



Understanding the antecedents of organizational commitment in the context of temporary organizations: An empirical study



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ABSTRACT

This study investigates how the characteristics of temporary organizations affect an employee's commitment to the temporary organization, and more precisely, whether the respective effect is similar or opposite to that in permanent organizations. We examine job-related and organizational antecedents of organization commitment, and test to what extent their effects differ in the context of temporary organizations using a data set of more than 600 professionals. Further, we find that an employee's work-life conflict has a mediating role on these relationships. Our study contributes to research by simultaneously considering several antecedents and how their effects may differ between permanent and temporary organizations.

1. Introduction

Research in organizational behavior has increasingly been interested in better understanding the theoretical basis, determinants and effects of employees' organizational commitment (Meyer, Becker & Vandenberghe, 2004; Suma & Leshya, 2013; Sharma, Mohapatra & Rai, 2013), and its related concepts such as organizational identification (Dick et al., 2006) or organizational citizenship (Lee et al., 2004; Mamman et al., 2012; Organ, 1988). A broad range of studies showed that organizational commitment (OC) has in general a significant and positive impact on performance-related outcomes (Vandenberghe & Tremblay, 2008). It was also shown that the factors influencing the development of OC can be manifold and may include personal, job-related and organizational variables (Gonzales & Guillen, 2008; Sharma et al., 2013).

While there is a rich literature on OC in permanent organizational settings, only a few studies have yet considered it in the context of temporary organizations (TOs), such as projects and programs (Dwivedula, Bredillet & Müller, 2013; Tyssen, Wald & Heidenreich, 2014). Though permanent organizations (POs) and TOs are somehow related to another, there are certain characteristics that distinguish both organizational forms (Packendorff, 1995). Due to the characteristics of TOs, some antecedents of OC to the TO can be assumed to be different from those of OC to the PO. First, TOs are characterized by their ex ante limitation in their duration (temporariness) and TO-members are usually aware of the impending termination (Bakker, 2010; Lundin & Söderholm, 1995). Second, tasks in TOs are unique, less routine and more complex than in POs which also includes more uncertainty and risk (Brockhoff, 2006; Hanisch & Wald,

2014). Third, TO work is often out in ambiguous hierarchies, i.e. TO members can have different hierarchical positions in the TO and the PO (Nuhn, Heidenreich & Wald, 2016). Fourth, TOs are composed of experts with different disciplinary backgrounds (Hobday, 2000; Zwikael & Unger-Aviram, 2010) and finally, coordination in TOs relies less on formal structures and processes than in the PO as TO members often have a high degree of autonomy (Bechky, 2006; Janowicz-Panjaitan, Bakker & Kenis, 2009).

Prior research in organizational behavior has shown that the characteristics of TOs require a special attention when studying human resource management practices (Bredin & Söderlund, 2013; Huemann, 2015), citizenship behavior (Braun, Müller-Seitz & Sydow, 2012), leadership (Tyssen et al., 2014) or turnover intentions (Nuhn et al., 2016). In a similar vein, the antecedents of OC in POs are likely to differ in one or another way from those in TOs – whereas some of them might show similar effects, others might do the opposite. Identifying antecedents of OC in TOs not only contributes to the theoretical knowledge on the specificities of TOs but can also be valuable for practitioners. For instance, lacking OC can lead to high turnover between projects (Nuhn & Wald, 2016) and knowledge on the antecedents of OC may help to reduce turnover rates.

The study at hand intends to fill this gap in research by examining how the characteristics of TOs will affect an employee's organizational commitment. Thereby, we will examine how both prevalent job-related and organizational factors will affect an employee's TO commitment (TOC). As work in a TO is often added to that in the PO, it creates additional stress and can negatively affect the work-life balance of

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employees (Nuhn et al., 2016). This can lead to a negative attitude towards the TO and reduce TOC. Therefore, we will also explore in how far an employee's work-life conflict as important situational factor might influence the relationship between job-related and organizational factors and TOC.

We contribute to existing research on organizational commitment and temporary organizations in four ways. First, we show how the characteristics of TOs will affect an employee's OC. Second, by simultaneously considering job-related and organizational factors, we extend previous works that only consider single antecedents of OC (e.g., Dwivedula et al., 2013; Tyssen et al., 2014). Third, as we will explore the mediating role of an employee's work-life conflict (WLC), we will contribute to the ongoing discussions about work-life integration, which represents a core challenge for many organizations (Abstein, Heidenreich & Spieth, 2014). Fourth, we advance research in the field of TOs by explicitly considering similarities and differences in the development of OC in TOs versus POs.

The remainder of this paper proceeds as follows. In the next section, the theoretical concepts and derived hypotheses of our study are introduced. Then, we describe our sample, data collection and measurement approach. Thereafter, we explain our data analysis and, subsequently, present and discuss our findings. Finally, we point out implications for theory and practice, followed by limitations and avenues for future research.

2. Organizational commitment in temporary organizations

The concept of organizational commitment can be traced back at least to the 1960s (Becker, 1960; Klein, Molloy & Cooper, 2009; see Mercurio, 2015, for a recent literature review). Organizational commitment can be described as an emotional and psychological state that portrays an employee's identification with an organization (Allen & Meyer, 1990; Mathieu & Zajac, 1990; O'Reilly & Chatman, 1986). Likewise, it can be understood as a measure of strength regarding an employee's affiliation with a company's goals and values (Mowday, Porter & Steers, 1982). In a more common way, it can also be seen as "a force that binds an individual to a course of action of relevance to one or more targets" (Meyer & Herscovitch, 2001: 301). As a result, committed employees are thought to be more active (Mowday, Steers & Porter, 1979), to work harder (Morrow, 1993) and to defend their firms core assets (Meyer & Allen, 1997).

