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# Temporary Work and Deviant Behavior the Role of Workplace Cohesion

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## ABSTRACT

We investigate differences in deviant behavior between temporary workers and permanent workers and study the moderating role of workplace cohesion. We distinguish between task cohesion, which reflects the way colleagues work together as a team to complete tasks, and social cohesion, which reflects how well colleagues relate. We predict that task cohesion and social cohesion prompt norms on tolerating group members' deviant behavior and test our hypotheses on the Work and Politics 2016 data set, consisting of 787 Dutch employees. We find that temporary work does not lead to deviant behavior *per se*, but its effect on deviant behavior is moderated by workplace cohesion. We conclude that the distinction between task cohesion and social cohesion is crucial for understanding the effect of temporary work on deviant behavior.

## KEYWORDS

Flex work; temporary work; cohesion; anti-organizational behavior

## Introduction

Western European labor markets have witnessed a strong increase in flexible work since the late 1970s and early 1980s as a response to economic crises and increasing globalization (Kalleberg, Reskin, and Hudson 2000). Temporary employment, i.e., employees with temporary labor contracts, as a share of the total employment, has almost doubled in EU-28 countries between 1980 and 2015, increasing from 8.3% to 14.2% (OECD 2017). The strong growth of temporary work can be explained by various benefits that are attributed to the use of temporary employment. Temporary employment is considered to be a powerful brake on unemployment (Gebel 2013) because it would offer an intermediate step between unemployment and permanent contracts, particularly when employment protection on permanent employments is rigid (Hijzen, Mondauto, and Scarpetta 2017). Moreover, temporary work has been welcomed as an important tool for employers to easily adjust the size of the personnel to changing economic circumstances, such as cyclical fluctuations in demand and supply (De Grip, Hoevenberg, and Willems 1997). In addition, temporary workers are also considered to be a buffer to protect permanent employees from dismissal (De Jong, Schalk, and Goessling 2007; Muffels 2014; Olsen 2004).

Temporary work, however, may come at a price. The hiring of temporary employees in the organization may signal job insecurity and low commitment of the organization to the permanent workers: Davis-Blake, Broschak, and George (2003) find that blending temporary workers with standard workers increases the exit levels and unionization levels of standard workers and

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destabilizes the work environment. Hirsch and Mueller (2012) find that a firm's productivity gains when hiring temporary workers first increase because firms can more easily adjust to peaks and drops in demands but fall when the percentage of temporary workers in firms is greater than 15%. Hirsch and Mueller propose that temporary employees' lack of firm-specific knowledge is responsible for the productivity fall. Moreover, the threat of high numbers of temporary workers may pose a threat to the firms' permanent workers, which would negatively affect their moral, nullifying initial gains in the productivity associated with the hiring of temporary workers. Psychological research signals lower performance of temporary workers themselves who would be less committed to the organization and would commit more deviant behavior due to the stress related to the persistent threat of future unemployment (Sverke, Hellgren, and Näswall 2002) and perceptions of unfair treatment (De Cuyper et al. 2008). However, the empirical evidence for negative effects of temporary employment on work-related behavior is, more often than not, inconclusive (Berntson et al. 2010; De Cuyper et al. 2008; Sverke, Hellgren, and Näswall 2002).

In this study, we extend the understanding of both the literature on temporary work and the literature on employee behavior. First, we investigate the effect of temporary work on a neglected extreme of the spectrum of employee behavior (Connelly and Gallagher 2004): deviant behavior. Deviant behavior is behavior that deviates from a significant organizational norm and that is harmful to an organization and its members (Robinson and Bennett 1995). We hypothesize that temporary workers display higher levels of deviant behavior, because they have more grievances and fewer opportunities to voice complaints than permanent workers. Our first research question therefore is *"To what extent do temporary workers differ from permanent workers in their display of deviant behavior?"* (RQ1)

Our second contribution to both streams of literature is that we take the moderating role of workplace cohesion into consideration. While temporary workers are more prone to engage in workplace deviance, engaging in such behavior is conditioned by the opportunities to do so. We argue that workplace cohesion is an important condition for engaging in deviant behavior. Workplace cohesion shapes opportunities to engage in deviant behavior. A lack of cohesion is commonly associated with deviant behavior at work (Itzkovich and Heilbrunn 2016; Karau and Williams 1997). The mechanisms of (informal) social control associated with cohesion affects deviant behavior (Coleman 1994). To study the moderating effect of cohesion, we distinguish between task cohesion and social cohesion, following Zaccaro (1991). Task cohesion refers to groups that work together to reach the goals that are set within an organization, and social cohesion refers to the way people relate within an organization. We derive the hypotheses based on the assumption that these aspects of cohesion prompt competing norms in tolerating group members' deviant behavior. We scrutinize the effect of task cohesion and social cohesion on the relationship between temporary workers and deviant behavior. Hence, the second research question is *"To what extent do task cohesion and social cohesion moderate the relationship between temporary work and deviant behavior?"* (RQ2).

