived organizational support shapes employees' organizational identification. *Human Relations* 69(2):345–367. <https://doi.org/10.1177/0018726715584689>
- *Lamm E, Tosti-Kharas J, King CE (2015) Empowering employee sustainability: Perceived organizational support toward the environment. *J Bus Ethics* 128(1):207–220. <https://doi.org/10.1007/s10551-014-2093-z>
- *Li J, Furst-Holloway S, Masterson SS, Gales LM, Blume BD (2018a) Leader-member exchange and leader identification: Comparison and integration. *J Manag Psychol* 33(2):122–141. <https://doi.org/10.1108/JMP-06-2017-0220>
- *Li J, Liang QZ, Zhang ZZ, Wang X (2018b) Leader humility and constructive voice behavior in China: a dual process model. *Int J Manpow* 39(6):840–854. <https://doi.org/10.1108/IJM-06-2017-0137>
- *Lin B, Law KS, Zhou J (2017) Why is underemployment related to creativity and OCB? A task-crafting explanation of the curvilinear moderated relations. *Acad Manag J* 60(1):156–177. <https://doi.org/10.5465/amj.2014.0470>
- *Lipponen J, Olkkonen M-E, Moilanen M (2004) Perceived procedural justice and employee responses to an organizational merger. *Eur J Work Organ Psy* 13(3):391–413. <https://doi.org/10.1080/13594320444000146>

- *Ma B, Liu S, Liu D, Wang H (2016) Job security and work performance in Chinese employees: The mediating role of organisational identification. *Int J Psychol* 51(2):123–129. <https://doi.org/10.1002/ijop.12137>
- *Michel A, Stegmaier R, Sonntag K (2010) I scratch your back—You scratch mine Do procedural justice and organizational identification matter for employees' cooperation during change? *J Change Manage* 10(1):41–59
- *Morrison EW, Wheeler-Smith SL, Kamdar D (2011) Speaking up in groups: A cross-level study of group voice climate and voice. *J Appl Psychol* 96(1):183–191. <https://doi.org/10.1037/a0020744>
- *Mostafa AMS (2018) Ethical leadership and organizational citizenship behaviors: the moderating role of organizational identification. *Eur J Work Organ Psy* 27(4):441–449. <https://doi.org/10.1080/1359432X.2018.1470088>
- *Newman A, Miao Q, Hofman PS, Zhu CJ (2016) The impact of socially responsible human resource management on employees' organizational citizenship behavior: the mediating role of organizational identification. *Int J Human Resour Manage* 27(4):440–455. <https://doi.org/10.1080/09585192.2015.1042895>
- *Nguyen B, Chang K, Rowley C, Japutra A (2016) Organizational citizenship behavior, identification, psychological contract and leadership frames. *Asia-Pacific J Business Adm* 8(3):260–280. <https://doi.org/10.1108/APJBA-01-2016-0010>
- *Norman SM, Avey JB, Nimmich JL, Pigeon NG (2010) The interactive effects of psychological capital and organizational identity on employee organizational citizenship and deviance behaviors. *J Leadership Organ Stud* 17(4):380–391. <https://doi.org/10.1177/1548051809353764>
- *Olkkonen ME, Lipponen J (2006) Relationships between organizational justice, identification with organization and work unit, and group-related outcomes. *Organ Behav Hum Decis Process* 100(2):202–215. <https://doi.org/10.1016/j.obhdp.2005.08.007>
- *Peters K, Tevichapong P, Haslam SA, Postmes T (2010) Making the organization fly: organizational identification and citizenship in full-service and low-cost airlines. *J Pers Psychol* 9(3):145–148. <https://doi.org/10.1027/1866-5888/a000013>
- *Piccoli B, Callea A, Urbini F, Chirumbolo A, Ingusci E, de Witte H (2017) Job insecurity and performance: the mediating role of organizational identification. *Pers Rev* 46(8):1508–1522. <https://doi.org/10.1108/PR-05-2016-0120>
- *Restubog SLD, Hornsey MJ, Bordia P, Esposo SR (2008) Effects of psychological contract breach on organizational citizenship behavior: Insights from the group value model. *J Manage Stud* 45(8):1377–1400. <https://doi.org/10.1111/j.1467-6486.2008.00792.x>
- *Schuh SC, van Quaquebeke N, Göritz A, Xin KR, de Cremer D, van Dick R (2016) Mixed feelings, mixed blessing? How ambivalence in organizational identification affects organizational citizenship behaviors. *Human Relations* 69(12):2224–2249. <https://doi.org/10.1177/0018726716639117>