According to Meyer and Allen (1991), there are three different components of OC that need to be distinguished – affective, continuance and normative. Affective OC describes the emotional link between an employee and its organization. He thereby strongly enjoys his membership in the organization, which occurs out of his own volition (Allen & Meyer, 1990; McShane & Glinow, 2008). Continuance OC refers to an employee's organizational involvement due to the perceived costs (e.g., financial loss) he would suffer from leaving it (Meyer & Allen, 1991). Normative OC reflects an employee's feeling of obligation towards a specific organization (e.g., due to moral or ethical reasons). Meyer and Allen's original concept was criticized for its fuzziness and multidimensionality. In a recent literature review, Mercurio (2015) identified affective commitment as the "core" of OC. This is also in the focus of our analysis.

Research on organizational commitment in POs is, in contrast to that in TOs, nothing new (Dwivedula, Bredillet & Müller, 2013). The antecedents of OC, for example, have already been rigorously investigated (e.g., Allen et al., 2004; Meyer & Allen, 1991; Paul & Anantharaman, 2004). Most of the observed antecedents can thereby be assigned to one of the following three categories (cf. Sharma, Mohapatra & Rai, 2013): personal factors (e.g., personal work ethics, personal attributes), job-related factors (e.g., work autonomy, job complexity, task significance) and organizational factors (e.g., leadership behavior, HR practices).

Due to the characteristics of TOs, we expect that prior identified antecedents of OC in POs will differ in one or another way from those in

the context of TOs. More precisely, we presume that some effects will be similar to that in POs, while others will be opposite. Using this assumption as a starting point, we will proceed by taking a closer look into the respective categories of OC antecedents. Thereby, we will focus on selected organizational and job-related factors that were studied in previous research on OC in POs that can also be important in the context of TOs. We exclude personal factors. Personality is an individual's typical characteristics that influences the way of thinking, feeling and acting independent of the situation (Ones, Viswesvaran & Dilchert, 2005). Therefore, there is no reason to assume that the influence of personal factors on organizational commitment in TOs differs from that in POs. Moreover, previous research has already investigated the relationship between personality factors and organizational commitment (Erdheim et al., 2006) and personality cannot be directly influenced by management (except when hiring personnel) whereas management can change organizational and job-related factors.

2.1. Job-related factors

The investigation of job-related factors as determinants of OC in POs has been of particular interest among scholars (e.g., Mathieu & Zajac, 1990; Sharma & Singh, 1991). Two important factors that have been analyzed in this context are work autonomy and job complexity. TOs are considered as flexible and autonomous forms of organizing, being especially suitable for solving complex job assignments (Hanisch & Wald, 2014). Therefore, we investigate how the influence of both work autonomy and job complexity on employees' OC will change in the context of TOs.

2.1.1. Work autonomy

Autonomy can be described as the degree of freedom an employee has regarding when, how and to what extent he performs his job (Fornes, Rocco & Wollard, 2008). High levels of autonomy are found to strengthen organizational commitment in POs (e.g., Allen et al., 2004; Mathieu & Zajac, 1990). Whereas POs are typically based on formal structures and processes, TOs are relying on more informal coordination mechanisms (Hanisch & Wald, 2014; Janowicz-Panjaitan et al., 2009). The new and to some extent unique tasks in TOs require a certain degree of autonomy. In general, TO members are likely to perceive more autonomy and flexibility during their work than employees in POs. High levels of autonomy will help keeping TO members motivated during their problem-solving processes (Nuhn et al., 2016; Spreitzer, 1995), which can have a positive impact on their commitment (Dwivedula et al., 2013). Conversely, a lack of autonomy may lead to frustration as the necessary degree of freedom for solving the TO tasks is not given. Hence, we hypothesize:

H1. Work autonomy *positively* influences TOC.

2.1.2. Job complexity

Dealing with complexity is challenging and time-consuming process (Gerald, Maylor & Williams, 2011; Hanisch & Wald, 2014). Complexity was also considered by many prior studies in the context of POs as a determinant for employees' turnover intentions (e.g., Chung-Yan, 2010), which can lead to a decrease of their OC. TOs, on the other hand, are seen as an appropriate means to cope with complex job assignments (Bechky, 2006) and empirically Hanisch and Wald (2014) showed that TOs have in fact a high degree of "complexity resistance". It can be expected, that this will also have an impact on the OC of TO members for several reasons.

First, each member of a TO is typically allocated to a specific part of the TO's goal achievement process. As a result, he will perceive a certain degree of self-esteem and ambition (Nuhn & Wald, 2016) which subsequently enhances his job satisfaction (Judge, Timothy, & Bono 2001). It can thereby be assumed that this effect might be even further enhanced by the task's complexity.

Second, Lundin and Söderholm (1995) developed the concept of “time bracketing” which delimits the scope and time horizon of a TO. Time bracketing accentuates the importance of TO tasks as unique and complex and helps to secure the commitment of TO members. In this regard, Bakker, Boroş, Kennis and Oerlemans (2013) pointed out that temporary teams often work under time pressure which corresponds to a high task immersion and a more heuristic than systematic approach to information processing. The task focus corresponds to the TO’s characteristic of including unique and complex tasks. For instance, Nuhn et al. (2016) found task complexity to reduce turnover intentions from TOs. Turnover intentions are closely related to a lacking commitment (Klein et al., 2009).

Third, goal-setting theory (Locke, 1968) suggests that an individual’s aim and motivation to accomplish a certain task will increase with its level of difficulty (Dwivedula, Bredillet & Müller, 2013; Nuhn & Wald, 2016). Solving complex job assignments requires in general a broad pool of expertise (Hobday, 2000). Hence, TO teams are often composed of high-skilled experts who usually hold a certain intrinsic motivation in accomplishing the tasks assigned to them (Nuhn & Wald, 2016). In the light of these positive aspects of job complexity in TOs we expect complexity to increase TOC:

H2a. Job complexity *positively* influences TOC.