To test these hypotheses, we apply an OLS regression analysis using the *Work and Politics 2016* data set. This data set contains information about wage-employed respondents in the Netherlands (N = 787). The Dutch context offers an interesting setting to study the relationship between temporary work and deviant behavior for two reasons. First, compared to other European countries, the use of temporary work is relatively high in the Netherlands (De Lange 2013). In the early 1980s, the Netherlands ranked low in terms of temporary workers – only 5.8 in 1983 – compared to an average of 8.3 in the EU-28 countries. However, the share of temporary workers quickly rose to 20.5% in 2015,

almost 50 percent higher than the average in the EU-28 countries (Eurostat 2015). An important factor in the rise of the use of temporary contracts is the relatively large gap between the employment protection of workers on a permanent contract and that workers on a temporary contract.<sup>1</sup> Second, new regulations were adopted in 2015 with the intention to encourage employers to offer permanent contracts to temporary workers, mainly by reducing employment protections of permanent employees, introducing a fee for employers when temporary workers leave the company when their contract ends, and by reducing the maximum length of temporary contracts and the number of subsequent temporary contracts. The effectivity of these new regulations are being heavily debated, both in the media and academia, and the regulations are sometimes considered counter-productive (Kremer, Went, and Knottnerus 2017). However, to date, there has not been a thorough evaluation of the effects of the new regulation, while still other adoptions in employment protection legislation are awaiting approval of the Dutch Senate.<sup>2</sup>

## Theory

### *Temporary Work and Deviant Behavior*

Deviant workplace behavior has many labels – “neglect”, “lax and disregardful behavior” (Farrell 1983; Kolarska and Aldrich 1980; Rusbult, Zembrodt, and Gunn 1982), “counterproductive work behavior” (Brock, Martin, and Buckley 2013), “employee deviance” (Hollinger 1986) and “organizational retaliatory behavior” (Skarlicki and Folger 1997) – and comprises a diverse set of intentional and destructive behaviors that harm the organization and those who work there, such as tardiness, dawdling, petty theft, obstruction, harassment, bullying and discrimination (Analoui & Kakabadse, 1993; Robinson and Bennett 1995). While some strands of literature conceptualize such behaviors as deviant, the Sociology of Work, in particular Labor Process Theory, conceives such behaviors as “acts of resistance”. When workers are frustrated in their need to accomplish pride in doing their job well and lose dignity at work, e.g. because of mismanagement or abuse, acts of resistance are used to take back control of their dignity. In this conception, anti-organizational behaviors are expressions of grievances about the work situations (Hodson 2001; Lucas et al. 2017; Paulsen 2015; Roscigno and Hodson 2004; Vallas 2003, 2006).

We distinguish three potential mechanisms by which temporary workers have a higher risk of displaying deviant behavior.<sup>3</sup> First, theories of work psychology (cf. De Cuyper et al. 2008; De Witte 2005) suggest that temporary work increases work-related stress through the persistent threat of future unemployment, low investments of employers in temporary workers (such as training) and the often poor job characteristics of temporary work, such as little influence on work-related decisions and little support from coworkers. Work-related stress induces frustration and coping mechanisms, such as withdrawal, resulting in absenteeism, tardiness and resignation (De Witte 2005; Omar et al. 2011).

Second, temporary workers are more prone to perceptions of unfair treatment. Due to the less favorable job characteristics of temporary work – for instance, the previously mentioned lower opportunities for training and lower wages – temporary workers are more inclined to suffer a “psychological contract breach” (Robinson and Bennett 1995). This mechanism sets in when employees feel that the employer breaks a promise by providing poorer working conditions (e.g., low wages, fewer career opportunities) or little influence over decisions in the organization (Brockner et al. 2001; Lucas et al. 2017). Such

feelings of injustice or indignity may provoke emotional outrage reducing motivation and provoking revenge manifested through deviant, noncooperative behavior and intentionally deviant behavior (Bordia, Restubog, and Tang 2008; Tucker 1989; Van Adrichem and Koster 2013) to restore a sense of justice (Greenberg 1990) and dignity (Hodson 2001; Lucas et al. 2017). In explaining why some workers who perceive psychological contract violation engage in deviant behavior while others do not, psychological research refers to differences in personal dispositions, such as narcissism (e.g., Penney and Spector 2002). We argue that workers may feel that the organization breaks a promise or treats them unfairly but may first consider voicing their discontent to solve the problem before they turn against the interest of the organization (Coyle-Shapiro and Conway 2004).

Third, we link the previous two mechanisms, and expect that temporary workers may have more grievances than permanent employees but are also more prone to having little or no options to voice complaints. Temporary workers have fewer incentives and opportunities to voice discontent about working conditions, while the risks associated with voicing discontent are higher. For temporary workers, the traditional vehicles for collective expressions of discontent (for example, representation by a union or the Works Council or through striking) are less accessible and less appealing. Unions consider temporary workers a problematic group to represent: they are difficult to reach, and their interests are more heterogeneous, which makes flexible workers a non-cohesive target (Bacon and Storey 1993; Croucher and Brewster 1998; Jansen and Akkerman 2014; Jansen, Akkerman, and Vandaele 2017). Moreover, because of unions' traditional interests and the appeal to cohesiveness and solidarity, temporary workers themselves feel less represented by the union, which in turn reduces temporary workers' options for collective voice (Jansen and Akkerman, 2014; Jansen et al., 2017). In general, temporary workers have a weaker structural position within an organization, and because of the short-term contracts, they seldom benefit from the long-term gains of collective actions (e.g., a wage increase after a strike). Individual options to voice discontent are even more costly and less effective for workers with temporary contracts. Individual workers are more observable when expressing dissatisfaction, and hence, more vulnerable to retaliation (Born, Akkerman, and Thommes, 2016). Employers may retaliate against employees filing complaints by inducing them to leave the organization (Hirschman 1970; Near and Miceli 1986; Svensson and van Genugten 2013). Workers on temporary contracts who express their dissatisfaction are relatively easily forced out by withholding tenure. Consequently, the expression of dissatisfaction to improve work and employment conditions – voice – is either less available or accessible; it is perceived as less effective and is therefore less attractive to temporary workers. Research into voice at work (implicitly) suggests that workers who lack credible opportunities to express their dissatisfaction – particularly those who lack alternative job opportunities (Berntson et al. 2010) – are effectively are left with no alternative but to suffer in silence (i.e., may simply wait out the contract) or are tempted to engage in deviant behavior (Lucas et al. 2017).