- *Schuh SC, Zhang X, Egold NW, Graf MM, Pandey D, van Dick R (2012) Leader and follower organizational identification: The mediating role of leader behavior and implications for follower OCB. *J Occup Organ Psychol* 85(2):421–432. <https://doi.org/10.1111/j.2044-8325.2011.02044.x>
- *Seppälä T, Lipponen J, Bardi A, Pirttilä-Backman A-M (2012) Change-oriented organizational citizenship behavior: An interactive product of openness to change values, work unit identification, and sense of power. *J Occup Organ Psychol* 85(1):136–155. <https://doi.org/10.1111/j.2044-8325.2010.02010.x>
- *Shahjehan A, Yasir M (2015) Moderating effect of organizational identification on the relationship between organizational silence, organizational voice and organizational citizenship behaviors. *Gomal University Journal of Research* 31(2):41–52. Retrieved from: <http://www.gujr.com.pk>
- *Shen J, Dumont J, Deng X (2018) Employees' perceptions of green HRM and non-green employee work outcomes: the social identity and stakeholder perspectives. *Group Org Manag* 43(4):594–622. <https://doi.org/10.1177/1059601116664610>
- *Shim DC, Faerman S (2017) Government employees' organizational citizenship behavior: the impacts of public service motivation, organizational identification, and subjective OCB norms. *Int Public Manag J* 20(4):531–559. <https://doi.org/10.1080/10967494.2015.1037943>
- *Sidorenkov AV, Sal'nikova ES, Borokhovskii EF (2019) The relationship between employees' intra-group identities and their contribution to small group activities: The role of subgroup membership/non-membership. *Rossiiskii psikhologicheskii zhurnal (Russian Psychological Journal)* 16(2):142–163. <https://doi.org/10.21702/rpj.2019.2.8>

- *Tangirala S, Ramanujam R (2008) Exploring nonlinearity in employee voice: the effects of personal control and organizational identification. *Acad Manag J* 51(6):1189–1203. <https://doi.org/10.5465/amj.2008.35732719>
- *Trybou J, Gemmel P, Pauwels Y, Henninck C, Clays E (2014) The impact of organizational support and leader-member exchange on the work-related behavior of nursing professionals: the moderating effect of professional and organizational identification. *J Adv Nurs* 70(2):373–382. <https://doi.org/10.1111/jan.12201>
- *Trzebiatowski TM (2016) Good citizens in times of change: Organizational identification, trust, and citizenship behaviors in response to a threatened identity. Unpublished Ph.D. Dissertation. University of Wisconsin-Madison
- *Tsui PY, Ngo H-Y (2015) A study of organizational identification of faculty members in Hong Kong business schools. *J Edu Business* 90(8):427–434. <https://doi.org/10.1080/08832323.2015.1087372>
- *Uzun T (2018) A study of correlations between perceived supervisor support, organizational identification, organizational citizenship behavior, and burnout at schools. *Eur J Edu Res* 7(3):501–511
- *van der Borgh M, de Jong A, Nijssen EJ (2019) Why helping coworkers does not always make you poor: the contingent role of common and unique position within the sales team. *Ind Mark Manage* 77:23–40. <https://doi.org/10.1016/j.indmarman.2017.09.007>
- *van Dick R, Grojean MW, Christ O, Wieseke J (2006) Identity and the extra mile: relationships between organizational identification and organizational citizenship behavior. *Br J Manag* 17(4):283–301. <https://doi.org/10.1111/j.1467-8551.2006.00520.x>
- *van Dick R, Hirst G, Grojean MW, Wieseke J (2007) Relationships between leader and follower organizational identification and implications for follower attitudes and behavior. *J Occup Organ Psychol* 80(1):133–150. <https://doi.org/10.1348/096317905X71831>
- *van Dick R, van Knippenberg D, Kerschreiter R, Hertel G, Wieseke J (2008) Interactive effects of work group and organizational identification on job satisfaction and extra-role behavior. *J Vocat Behav* 72(3):388–399. <https://doi.org/10.1016/j.jvb.2007.11.009>
- *van Dick R, Wagner U, Stellmacher J, Christ O (2004) The utility of a broader conceptualization of organizational identification: Which aspects really matter? *J Occup Organ Psychol* 77(2):171–191. <https://doi.org/10.1348/096317904774202135>
- *Wang T, Jiang H (2015) The mediating effects of organizational and supervisor identification for interactional justice. *Pub Personnel Manage* 44(4):523–542. <https://doi.org/10.1177/0091026015607117>