High levels of complexity may, however, also yield to certain feelings of risk and uncertainty (Tatikonda & Rosenthal, 2000). TO members can be overstrained by the novelty of the task and a missing coherence of the team (Tyssen et al., 2014). Cicmil, Lindgren and Packendorff (2016) explain that regular work in complex projects can lead to exhaustion and vulnerability of project workers although in many organizations a work culture exist that leads to a voluntary commitment to the projects. Furthermore, complexity is an important cause of time overruns of projects and therefore can cause stress (Williams, 2005). We therefore expect the effect of job complexity on TOC to be positive but smaller than that of work autonomy:

H2b. The effect of job complexity on TOC is smaller than that of work autonomy.

2.2. Organizational factors

Not only job-related factors, but also organizational factors such as leadership behavior and HR practices like career opportunities and trainings were found to considerably strengthen a person’s organizational commitment in permanent settings (Appelbaum et al., 2000; Arthur, 1994; Bergman, 2006; Paul & Anantharaman, 2004; Sharma & Singh, 2001). TO teams are typically composed of heterogeneous groups of experts who are promoted by their respective line managers, rather than their project leaders (Hanisch & Wald, 2014; Tyssen et al., 2014). Due to the aforementioned expertise and ambiguity issues as well as the increasing use of TOs, an augmented interest of organizational scholars can be observed regarding the question of how the effects of organizational factors on OC will vary in the context of TOs. For example, Tyssen et al. (2014) have examined the effect of leadership behavior on an employee’s TOC, whereas the effect of core HR practices such as career opportunities and trainings still needs to be researched in the context of the TO.

2.2.1. Trainings

As prior research has shown (Acton & Goldon, 2003; Kuvaas & Dysvik, 2010; Shipton et al., 2005), the exploitation of existing knowledge through professional trainings will have a positive effect on an employee’s work performance and creativity. Attending suitable training will not only impact an individual’s ability to perform, but also raise its motivation to work (Kuvaas & Dysvik, 2010). A supportive training climate is hence often perceived as a key determinant of an employee’s commitment (e.g., Acton & Goldon, 2003; Paul & Anantharaman, 2004).

TOs are typically used to accomplish tasks that are described as complex, unique and non-routine (Bechky, 2006; Hanisch & Wald, 2014). As a result, TO members are in need to continuously improve and develop their knowledge and problem-solving skills. The presence of appropriate training opportunities facilitates employees’ updating of skills, and in turn their commitment to the organization (Acton & Goldon, 2003; Bushardt, Fretwell & Cumbest, 1994). We therefore propose:

H3. Trainings *positively* influence TOC.

2.2.2. TO-related career opportunities

Career perspectives are a key predictor for commitment (e.g., Paul & Anantharaman, 2004). According to Conway and Monks (2008), they must be understandable and transparent in order to motivate an organization’s workforce. Likewise, the lack of suitable career opportunities is found to enhance employees’ turnover intentions and, on the other hand, decrease their organizational commitment (Nouri & Parker, 2013).

TO-related career opportunities refer to the existence of a (formalized) career path in projects next to the career paths in the permanent organization (Bredin and Söderlund, 2013; Huemann, 2015; Lloyd-Walker et al., 2016). Career paths in many organizations are still based on the achievements and progression in the PO. Even though projects as temporary organizations may play an important role for the firm, TO work is often considered as an exceptional task and not as a career-related activity (Hözlze, 2010). The existence of a dedicated TO-career may increase TO-commitment as employees focus and identify more on their career in the TO.

H4. TO-related career opportunities *positively* influence an employee’s TOC.

2.3. The intervening role of work-life conflict

The term work-life conflict describes an employee’s difficulty to fulfill the demands of both, its work and family role (Greenhaus & Beutell, 1985). Accordingly, high levels of WLC are often associated with rather negative feelings (Amstad et al., 2011; Grant-Vallone & Donaldson, 2001) which may, in the extreme, result in the employee’s occupational burnout (Huhtala & Parzefall, 2007).

TO members are likely to be exposed to higher levels of WLC. First, they are often assigned to various projects in parallel (Tyssen, Wald & Spieth, 2013) that typically cause extra working hours and emotional stress (Nuhn et al., 2016). Second, temporary undertakings are time-limited, and thus need to be finished at a given point in time (Hanisch & Wald, 2014).

Prior studies in permanent settings, however, have shown that employees’ WLC perception can be systematically decreased by the aforementioned, prevalent pairs of job-related and organizational factors. For example, Batt and Valcour (2003) could empirically proof that work autonomy, among others, reduces employees’ difficulty of managing work-life demands. Likewise, Abstein et al. (2014) showed that development perspectives (i.e., career opportunities), suitable trainings and other core HR practices are positively related to employees’ well-being, which in turn reduces WLC. High levels of job complexity, on the other hand, are considered to enhance employee’s job stress (Karasek, 1979; Li & Burch, 2013), and subsequently increase employees’ WLC (Byron, 2005).

Taking the characteristics of TOs into account, we would expect that the effects of both work autonomy and trainings on WLC in the context of TOs will be similar to that in POs, whereas those of career opportunities and job complexity will be opposite. First, TO participants are likely to experience high levels of autonomy during their work compared to those in POs. As a result, the effect on WLC can be expected to be even stronger in this case. Second, TO members are often exposed to

complex, unique and non-routine tasks (e.g., Bechky, 2006), which require a continuous updating of their skill profiles. Regular trainings will thus help to accomplish this goal more easily, while simultaneously reducing potential WLC issues such as extra preparation hours or the like. Third, the promotion of TO participants depends traditionally on the superior line manager in the PO (Packendorff, 1995). Hence, living TO-related career opportunities will require a certain change of the employees' traditional mindset, which again will have a rather neutral impact on their WLC perception. Fourth, TOs are considered by many scholarly works as an appropriate means to cope with complex job assignments (Hanisch & Wald, 2014). Experts from different disciplinary backgrounds are often assigned to a temporary organization for resolving complex task. This can be perceived as a positive challenge and increase the motivation of TO members (Nuhn & Wald, 2016). Empirically, it was shown that complexity reduces turnover intentions from temporary organizations (Nuhn et. al., 2016). In a similar vein, complexity will have a negative impact on an employee's WLC perception.