Thus, the reduced opportunities for temporary workers to voice their discontent may direct them toward engagement in deviant behavior as a way of expressing discontent, a means to restore justice and dignity and release work stress. We thus hypothesize that *temporary workers more often engage in deviant behavior than employees with a permanent contract* (Hypothesis 1).

## The Effect of Cohesion

We argue that the relationship between temporary work and deviant behavior is moderated by workplace cohesion. Generally, cohesion prevents employees from defying their groups and neglecting their jobs (Bennett and Naumann 2005). Karau and Williams (1997), for example, suggest that “social loafing” (i.e., the tendency of individuals to exert less effort when working collectively) can be reduced when individuals work in cohesive rather than non-cohesive groups. Likewise, Kidwell and Bennett (2001) and Kidwell and Robie (2003) find that perceived cohesiveness within a work group is negatively related to an employee’s level of job neglect, such as withholding effort on the job. Itzkovich and Heilbrunn (2016) show that coworkers’ solidarity reduces deviant behavior at work. However, these studies ignore the fact that workplace cohesion does not always favor the interest of the organization.

Research on the effect of workplace cohesion on organizational outcomes, such as team performance, distinguishes two dimensions of cohesion: *task cohesion* and *social cohesion* (Carron, Widmeyer, and Brawley 1985; Mullen and Copper 1994). Task cohesion reflects the way colleagues work as a team to complete tasks and achieve the teams’ targets. Social cohesion reflects how colleagues relate to each other. Mullen and Copper (1994) show that whereas task cohesion is positively correlated with team performance, social cohesion is not. To explain the different effect of social cohesion and task cohesion, it is important to understand the mechanisms by which cohesive groups influence the behavior of its members. Cohesive groups in general – but also in organizations – share norms about the ways to behave in a group (Coleman 1994; Durkheim 1951[1897]; Koster et al. 2007; Robinson and O’Leary-Kelly 1998; Akkerman, Born, and Torenvlied, 2013; Born, Akkerman, and Torenvlied, 2013; Thommes and Akkerman, 2018) and members who deviate from such norms will be punished by other group members (Horne 2001). Thus, punishment of norm deviation may correct deviant behavior as long as this deviant behavior undermines the norms and objectives of the group. However, according to Kitts (2006), groups can have rivaling norms. We argue that task cohesion and social cohesion may create such rival incentives for (anti) organizational behavior.

In the case of task cohesion, the group is focused on the functioning of a team to reach the organizational goals. Behavior that endangers these goals, such as deviant behavior, is therefore punished. We thus expect that task cohesion will reduce deviant behavior because workers in task-cohesive teams or organizations will be discouraged by their group members to display such behavior. With respect to social cohesion, however, groups are more focused on the group itself and the preservation of good relations within the group. Here, the group norms do not necessarily coincide with the organizational norms or commitment to tasks but rather are aimed at protecting the group and its members (Horne 2001). Since monitoring and reprimanding others’ behavior jeopardizes the persistence of social ties, it is less likely that members of social cohesive groups will be rebuked in the case of deviant behavior. This does not necessarily mean that members of social cohesive groups are more prone to displaying deviant behavior. However, when the occasion arises and the team or (one of) its members acts against the organization, those engaging in anti-organization behavior are less likely to be punished. Moreover, group norms may also prescribe deviant behavior (Robinson and O’Leary-Kelly 1998), e.g. in situations in which the groups uses deviant behavior as act of resistance to lack of dignity in work. If norms in favor of deviant behaviors prevail, workers *not* engaging in



deviant behavior may be seen as norm defector, and punished for it. Therefore, in addition to lack of monitoring and sanctioning mechanism, a norm to deviate may exist in socially cohesive groups, whereas norms to engage in acts of resistances are less likely strong task cohesive groups (cf. Lucas et al. 2017; Vallas 2003:220).

As we predicted in Hypothesis 1, temporary workers are more tempted to display acts of anti-organization behavior as a result of less favorable job characteristics and fewer opportunities to voice discontent. The avoidance of reprimanding and punishing deviant behavior in socially cohesive teams provides temporary workers opportunities to engage in deviant behavior since other team members probably turn a blind eye in such cases. Temporary work may stimulate anti-organizational behavior, which may even be more likely when social cohesion is high. Remember that – as argued for Hypothesis 1 – compared to permanent workers, the risks associated with deviant behavior are already lower for temporary workers since no permanent contract is at stake, and the probability to engage in deviant behavior as “act of resistance” may be higher. High levels of social cohesion may thus reduce those risks even further. We therefore expect that *the relationship between temporary work and deviant behavior is stronger when social cohesion is higher* (Hypothesis 2).

Parallel to this, we expect that the preventive effect of task cohesion on deviant behavior is stronger for temporary workers, because temporary workers have a higher tendency to display deviant behavior to begin with. Temporary workers are therefore more prone to be subject to the disciplining norms of task cohesive groups. We thus expect that *the relationship between temporary work and deviant behavior is weaker when task cohesion is higher* (Hypothesis 3).