- *Wang W, Fu Y, Qiu H, Moore JH, Wang Z (2017) Corporate social responsibility and employee outcomes: A moderated mediation model of organizational identification and moral identity. *Front Psychol* 8:1906. <https://doi.org/10.3389/fpsyg.2017.01906>
- *Wegge J, van Dick R, Fisher GK, Wecking C, Moltzen K (2006) Work motivation, organisational identification, and well-being in call centre work. *Work Stress* 20(1):60–83. <https://doi.org/10.1080/02678370600655553>
- *Wilkins S, Butt MM, Annabi CA (2018) The influence of organizational identification on employee attitudes and behaviors in multinational higher education institutions. *J High Educ Policy Manag* 40(1):48–66. <https://doi.org/10.1080/1360080X.2017.1411060>
- *Xu E, Huang X, Robinson SL (2017) When self-view is at stake: Responses to ostracism through the lens of self-verification theory. *J Manag* 43(7):2281–2302. <https://doi.org/10.1177/0149206314567779>
- *Ye J (2012) The impact of organizational values on organizational citizenship behaviors. *Pub Personnel Manage* 41(5):35–46. <https://doi.org/10.1177/009102601204100504>
- *Y-bokh C, J-ran R (2009) Organizational citizenship behaviors in relation to job embeddedness, organizational identification, job performance, voluntary turnover intention in Korea. *Int Business Econ Res J* 8(7):51–68
- *Zhang Y, Chen CC (2013) Developmental leadership and organizational citizenship behavior: Mediating effects of self-determination, supervisor identification, and organizational identification. *Leadersh Quart* 24(4):534–543. <https://doi.org/10.1016/j.leaqua.2013.03.007>
- *Zhao C, Liu Y, Gao Z (2016) An identification perspective of servant leadership's effects. *J Manag Psychol* 31(5):898–913. <https://doi.org/10.1108/JMP-08-2014-0250>
- *Zhao HD, Peng ZL, Chen H-K (2014) Compulsory citizenship behavior and organizational citizenship behavior: the role of organizational identification and perceived interactional justice. *J Psychol* 148(2):177–196. <https://doi.org/10.1080/00223980.2013.768591>
- Agarwal P (2016) Redefining the organizational citizenship behavior. *Int J Organ Anal* 24(5):956–984. <https://doi.org/10.1108/IOA-12-2014-0826>

- Allen NJ, Meyer JP (1990) The measurement and antecedents of affective, continuance and normative commitment to the organization. *J Occup Psychol* 63(1):1–18. <https://doi.org/10.1111/j.2044-8325.1990.tb00506.x>
- Borenstein M, Hedges LV, Higgins JP, Rothstein H (2008) *Comprehensive meta-analysis* (Version 2.2.048) [Computer software]. Biostat, Englewood, NJ
- Borenstein M, Hedges LV, Higgins JPT, Rothstein HR (2010) A basic introduction to fixed-effect and random-effects models for meta-analysis. *Res Synth Methods* 1(2):97–111. <https://doi.org/10.1002/jrsm.12>
- Borman WC, Motowidlo SJ (1993) Expanding the criterion domain to include elements of contextual performance. In: Schmitt N, Borman WC (eds) *Personnel selection in Organizations*. Jossey-Bass, San Francisco, pp 71–98
- Bouas KS, Arrow H (1995) The development of group identity in computer and face-to-face groups with membership change. *Comput Support Coop Work* 4(2–3):153–178. <https://doi.org/10.1007/BF00749745>
- Cheney G (1983) On the various and changing meanings of organizational membership: A field study of organizational identification. *Commun Monogr* 50(4):342–362. <https://doi.org/10.1080/03637758309390174>
- Dukerich JM, Golden BR, Shortell SM (2002) Beauty is in the eye of the beholder: The impact of organizational identification, identity, and image on the cooperative behaviors of physicians. *Adm Sci Q* 47(3):507–533. <https://doi.org/10.2307/3094849>
- Farh J-L, Earley PC, Lin S-C (1997) Impetus for action: a cultural analysis of justice and organizational citizenship behavior in Chinese society. *Adm Sci Q* 42(3):421–444. <https://doi.org/10.2307/2393733>
- George JM, Brief AP (1992) Feeling good-doing good: a conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychol Bull* 112(2):310–329. <https://doi.org/10.1037/0033-2909.112.2.310>
- Hedges LV, Tipton E, Johnson MC (2010) Robust variance estimation in meta-regression with dependent effect size estimates. *Research Synth Methods* 1(1):39–65. <https://doi.org/10.1002/jrsm.5>