By considering all the aforementioned aspects, we can conclude that WLC represents a core mediating mechanism that influences the relationship between job-related and organizational factors and TOC. Thereby, we expect:

H5. WLC mediates the effect of prevalent antecedents of TOC.

- H5a. Work autonomy is *negatively* related to WLC.
- H5b. Job complexity is *negatively* related to WLC.
- H5c. Trainings are *negatively* related to WLC.
- H5d. Career opportunities are having *no significant impact* on WLC.
- H5e. WLC *decreases* TOC.

Fig. 1 shows a summary of our research model.

3. Research design and sample composition

3.1. Sample and data collection

Sample selection in the context of TOs is a difficult task due to the lack of conventional databases (Tyssen et al., 2014). By collaborating with two of the leading project management associations in the German speaking area – Project Management Austria (pma) and the German Association for Project Management (GPM) – we were able to adequately solve this issue. Both associations include more than 8000 members in total. Members usually are actively working in TOs. In addition to targeting experienced project managers, a major advantage of our sample lies in the broad coverage of different industries, project types, project sizes, modes of employment (including self-employment), levels of hierarchy, and project experience. This allows for a broad generalization of our results and to control for these context factors.

As part of the collaboration with the project management associations the questionnaire included a set of general questions on career and salaries in project management. This data was mainly used by GPM and pma to inform its members. In the second part of the questionnaire, we included our measurement scales. To control for intersubjective validity and reliability, the questionnaire was pre-tested with seven TO experts. As result of the pretest, no major changes were needed.

The monthly newsletter which is sent to all members of the associations included a link to the online questionnaire. At the end of the survey, which took place between May and July 2015, we had a total of 1724 responses, of which 623 (36.1%) were fully answered and therefore analyzable. The reason for many respondents not completing the questionnaire can be attributed to its length.

By taking a closer look at the sample's composition, we found out that the majority of respondents are German (67.4%) and male (83.6%), and that the respondents' average age is 40 years. Further,

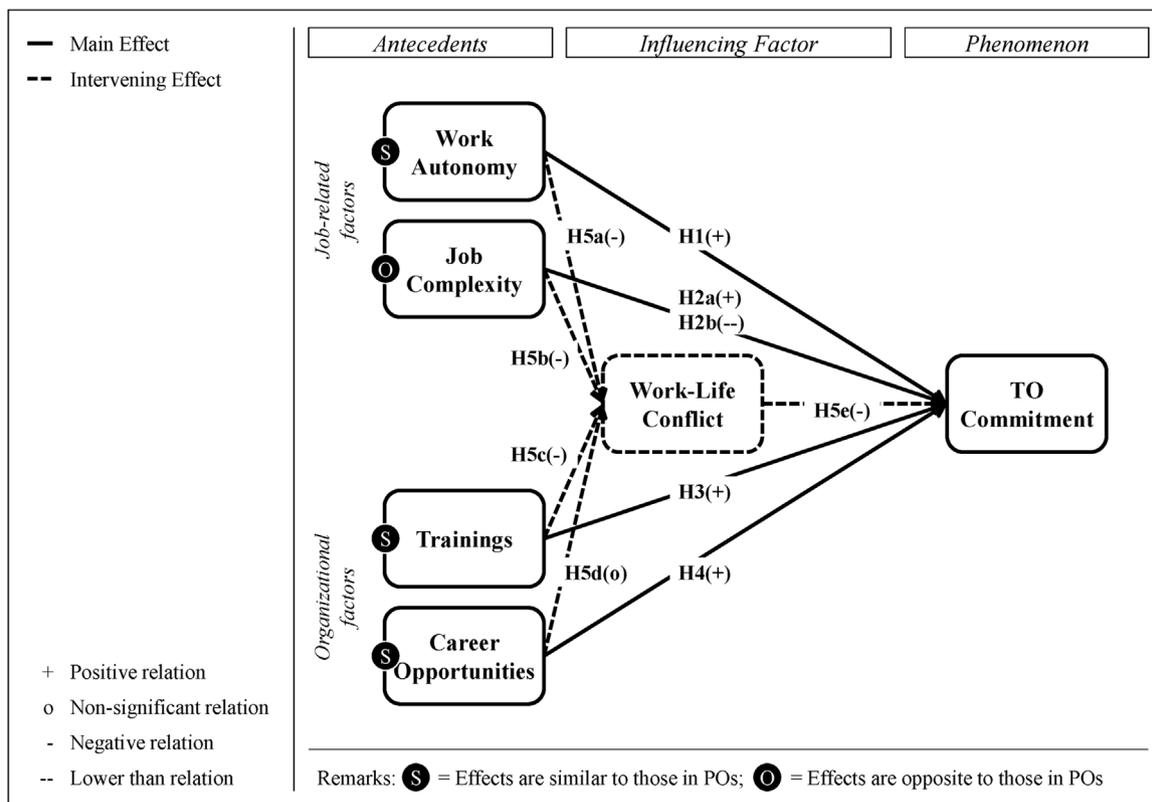


Fig. 1. Research model.