## Data and Measurements

### Description of the Data Set

We use the Work and Politics 2016 (WOPO2016) data set (Akkerman et al., 2016) to answer the research questions. This dataset is funded by the Nijmegen School of Management of the Radboud University Nijmegen and the Netherlands Organization for Scientific Research (NWO). WOPO2016 is a one-time questionnaire that contains information about attitudes and behavior in politics, work, and employment of members of the Dutch LISS (Longitudinal Internet Studies for the Social Sciences) panel, administered by CentERdata (Tilburg University, the Netherlands). Data were gathered between December 2015 and January 2016. The survey was presented to 2,087 randomly selected panel members between 18 and 65 years old. Of these members, 620 did not participate in the survey, resulting in a 70% response rate. Ultimately, the Work and Politics data set contains information from 1,467 respondents. Slightly more women (54%) than men (46%) participated in the survey. The average age of the respondents is 45. Compared to the Dutch population in the same age category (Dutch Statistics 2016), women, people older than 55, and individuals with higher education levels are overrepresented, while younger people (18 to 34 years old) and people with lower education levels are underrepresented in our dataset.

For the purpose of this study, we selected respondents based on two criteria. First, since we examine differences between temporary and permanent employees, we only selected respondents in waged labor ( $N = 862$ ), and thus excluding for instance, self-employed, unemployed or retired respondents. Second, because we examine the moderating role of

workplace cohesion, we only selected respondents with colleagues. After a list-wise deletion of missing observations, our data set contains information from 787 respondents.

### **Deviant Workplace Behavior**

To account for deviant workplace behavior, we use a typology constructed by Robinson and Bennett (1995). This typology distinguishes four types of deviant workplace behaviors based on two dimensions: the seriousness or harmfulness of the act and the target of the act (other persons or the organization). *Production deviance* entails minor acts of deviant behavior aimed at the organization, such as wasting time during work. *Property deviance* refers to serious acts of deviant behavior aimed at the organization, such as stealing company property/funds. *Political deviance* encompasses minor deviant acts aimed at others, such as showing favoritism. *Personal aggression* reflects serious deviant behavior aimed at others in the organization, such as verbal abuse. The Work and Politics 2016 questionnaire includes a list of fourteen examples of deviant behavior that reflects production deviance, property deviance and personal aggression but does not include items on political deviance. The respondents were asked to indicate how often they have engaged in any such acts. The answer categories include (1) never, (2) sometimes, (3) regularly, and (4) often. Given that relatively few respondents indicated that they displayed most acts regularly or often, we combined the latter two answer categories. Table 1 presents a frequency table for the items reflecting deviant behavior.

We applied principal component analyses with oblique (oblimin) rotation. Two items were removed from the analyses due to weak loadings. Table 2 presents the outcomes of the final analysis. Using Kaiser's criterion, we found a three-component solution. The three components explained 45 percent of the variance. The items with the strongest loadings on the first component have in common that they reflect more extreme forms of organizational behavior, such as drugs- or alcohol use in the work place, misuse of company finances and business information. This component thus reflects *property*

**Table 1.** Frequency table of items related to deviant behavior ( $N = 959$ ).

		Frequency		
		Never	Sometimes	Regularly/often
<b>Property Deviance</b>				
DRUGS	Used drugs or alcohol in the workplace	918	33	8
INVOI	Falsified invoices to receive more money than you were entitled	925	29	5
CONFI	Discussed confidential business information with s/o who was not allowed to know	878	75	6
OTIME	Extended work to obtain overtime	903	47	9
SICK	Called in sick when you were no longer sick	863	85	11
<b>Production Deviance</b>				
NBEST	Too often not doing your best at work	716	227	16
BREAK	Took too many or excessively long breaks at work than acceptable	691	242	26
SLOW	Intentionally worked more slowly than you were able	764	180	15
DAYDR	Wasted too much time fantasizing and daydreaming	613	305	41
SLATE	Started late without permission	801	148	10
<b>Personal Aggression</b>				
INSUL	Insulted someone at work	736	204	19
RUDE	Treated someone at work rudely	848	101	10
YELL	Yelled at someone at work	836	115	8
DISCR	Made a comment about someone's ethnicity or religion	843	97	19



**Table 2.** Principal components analyses with oblimin rotation: Workplace deviance (N = 959).

	1	2	3
	Property Deviance	Production Deviance	Personal Aggression
Used drugs or alcohol in the workplace	<b>0,75</b>	−0,06	0,07
Falsified invoices to receive more money than you were entitled to	<b>0,75</b>	−0,09	0,11
Discussed confidential business information with s/o who was not allowed to know	<b>0,63</b>	0,04	−0,00
Stretched work to get overtime	<b>0,62</b>	0,16	−0,02
Called in sick, while you (no longer) were	<b>0,52</b>	0,29	−0,09
Intentionally worked slower than you could	0,03	<b>0,68</b>	−0,02
Too often not doing your best at work	0,02	<b>0,66</b>	−0,03
Took too many or too long breaks at work than acceptable	−0,02	<b>0,62</b>	0,06
Wasted too much time fantasizing and daydreaming	−0,02	<b>0,54</b>	0,06
Started late without permission	0,09	<b>0,50</b>	0,08
Yelled at someone at work	0,06	0,01	<b>0,66</b>
Insulted someone at work	−0,08	0,07	<b>0,66</b>
Treated someone at work rudely	0,02	0,05	<b>0,62</b>
Made a comment about someone's ethnicity or religion	0,29	−0,03	<b>0,45</b>

*deviance*. The items with the strongest loadings on the second component reflect *production deviance*: these items are related to wasting time during working hours and neglecting one's work. The items that load strong on the third component deal with interpersonal misbehavior at the workplace, such as insulting people or yelling at people. These items thus reflect *personal aggression*. We calculated the factor scores for each component, which serve as the dependent variables in our analyses. Factors scores are centered at the mean, which is set at zero, thus respondents engaging below average, have negative scores. By using factors scores we take into account that acts of deviant behavior can vary in the extent to which they relate to the type of deviance as well as the fact that most acts of deviance constitutes more than one type of deviant behavior. For example, calling in sick, while not being sick, constitutes property deviance (stealing time and money through paid sick leave from the employer) as well as (to a lesser extent) production deviance (disrupting the production process while absent).