- Hogg MA, Abrams D, Otten S, Hincle S (2004) The social identity perspective: Intergroup relations, self-conception, and small groups. *Small Group Res* 35(3):246–276. <https://doi.org/10.1177/1046496404263424>
- Hu Z, Jiang Y, Li Q (2015) The confirmatory factor analysis of secondary school teachers' contextual performance structure in Mainland China. *Psychology* 6(9):1077–1085. <https://doi.org/10.4236/psych.2015.69105>
- Hunter JE, Schmidt FL (2004) *Methods of meta-analysis: Correcting error and bias in research findings*. Sage, Thousand Oaks
- Jackson JW (2002) Intergroup attitudes as a function of different dimensions of group identification and perceived intergroup conflict. *Self Id* 1(1):11–33. <https://doi.org/10.1080/152988602317232777>
- Jetten J, O'Brien A, Trindall N (2002) Changing identity: Predicting adjustment to organizational restructuring as a function of subgroup and superordinate identification. *Br J Soc Psychol* 41(2):281–297. <https://doi.org/10.1348/014466602760060147>
- Johnson MD, Morgeson FP, Hekman DR (2012) Cognitive and affective identification: exploring the links between different forms of social identification and personality with work attitudes and behavior. *J Organ Behav* 33(8):1142–1167. <https://doi.org/10.1002/job.1787>
- Kreiner GE, Ashforth BE (2004) Evidence toward an expanded model of organizational identification. *Organ Behav* 25(1):1–27. <https://doi.org/10.1002/job.234>
- Leach CW, van Zomeren M, Zebel S, Vliek MLW, Pennekamp SF, Doosje B, Ouwerkerk JW, Spears R (2008) Group-level self-definition and self-investment: a hierarchical (multicomponent) model of in-group identification. *J Pers Soc Psychol* 95(1):144–165. <https://doi.org/10.1037/0022-3514.95.1.144>
- Lee E-S, Park T-Y, Koo B (2015) Identifying organizational identification as a basis for attitudes and behaviors: A meta-analytic review. *Psychol Bull* 141(5):1049–1080. <https://doi.org/10.1037/bul0000012>
- Lee K, Allen NJ (2002) Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *J Appl Psychol* 87(1):131–142. <https://doi.org/10.1037/0021-9010.87.1.131>
- Lipponen J, Helkama K, Juslin M (2003) Subgroup identification, superordinate identification and intergroup bias between the subgroups. *Group Process Intergroup Relat* 6(3):239–250. <https://doi.org/10.1177/13684302030063002>

- Luhtanen R, Crocker J (1992) A collective self-esteem scale: Self-evaluation of one's social identity. *Pers Soc Psychol Bull* 18(3):302–318. <https://doi.org/10.1177/0146167292183006>
- Mael F, Ashforth BE (1992) Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *J Organ Behav* 13(2):103–123. <https://doi.org/10.1002/job.4030130202>
- Matherne CF, Ring JK, Farmer S (2018) Organizational moral identity centrality: relationships with citizenship behaviors and unethical prosocial behaviors. *J Bus Psychol* 33(6):711–726. <https://doi.org/10.1007/s10869-017-9519-4>
- Motowidlo SJ, Van Scotter JR (1994) Evidence that task performance should be distinguished from contextual performance. *J Appl Psychol* 79(4):475–480. <https://doi.org/10.1037/0021-9010.79.4.475>
- Mowday RT, Steers RM, Porter LW (1979) The measurement of organizational commitment. *J Vocat Behav* 14(2):224–247. [https://doi.org/10.1016/0001-8791\(79\)90072-1](https://doi.org/10.1016/0001-8791(79)90072-1)
- Mumtaz S, Rowley C (2020) The relationship between leader–member exchange and employee outcomes: Review of past themes and future potential. *Manage Rev Quart* 70:165–189. <https://doi.org/10.1007/s11301-019-00163-8>
- Nolzen N (2018) The concept of psychological capital: a comprehensive review. *Manage Rev Quart* 68:237–277. <https://doi.org/10.1007/s11301-018-0138-6>
- O'Reilly CA, Chatman J (1986) Organizational commitment and psychological attachment: the effects of compliance, identification, and internalization on prosocial behavior. *J Appl Psychol* 71(3):492–499. <https://doi.org/10.1037/0021-9010.71.3.492>
- Organ DW (1988) Organizational citizenship behavior: The good soldier syndrome. Lexington Books, Lexington