Table 1
Descriptive statistics (TO focus).

| TO type | % | TO duration (months) | % | TO size (employees) | % |
|--------------------------------|----|----------------------|----|---------------------|----|
| Organizational/HR ^a | 6 | < 3 | 1 | < 5 | 6 |
| IT ^b | 31 | 3–6 | 16 | 5–10 | 38 |
| R & D/NPD ^c | 12 | 7–12 | 25 | 11–20 | 24 |
| Marketing & Sales | 2 | 13–24 | 32 | 21–50 | 22 |
| Infrastructure | 5 | 25–48 | 21 | 51–100 | 4 |
| Other | 44 | > 48 | 5 | > 100 | 6 |
| No answer | – | No answer | – | No answer | – |

Note: N = 623.

^a Human Resources.^b Information Technology.^c Research & Technology/New Product Development.

most of them (84.4%) already reached a managing position (i.e., project leader or higher), while holding an average work experience of 10 years. A comprehensive overview of the TO-related indicators can be depicted from [Table 1](#).

3.2. Measures

We used established scales that were already applied and validated in previous research (see [Table 2](#)). We used the measure of [Abstein et al. \(2014\)](#) for work-life conflict. This construct includes five reflective items which we adapted in wording to the context of the TO (see [Table 3](#)). Likewise, the scales for measuring trainings, career opportunities and work autonomy were adopted from [Abstein et al. \(2014\)](#) and adjusted in wording. These scales include three reflective items each. All scales were validated by [Abstein et al. \(2014\)](#) and they are based on earlier empirical research that also validated the scales (see [Table 2](#)). The same applies to the scale for measuring job complexity (four reflective items) which was already used in a TO context by [Tyssen et al. \(2014\)](#). This measure is based on the results of the literature review of [Geraldini et al. \(2011\)](#) on project complexity and includes five reflective items: task novelty, complexity of the content, risk/uncertainty, and structural complexity due to interdisciplinary participants. The scale for measuring TOC was also taken from [Tyssen et al. \(2014\)](#) who developed this scale on the basis of [Herscovitch and Meyer's \(2002\)](#) measurement of commitment to change. TOs bring about change and are used for creating something new ([Bakker, 2010](#); [Lundin and Söderholm, 1995](#)) which makes commitment to change in a PO an adequate starting point for the development of a measurement for TOC. The scale includes six reflective items.

Each scale item was measured using a 7-point Likert scale, ranging from 1 (totally disagree) to 7 (totally agree). To control for demographical as well as industry- and project-specific effects, we considered gender, citizenship, industry and project type, project duration and size as control variables. These variables are not part of hypotheses as they may influence TOC but there are no sound theoretical reasons for assuming a certain direction of influence. For instance, a long duration may increase commitment as there is more time for getting accustomed

Table 2
Used constructs and their respective sources.

| Construct | Type | Source |
|--|----------------------|--|
| Trainings Career opportunities Work autonomy | Reflective (3 items) | Abstein, Heidenreich & Spieth (2014) , using the HR practices scales of Sun, Aryee & Law (2007) and Conway and Monks (2008) as a primary source. |
| Job complexity | Reflective (4 items) | Tyssen, Wald & Heidenreich (2014) , using Geraldini, Maylor & Williams' (2011) review on project complexity as a primary source |
| Work-life conflict | Reflective (5 items) | Abstein, Heidenreich & Spieth (2014) , using Anderson, Coffey & Byerly's (2002) WLC scale as a primary source |
| TOC | Reflective (6 items) | Tyssen, Wald & Heidenreich (2014) , using Herscovitch & Meyer's (2002) commitment to change scale as a primary source |

Note: A detailed overview of the respective scale items can be found in [Table 3](#).

to a TO. On the other hand, a long duration due to problems and time overruns can lead to frustration and thus reduce commitment. We also controlled for the share of working time spent in projects (in% of total working time). It indicates the exposure of the respondents to projects and the relative importance of work in the TO compared to work in the PO.

4. Analysis and results

4.1. Method of analysis

To empirically test our model, we chose a structural equation modeling (SEM) approach. This allowed us not only to assess the broad variety of constructs in our sample, but also to evaluate the various cause-and-effect chains in between ([Landsperger, Spieth & Heidenreich, 20142](#); [MacKenzie, 2001](#)). Further, we decided to use the partial least squares method as it has lower data quality requirements and allows a better data prediction ([Reinartz, Haenlein & Henseler, 2009](#); [Scholderer & Balderjahn, 2005](#)).

Since our study depends on a single informant approach, we applied additional remedies – as proposed by [Podsakoff et al. \(2003\)](#) – to control for a potential common method bias. First, we physically separated dependent and independent variables in the questionnaire and used established, easily understandable scales ([Tyssen et al., 2014](#)). Second, we conducted a Harman's single factor test ([Podsakoff et al., 2003](#)), which found no evidence for common method variance. In sum, we therefore presume that our results are not considerably affected by means of common method bias.

4.2. Evaluation of the research model

For the final estimation of our research model's inner and outer parameters, we applied the software solution SmartPLS 2.0 ([Ringle, Wende & Will, 2005](#)). Further, we followed [Anderson & Gerbing's \(1988\)](#) suggestion to use a two-level approach for evaluating the overall quality of our research design – the measurement-level and the structural-level.

4.2.1. Assessing the measurement-level

In accordance to [Hulland \(1999\)](#), the relevance of a measurement models' reflective constructs can be checked by determining their indicator reliability, convergent validity and discriminant validity.