To account for the scales' reliability, we computed the Cronbach's alpha for the items with the strongest loadings on each component. The Cronbach's alpha for each factor indicated (highly) reliable scales ( $\alpha = .82$  for property deviance,  $\alpha = .76$  for production deviance and  $\alpha = .74$  for personal aggression).

### Contract Type

We distinguish between temporary workers and standard workers. First, temporary workers are people with a fixed-term contract without the prospect of a permanent contract. Additionally, temporary workers are employees who work via an employment agency or have a zero-hour contract or payroll contract. Standard workers are employees with a permanent contract or a fixed-term contract with the prospect of a permanent contract. This operationalization is in line with the definition of flexible work of Dutch Statistics (2015) and strongly resembles those used in previous studies on temporary workers using various labels, such as contingent workers and contract workers (Connelly and Gallagher 2004). In our analyses, 135 respondents are temporary workers, and 652 respondents are standard workers.

### Task Cohesion and Social Cohesion

To account for task cohesion and social cohesion, the respondents were presented a list of eight items reflecting both aspects of cohesion, adapted from Sampson, Raudenbush, and Earls (1997) and Carless and De Paola (2000) (see Table 3). For each item, the respondents were asked to indicate whether they (1) totally disagreed, (2) disagreed, (3) neither agreed nor disagreed, (4) agreed, (5) totally agreed with the statements, or whether the item was not applicable to their situation (6). The last category was treated as a missing value. We conducted a principal component analysis with oblique (oblimin) rotation. One item was removed from the analyses due to cross loading on both items. The final analysis identified two components, explaining 63% of the variance.

Table 3 presents the factor loadings of the items measuring workplace cohesion. The first four items have high loadings on the first component and are related to collaboration between employees to achieve targets. We label this component “task cohesion”. The three items that loaded on the second component are related to workplace cohesion transcending working hours and the workplace. These items reflect the extent to which colleagues are also part of the social life of respondents, even outside working hours. Following the Carron, Widmeyer, and Brawley (1985) distinction, we label this component “social cohesion”. To account for task cohesion and social cohesion, we calculated the factor scores for both components. The Cronbach’s alpha for task cohesion ( $\alpha = .84$ ) indicated a (highly) reliable scale; for social cohesion, the alpha is moderate ( $\alpha = .68$ ).

### Control Variables

To account for compositional differences between temporary and permanent workers that may drive differences in deviant behavior, we control for sex, age, educational level, union membership, job satisfaction, and the number of working hours. Sex is calculated as 0 for females and 1 for males. Age is measured as a logarithmic function of the respondents’ age. Educational attainment is measured with a categorical variable. The respondents were asked about the highest educational degree (s)he had completed, with nine answer categories ranging from primary education to a post-academic degree. We recoded this variable into three dummy variables: low (i.e., primary or lower secondary education, the reference category), middle (i.e., higher secondary or mid-level tertiary education) and high (i.e., higher tertiary education). Union membership is a dichotomous variable that measures whether the respondent is a member of a labor union. The number of working hours measures the number of working hours per week, as specified in the contract. To account for potentially different levels of job

**Table 3.** Principal components analyses with oblimin rotation: Workplace cohesion (N = 837).

	1	2
	Task Cohesion	Social Cohesion
The people at my work can be trusted	<b>0,88</b>	−0,05
The people at my work are always willing to help each other	<b>0,84</b>	0,01
The people at my work have the same norms and values	<b>0,80</b>	0,07
Our team works well together to achieve the set goals	<b>0,75</b>	−0,02
My colleagues are my most important social contacts	−0,04	<b>0,84</b>
Some colleagues are also my best friends	−0,07	<b>0,83</b>
The people of my team would like to spend more time together, also outside working hours	0,13	<b>0,65</b>

satisfaction between permanent and temporary workers, we also control for job satisfaction. To measure job satisfaction, the respondents were asked to indicate how satisfied they are with seven aspects in their current job. These aspects include (a.o.) how interesting the job is, the work climate, the superiors, and the salary. The answer categories ranged from (1) not at all satisfied to (5) satisfied. A principal component analysis showed that the items resembled a unidimensional concept. To avoid the loss of respondents due to missing values for some of the items, we computed an index scale measuring the mean satisfaction of the job aspects, allowing two missing values at most per respondent. The Cronbach's alpha of this scale is .86, indicating a highly reliable scale.

Table 4 presents an overview of the mean and standard deviation for each variable in our analyses.<sup>4</sup> This table also shows the descriptive statistics for each variable separately for permanent and temporary employees. Based on a t-test (or chi<sup>2</sup> test in the case of sex, educational level and union membership), we further indicate whether the differences between permanent and temporary employees are statistically significant. We find that temporary employees more often engage in the three aspects of workplace deviance. Furthermore, we see that temporary employees experience more social cohesion and less task cohesion. Temporary employees are also younger than permanent employees, are less likely to be a member of a union and are less satisfied with their jobs. We find no significant differences between permanent and temporary employees in terms of sex, educational level and the number of working hours.