- Organ DW (1990) The motivational basis of organizational citizenship behavior. In: Staw BM, Cummings LL (eds) *Research in organizational behavior*, 12. JAI Press, Greenwich, CT, pp 43–72
- Organ DW (2018) Organizational citizenship behavior: recent trends and developments. *Annu Rev Organ Psych Organ Behav* 5:295–306. <https://doi.org/10.1146/annurev-orgpsych-032117-104536>
- Podsakoff NP, Blume BD, Whiting SW, Podsakoff PM (2009) Individual- and organizational-level consequences of organizational citizenship behaviors: a meta-analysis. *J Appl Psychol* 94(1):122–141. <https://doi.org/10.1037/a0013079>
- Podsakoff NP, Podsakoff PM, MacKenzie SB, Maynes TD, Spoelma TM (2014) Consequences of unit-level organizational citizenship behaviors: a review and recommendations for future research. *J Organ Behav* 35(1):87–119. <https://doi.org/10.1002/job.1911>
- Podsakoff PM, MacKenzie SB, Moorman RH, Fetter R (1990) Transformational leader behaviors and their effects on trust, satisfaction, and organizational citizenship behaviors. *Leadersh Quart* 1(2):107–142. [https://doi.org/10.1016/1048-9843\(90\)90009-7](https://doi.org/10.1016/1048-9843(90)90009-7)
- Podsakoff PM, MacKenzie SB, Paine JB, Bachrach DG (2000) Organizational citizenship behavior: A critical review of the theoretical and empirical literature and suggestions for future research. *J Manag* 26(3):513–563. <https://doi.org/10.1177/014920630002600307>
- Riketta M (2005) Organizational identification: A meta-analysis. *J Vocat Behav* 66(2):358–384. <https://doi.org/10.1016/j.jvb.2004.05.005>
- Shamir B, Kark R (2004) A single-item graphic scale for the measurement of organizational identification. *J Occup Organ Psychol* 77(1):115–123. <https://doi.org/10.1348/096317904322915946>
- Sidorenkov AV, Sidorenkova II, Ul'yanova NYu (2014) Socio-psychological characteristics of the efficiency of small groups in organizations. Mini Taip, Rostov-on-Don
- Spitzmuller M, Van Dyne L, Ilies R (2008) Organizational citizenship behavior: A review and extension of its nomological network. *SAGE Handbook Organ Behav* 1:106–123
- Staufenbiel T, Hartz C (2000) Organizational citizenship behavior: Entwicklung und erste Validierung eines Messinstrumentes [Organizational citizenship behavior: Development and first validation of a measure]. *Diagnostica* 46(2):73–83. <https://doi.org/10.1026//0012-1924.46.2.73>
- Tajfel H (1978) The achievement of group differentiation. In: Tajfel H (ed) *Differentiation between social groups: Studies in the social psychology of intergroup relations*. Academic Press, London, pp 77–98
- Turner JC (1985) Social categorization and the self-concept: A social cognitive theory of group behavior. In: Lawler EJ (ed) *Advances in group processes: Theory and research*, 2. JAI Press, Greenwich, pp 77–122
- Turner JC, Hogg MA, Oakes PJ, Reicher SD, Wetherell MS (1987) Rediscovering the social group: A self-categorization theory. Blackwell, Oxford
- van Dick R, Wagner U (2002) Social identification among school teachers: dimensions, foci, and correlates. *Eur J Work Organ Psy* 11(2):129–149. <https://doi.org/10.1080/13594320143000889>

- Van Dyne L, Cummings LL, Parks JM (1995) Extra-role behaviors: In pursuit of construct and definitional clarity (A bridge over muddied waters). In: Cummings LL, Staw BM (eds) *Research in organizational behavior*, 17. JAI Press, Greenwich, pp 215–285
- van Knippenberg D, van Schie ECM (2000) Foci and correlates of organizational identification. *J Occup Organ Psychol* 73(2):137–147. <https://doi.org/10.1348/096317900166949>
- Vigoda-Gadot E (2007) Redrawing the boundaries of OCB? An empirical examination of compulsory extra-role behavior in the workplace. *J Bus Psychol* 21(3):377–405. <https://doi.org/10.1007/s10869-006-9034-5>
- Williams LJ, Anderson SE (1991) Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *J Manag* 17(3):601–617. <https://doi.org/10.1177/014920639101700305>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Authors and Affiliations

Andrey V. Sidorenkov¹  · Eugene F. Borokhovski²  · Dmitry V. Vorontsov¹ 

¹ Southern Federal University, 105/42 Bolshaya Sadovaya ul., Rostov-na-Donu, Russian Federation 344006

² Concordia University, GA-2.126, Boulevard de Maisonneuve West, 1455, Montreal, QC H3G 1M8, Canada