For indicator reliability, all item loadings below .5 (or .4 for factor analysis results) need to be dropped out ([Hulland, 1999](#)), which is fortunately not the case for our data (see [Table 3](#)). Convergent validity, in contrast, can be assessed by calculating the average variance extracted (AVE) of each reflective construct. For it to hold, each construct needs to reach an AVE value of at least .5 ([Fornell & Larcker, 1981](#)). Again, without any exception, all our constructs fulfill this requirement (see [Table 4](#)). In order to provide proof for discriminant validity, the squared intercorrelations of the constructs need to be lower than their AVE ([Fornell & Larcker, 1981](#); [Hulland, 1999](#)), which is true for our sample as shown in [Table 4](#). Further first-order checks regarding the

Table 3
First-order hierarchical measurement model results.

| 1st-order construct | Item | Loading (λ_i) | Sig. (t-value) |
|---------------------------------|---|-------------------------|----------------|
| Work Autonomy ^a | I had the opportunity to set my own priorities at work | .876 | 69.860 |
| | I had the opportunity to choose my TO-related assignments | .803 | 37.787 |
| | At my last TO, I had a lot of possibilities to make my own decisions | .840 | 43.831 |
| Job Complexity ^a | To me, the TO had a high degree of complexity concerning interdisciplinary participants | .760 | 27.550 |
| | The TO had a high degree of task novelty | .767 | 25.034 |
| | The TO had a high degree of complexity concerning content | .864 | 53.845 |
| | The TO was characterized by high risk and uncertainty | .717 | 15.531 |
| Trainings | I have enough opportunities to attend TO-related training courses | .929 | 94.176 |
| | I receive the TO-related management training I require to do a good job | .954 | 193.003 |
| | My supervisors support my TO-related trainings initiatives (e.g., PM trainings) | .886 | 49.793 |
| Career Opportunities | My company offers to me a mid-term to long-term TO-related career plan | .923 | 43.510 |
| | My company offers me a TO-related career plan that considers personal goals and requests | .954 | 44.754 |
| | I have the opportunity to choose between different TO-related career paths | .777 | 14.309 |
| Work-Life Conflict ^a | I often did not have enough time for myself because of the TO | .788 | 22.300 |
| | I often did not have enough time for my family or other important people in my life because of the TO | .827 | 27.915 |
| | I often did not have the energy to do things with my family/other important people in my life due to the TO | .873 | 67.713 |
| | I was often unable to get everything done at home because of the TO | .788 | 31.857 |
| TO Commitment ^a | At home I was often in a lower mood as I would have liked to be because of the TO | .751 | 20.734 |
| | I believe in the value of this TO | .845 | 45.545 |
| | I think the management was making a mistake by introducing this TO(reverse coded) | .662 | 12.810 |
| | This TO served an important purpose | .731 | 20.113 |
| | Things would have been better without this TO (reverse coded) | .614 | 11.300 |
| | This TO was not necessary (reverse coded) | .660 | 14.153 |
| | I enjoyed working in this last TO | .755 | 28.493 |

Note: N = 623.

^a The respondent was asked to answer the proposed statements by thinking of the last completed TO (here: project case) he/she was working on.

Table 4
Composite reliability, average variance extracted and intercorrelations.

| Variable | CR | AVE | Correlations | | | | | |
|------------------------|------|------|--------------|-----|-------|-------|-------|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 Career Opportunities | .918 | .789 | – | | | | | |
| 2 Job Complexity | .860 | .607 | .11 | – | | | | |
| 3 TO Commitment | .861 | .512 | .15 | .16 | – | | | |
| 4 Trainings | .946 | .853 | .41 | .08 | .20 | – | | |
| 5 Work-Life Conflict | .903 | .650 | (.06) | .25 | (.13) | (.12) | – | |
| 6 Work Autonomy | .878 | .706 | .24 | .20 | .38 | .19 | (.12) | – |

Note: N = 623.

constructs' composite reliability (see Table 4) and predictive validity were also found positive. Higher-order tests (e.g., indicator relevance, multicollinearity), however, were not applied as we only deployed reflective (first-order) constructs.

4.2.2. Assessing the structural-level

To test our structural model and hypotheses, we calculated all path coefficients, their respective significance levels as well as the endogenous constructs' coefficients of determination, often denoted as R²-values (see Fig. 2).

By taking the perceived path coefficients and their respective significance levels into consideration, we find empirical support for almost all of our proposed hypotheses. H1 and H2a are supported as both, work autonomy ($\beta = .32$; $p < .01$) and job complexity ($\beta = .11$; $p < .05$), positively influence an employee's TOC. In line with H2b, we also revealed that the effect of job complexity on an employee's TOC is lower than that of work autonomy. H3 is also supported as the relationship between trainings and TOC is found to be significant ($\beta = .12$; $p < .01$) whereas H4 is rejected as there is no significant effect of TO-related career opportunities ($\beta = (.00)$; n.s.). In line with H5a and H5d, work autonomy ($\beta = (.16)$; $p < .01$) and trainings ($\beta = (.11)$; $p < .05$) are both negatively related to WLC. As a

significant relationship between career opportunities and WLC does not exist ($\beta = (.01)$; n.s.), also H5c is finding support. Due to the fact that the relation between job complexity and WLC is positive and not negative ($\beta = .29$; $p < .01$), H5b however needs to be rejected. Finally, supporting H5e, WLC is found to decrease an employee's TOC ($\beta = (.12)$; $p < .05$).

To test for the significance and magnitude of the mediating effect of WLC, we applied four Sobel tests (Sobel, 1982) – one for each sub-effect – and calculated the respective variance accounted for (VAF), as recommended by Iacobucci and Duhachek (2003). The results of the four Sobel tests confirm a significant effect of WLC on the relationship between all three, work autonomy (z-value = 2.080; $p < .05$), job complexity (z-value = (2.432); $p < .05$) and trainings (z-value = 1.769; $p < .10$), and TOC. However, the effect of WLC on the relationship between career opportunities and TOC is found to be non-significant (z-value = 0.448; n.s.). Further, the calculated VAF-values for the significant effects show that 5.3% (work autonomy), 36.1% (job complexity) and 9.3% (trainings) of the observed total effects are explained by the indirect parts.

With respect to the control variables (gender, citizenship, industry, project type, project duration, project size, and % of working time spent in projects), none of the proposed effects was found significant, except for that of project type on TOC ($\beta = .07$; $p < .10$). As the respective path coefficient indicates, the effect however turned out to be rather weak. Hence, we will neglect it in our further discussion.