## Results

We applied OLS regression analyses to test the hypotheses. For each dependent variable, we start with the effects of the contract type dummy and the variables related to workplace cohesion. We add the control variables in the subsequent model. Finally, we include the interaction terms between the contract type and both aspects of workplace cohesion. Table 5 to 7 present the

**Table 4.** Descriptive statistics of dependent and independent variables.

	All Employees (N = 787)				Employees w/Permanent Contract (N = 652)		Employees w/Temporary Contract (N = 135)	
	M (%)	SD	Min	Max	M (%)	SD	M (%)	SD
Property Deviance	0.00	0.85	-0.34	7.25	-0.07	0.68	0.34	1.37***
Production Deviance	0.00	0.88	-0.73	5.33	-0.05	0.80	0.25	1.13**
Personal Aggression	0.00	0.86	-0.57	5.62	-0.05	0.74	0.23	1.30*
Temporary Contract	17%		0.00	1.00				
Social Cohesion	0.00	0.99	-1.78	2.95	-0.05	0.97	0.23	1.07**
Task Cohesion	0.00	1.01	-3.55	1.75	0.05	0.99	-0.23	1.06**
Control Variables								
Sex (Reference = Female)	51%		0.00	1.00	50%		55%	
Age	44.53	11.93	18.00	65.00	45.75	11.34	38.63	12.97***
Age (Logged)	3.18	0.60	0.00	3.87	3.25	0.51	2.82	0.82***
Educational Level								
Low	16%		0.00	1.00	15%		21%	
Middle	39%		0.00	1.00	38%		42%	
High	45%		0.00	1.00	46%		37%	
Union Membership	24%		0.00	1.00	27%		11%	
Working Hours	32.28	8.75	0.00	48.00	32.60	8.02	30.73	11.57***
Job Satisfaction	2.71	0.69	0.00	4.00	2.75	0.68	2.53	0.74**

NB: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ , two-tailed test.

outcomes of these analyses. These tables show the b-estimates, standard error, significance of the effects and the model fit, measured as the  $R^2$ . All models were estimated using R 3.4.4 (R Core Team 2018).

### Property Deviance

Table 5 shows the results of the analyses pertaining to property deviance, i.e., serious acts of deviant behavior, aimed at the organization. Model 1 shows that temporary employees more frequently display such behavior than permanent employees ( $b = 0.36$ ): this indicates that, in general, temporary employees score almost half a standard deviation ( $0.36/0.85$ ) higher on the property deviance scale. This finding is in line with Hypothesis 1. Furthermore, we see that employees who experience more social cohesion ( $b = 0.11$ ) and less task cohesion ( $b = -0.09$ ) are also more likely to engage in property deviance.

We add the control variables in Model 2. Here, we see that younger employees more often display property deviance ( $b = -0.24$ ). Also, a higher number of working hours is positively related to property deviance ( $b = 0.09$ ). None of the other control variables are related to property deviance. Thus, engaging in property deviance is not related to sex, educational level, union membership, or job satisfaction. Furthermore, adding the control variables (somewhat) reduces the effect sizes of the temporary contract dummy and task cohesion but does not lead to different conclusions regarding Hypothesis 1. This model explains about nine percent of the total variance.

To test Hypothesis 2, which stated that social cohesion would strengthen the effect of temporary employment, and Hypothesis 3, which stated that task cohesion would weaken this effect, we include the interaction terms between cohesion and temporary contracts in Model 3. The result shows that the relationship between temporary work and property deviance is not moderated by social cohesion nor task cohesion. We thus find no support for Hypothesis 2 and 3.

**Table 5.** OLS regression of property deviance ( $N = 787$ ).

	Model 1		Model 2		Model 3	
	<i>b</i>	<i>s.e.</i>	<i>b</i>	<i>s.e.</i>	<i>b</i>	<i>s.e.</i>
Temporary Contract	0.36***	0.08	0.26**	0.08	0.20*	0.09
Social Cohesion	0.11***	0.03	0.10**	0.03	0.07*	0.03
Task Cohesion	-0.09**	0.03	-0.08*	0.04	-0.05	0.04
Interaction Temporary Contract with:						
... Social Cohesion					0.16	0.08
... Task Cohesion					-0.15	0.08
Control Variables						
Sex (Reference = Female)			0.03	0.07	0.04	0.07
Age (Logged)			-0.24***	0.05	-0.25***	0.05
Educational Level (Reference = Low)						
Middle			-0.11	0.09	-0.10	0.09
High			-0.16	0.09	-0.15	0.09
Union Membership			-0.03	0.07	-0.03	0.07
Working Hours <sup>a</sup>			0.09*	0.04	0.09*	0.04
Job Satisfaction			0.01	0.05	0.01	0.05
Intercept	-0.06	0.03	0.50*	0.24	0.52	0.24
$R^2$	0.05		0.09		0.10	

<sup>a</sup>We multiplied the coefficients for working hours by ten because the original coefficients were small.

NB: \*  $p < .05$ ; \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed test.

## Production Deviance

We now turn to the models explaining production deviance, i.e., minor acts of deviant behavior aimed at the organization. In Model 4 in Table 6, we see that having a temporary contract is positively related to production deviance ( $b = 0.25$ ). Hence, compared to permanent employees, temporary employees more frequently display production deviance. This finding supports Hypothesis 1. However, when we compare this to the standard deviation of the production deviance scale, we see that this effect is small: having a temporary contract leads to an increase of approximately one quarter of an SD ( $.25/.88$ ). Furthermore, we find that social cohesion and task cohesion are significantly related to production deviance. Here, we see that experiencing more social cohesion induces production deviance ( $b = 0.07$ ), and task cohesion reduces production deviance ( $b = -0.12$ ).