5. Discussion and conclusion

Following a recent call by Dwivedula, Bredillet & Müller (2013), the aim of this study was to investigate how the characteristics of TOs will affect an employee's organizational commitment, and more precisely, whether the respective effect will be similar or opposite to that previously observed in permanent organizational settings. We extend previous work that considered only single antecedents of OC in TOs without explicitly formulating similarities and differences between POs and TOs in a comprehensive research model.

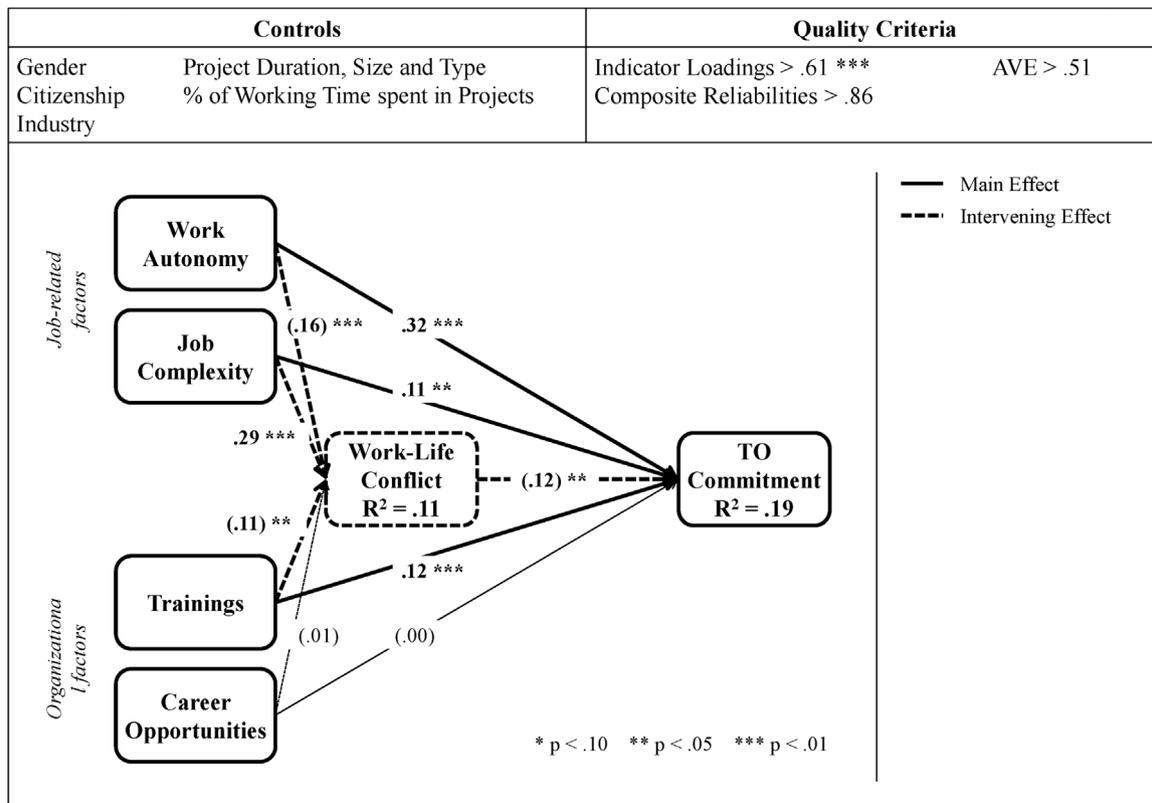


Fig. 2. Structural model results.

5.1. Theoretical contribution

We contribute to existing theory on OC and TOs in five ways.

First, our results show that all observed antecedents have a significant and positive effect on TOC, except for career opportunities. These findings are partly consistent with prior research on organizational commitment in permanent organizational settings, and thus further support it. For example, the positive effect of work autonomy on TOC helps to generalize the previous work of Allen et al. (2004), which showed that high levels of work autonomy will have a positive effect on organizational commitment of social and human service workers. The positive relation between trainings and TOC, on the other side, strengthens the prior work of Kuvaas and Dysvik (2010) which states that the participation in suitable training programs will push not only an individual’s performance, but also his motivation to work. Work motivation and organizational commitment are again found to be closely connected to each other (Dwivedula, Bredillet & Müller, 2013). The finding also underscores the result of Acton & Goldon’s (2003) work that trainings facilitate an individual’s skill updating process, which in turn strengthen his affiliation towards their organization. As TOs are typically called into existence in order to solve tasks that are described as complex, novel and non-routine (Hanisch & Wald, 2014), this aspect becomes even more severe.

Second, while prior studies in the context of POs confirmed a negative relationship between job complexity and OC, our results support the hypothesized opposite effect in the context of TOs. This finding is in direct line with Dwivedula, Bredillet & Müller’s (2013) claim in accordance to Locke’s (1968) goal-setting theory that an individual’s motivation (a correlate of commitment) to fulfill a certain task will rise with its level of difficulty. Further, as the effect of job complexity on TOC is found lower than that of work autonomy, the statement of Tatikonda and Rosenthal (2000) that high levels of complexity may imply certain feelings of insecurity gets fostered too. From a TO perspective, the results also stress the general belief that tasks in TOs are usually more complex

than in POs (Cooke-Davies, Cicmil, Crawford & Richardson, 2007; Maylor, Vidgen & Carver, 2008), but also that TOs are an appropriate form of organizing to manage complexity (Hanisch & Wald, 2014). Similar to the relationship between job complexity and OC, also that of career opportunities and OC turned out to differ in the context of TOs compared to that in POs. While prior studies in the context of POs confirmed a strong and positive effect of career opportunities and OC (Paul & Anantharaman, 2004) and we also expected a similar effect for TOs, our results show that there is no significant effect in the context of TOs. This finding may be related to the fact that the promotion of a TO member depends primarily on his superior line manager in the PO, and not his project leader (Hanisch & Wald, 2014; Packendorff, 1995). Simply installing a TO-related career plan will not be enough to significantly increase the OC of TO participants. In fact, more radical, long-lasting measures will be necessary to change the traditional mindset of those people. As TOs may differ greatly from one to the other (Hanisch & Wald, 2014), this aspect becomes even more important.