We add the control variables in Model 5 and find that age is the only control variable that has a significant impact on production deviance: younger people more frequently engage in production deviance ( $b = -0.29$ ). Furthermore, we now see that having a temporary contract no longer has a significant effect on production deviance. These findings do not support Hypothesis 1, which states that temporary employees more frequently display deviant behavior. This model explains nine percent of the total variance.

## Moderating Effects of Cohesion

We include the interaction terms in Model 6. The findings show that both social cohesion and task cohesion moderate the effect of having a temporary contract on production deviance. First, we see that the main effect of having a temporary contract does not significantly deviate from zero ( $b = 0.04$ ,  $p > .05$ ). Thus, we find no differences in production deviance between temporary and permanent employees with average social cohesion and task cohesion values (i.e., when social cohesion and task cohesion are zero). However, significant interaction terms indicate that, compared to permanent employees,

**Table 6.** OLS regression of production deviance ( $N = 787$ ).

	Model 4		Model 5		Model 6	
	<i>b</i>	<i>s.e.</i>	<i>b</i>	<i>s.e.</i>	<i>b</i>	<i>s.e.</i>
Temporary Contract	0.25**	0.08	0.11	0.09	0.04	0.09
Social Cohesion	0.07*	0.03	0.08*	0.03	0.04	0.04
Task Cohesion	-0.12***	0.03	-0.09*	0.04	-0.06	0.04
Interaction Temporary Contract with:						
... Social Cohesion					0.21**	0.08
... Task Cohesion					-0.18*	0.08
Control Variables						
Sex (Reference = Female)			0.06	0.07	0.06	0.07
Age (Logged)			-0.29***	0.05	-0.30***	0.05
Educational Level (Reference = Low)						
Middle			0.02	0.09	0.04	0.09
High			-0.05	0.09	-0.04	0.09
Union Membership			-0.09	0.07	-0.09	0.07
Working Hours <sup>a</sup>			0.10	0.04	0.07	0.04
Job Satisfaction			-0.04	0.05	-0.04	0.05
Intercept	-0.04	0.03	0.76**	0.25	0.79**	0.25
R <sup>2</sup>	0.04		0.09		0.09	

<sup>a</sup>We multiplied the coefficients for working hours by ten because the original coefficients were small.

NB: \*  $p < .05$ ; \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed test.

**Table 7.** OLS regression of personal aggression (N = 787).

	Model 7		Model 8		Model 9	
	<i>b</i>	<i>s.e.</i>	<i>b</i>	<i>s.e.</i>	<i>b</i>	<i>s.e.</i>
Temporary Contract	0.19**	0.08	0.10	0.08	0.03	0.08
Social Cohesion	0.12***	0.03	0.12***	0.03	0.08*	0.03
Task Cohesion	-0.17***	0.03	-0.16***	0.04	-0.13***	0.04
Interaction Temporary Contract with:						
... Social Cohesion					0.21**	0.08
... Task Cohesion					-0.17*	0.08
Control Variables						
Sex (Reference = Female)			0.22**	0.07	0.22***	0.07
Age (Logged)			-0.23***	0.05	-0.24***	0.05
Educational Level (Reference = Low)						
Middle			-0.14	0.09	-0.12	0.08
High			-0.17*	0.09	-0.16	0.09
Union Membership			-0.04	0.07	-0.04	0.07
Working Hours <sup>a</sup>			0.16***	0.04	0.16***	0.04
Job Satisfaction			0.01	0.05	0.01	0.05
Intercept	-0.03	0.03	0.21	0.24	0.24	0.24
R <sup>2</sup>	0.06		0.14		0.15	

<sup>a</sup>We multiplied the coefficients for working hours by ten because the original coefficients were small.

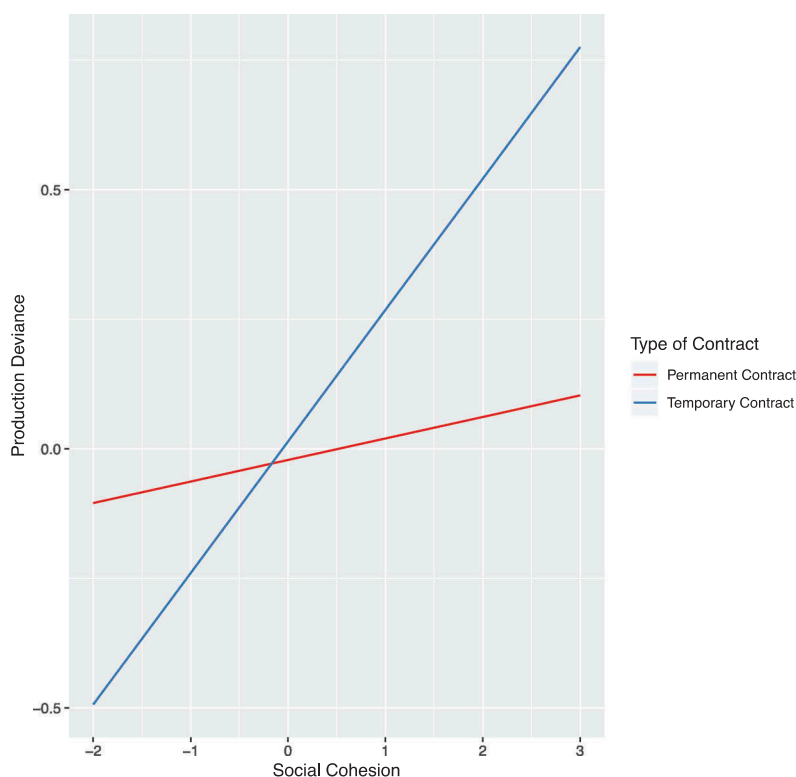
NB: \*  $p < .05$ ; \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed test.

temporary employees are more likely to display production deviance when levels of social cohesion are higher ( $b = 0.21$ ) and levels of task cohesion are lower ( $b = -0.18$ ).