Third, our results also show that the type of TO has itself a significant impact on TOC. This finding is though not very surprising as TOs with focus on R & D or new product development will probably be more attractive to its participants than, for instance, a long-lasting, less-innovative IT implementation project. It may also challenge the assumption that TOs are generally more flexible and innovative than POs (Lenfle & Loch, 2010)

Fourth, by introducing the mediating variable WLC into the research model, the aforementioned direct effects got partly mediated, except for that of career opportunities on TOC. This finding re-emphasizes on the one hand the outcome of Amstad et al.’s (2011) work, which stresses the negative effect of WLC on an employee’s well-being, which again is closely connected his organizational affiliation. On the other hand, it also reaffirms the decreasing effect of HR practices (work autonomy and trainings) on employees’ WLC perception, as mentioned in prior works of Batt and Valcour (2003) and Abstein et al. (2014). Based on the findings of Nuhn et al. (2016) on the negative

effects of complexity on turnover intentions we hypothesized a similar negative effect of complexity on WLC. Contrary to our expectation but in line with prior research in the context of POs, the result also shows that job complexity has a significant and positive effect on WLC. It thereby stresses the statement of Li and Burch (2013) that high levels of job complexity are a key determinant of employees' job stress, which in accordance to Byron (2005) is closely connected with their WLC perception. Tatikonda and Rosenthal (2000) argue in a similar way by saying that high levels of complexity may cause certain feelings of risk and uncertainty. When interpreting the results on WLC, the sample composition must be considered as 83.6% of the respondents are male. Female TO workers may perceive WLC a more serious issue as they are often confronted with expectations related to traditional gender stereotypes (Van Veldhoven & Beijer, 2012). The effects on WLC might be stronger for a sample with a higher share of female respondents.

Finally, as hypothesized and opposed to the situation in POs, the results also show that career opportunities are having a non-significant effect on TOC, which contributes to the common belief that the promotion of TO participants depends on the superior line manager rather than the respective TO leader (cf. Hanisch & Wald, 2014). For project-oriented companies, Keegan and Turner (2000) suggested the concept of the "spiral staircase career" to account for the necessity of more flexible career paths. People move through several varied (and interesting) projects but the career ladder of more traditional organizations does no longer exist (Huemann, Keegan & Turner, 2007). In our sample, we did not distinguish between project-oriented and "classical" organizations but our results suggest that the more traditional organizations still dominate. In this organizational form, the introduction of TO-related career opportunities will require more than just a few guidelines, but a change of the worker's mindset.

In sum, our results advance research in the field of TOs by explicitly considering similarities and differences in the development of OC in TOs versus POs. We thereby extend previous work that has studied organizational behavior in TOs without theorizing the effects of the TO's characteristics.

5.2. Practical implications

The study at hand implies not only implications for theory, but also for managerial practice as it points out several, possible ways for managers to foster their employees' organizational commitment and identification towards TOs.

According to Keegan and den Hartog (2004), for example, TO members are likely to perceive high levels of uncertainty, risks and role conflicts, and thus are often less attached to their jobs. A negative relationship between an individual's uncertainty and commitment is also highlighted in several other scholarly works (e.g., Hui & Lee, 2000). Hence, TO managers should pay a considerable effort with regard to the manifestation of their TO members' organizational commitment.

Further, the study also shows that not all factors seem to have the same level of effectiveness. For example, the relation of work autonomy on TOC is found stronger than that of job complexity. This finding is in line with the prior work of Tyssen et al. (2014), which states that TO members can, at a certain point, also be overstrained by high levels of complexity. Moreover, while trainings have a significant effect on TOC, career opportunities have not. Consequently, TO managers should be aware of the factors influencing TOC and their relative importance and try to reinforce the factors with the highest impact on TOC.

Finally, the study empirically confirms that the negative impact of WLC on OC also applies for temporary organizational settings, and that this effect can be decreased by certain job-related and organizational factors like work autonomy and trainings. As TO members are likely to be exposed to high levels of WLC due to simultaneous project assignments (Tyssen et al., 2013), extra working hours etc. (Nuhn et al., 2016), this aspect becomes even more severe. As pointed out by Cicmil et al. (2016), an increase in project-work can have severe consequences

on the individual worker, leading to a constant feeling of insecurity, exhaustion, and vulnerability. The TO management should therefore not only look for those factors that help to improve their participants' organizational commitment, but also for those that may help to reduce negative impact factors such as WLC.

5.3. Limitations and future research

The present study not only provides us with notable findings regarding the antecedents of employees' OC in the context of TOs, but also leads us to several future research opportunities.

First, due to the study's cross-sectional design, we are not able to show how the investigated effects may change over time. By choosing a longitudinal design instead, this issue has however been effectively solved.

Second, we concentrated our investigation on job-related and organizational factors only. Prior research stated that other factors like personal character traits may also affect the emergence of organizational commitment (cf. Sharma, Mohapatra & Rai, 2013). Though personal factors are found to be less important determinants of employees' organizational commitment (Sharma & Chauhan, 1991), it would be interesting to investigate, whether this also holds for the context of temporary organizations. Further, one could also check on how other typical job-related and/or organizational factors may influence the emergence of TOC. Allen et al. (2004), for instance, showed that social and human service workers' task identity had a significant effect on their organizational commitment.

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