We created a graphical display of these interaction effects. [Figure 1](#) shows that the effect of social cohesion on production deviance differs for people with a temporary contract from that for people with a permanent contract, while keeping all other variables at their mean. Here, we see that there is virtually no effect of social cohesion on the display of production deviance among employees with a permanent contract ( $b = 0.04$ ;  $p > .05$ ). This is in sharp contrast with the effect of social cohesion on production deviance for temporary employees: here, we see a strong positive effect of social cohesion ( $b = 0.04 + b = 0.21$ ). From [Figure 1](#) we learn that, for low levels of social cohesion, temporary employees are less likely than permanent employees to display production deviance, while they are more likely than permanent employees to do so when levels of social cohesion are high. These findings support Hypothesis 2, which states that the relationship between temporary workers and deviant behavior is stronger when social cohesion is higher.

We present the moderation effect of task cohesion on the relationship between having a temporary contract and production deviance in [Figure 2](#). We see that permanent employees are somewhat less likely to engage in production deviance when levels of task cohesion are higher, although this finding is not significant ( $b = -0.06$ ,  $p > .05$ ). For temporary employees, we see a strong effect of task cohesion: compared to permanent employees, temporary employees more frequently display production deviance when task cohesion is absent. However, these differences quickly diminish when task cohesion increases. These findings thus indicate that the relationship between temporary workers and deviant behavior is weaker when task cohesion is higher, as predicted by Hypothesis 3.





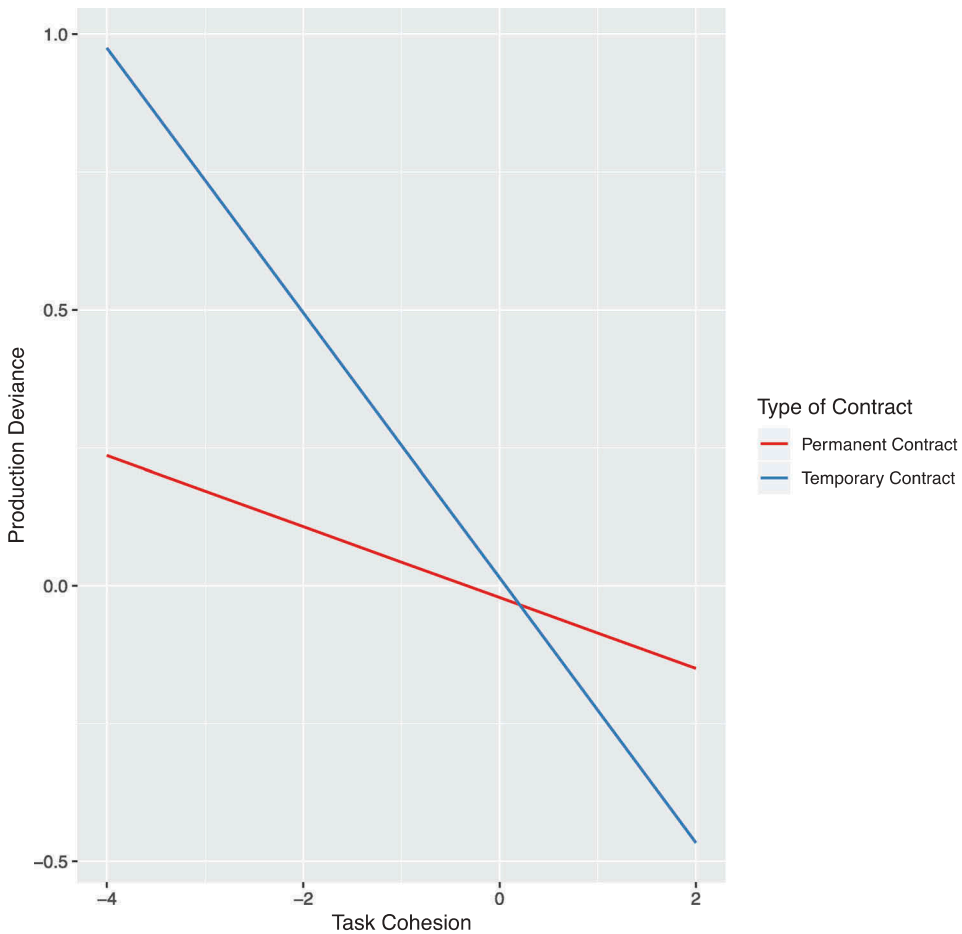
**Figure 1.** Effects of social cohesion on production deviance for temporary and permanent employees.

### **Personal Aggression**

Table 7 shows the results of the analyses pertaining to personal aggression – serious deviant behavior aimed at others in the organization. Model 7 shows that temporary employees more often display personal aggression than permanent employees ( $b = 0.19$ ). Similar to production deviance, this effect is moderate, but the finding supports the first hypothesis. We also find that workplace cohesion is crucial in understanding personal aggression. Personal aggression occurs more often when social cohesion is high ( $b = 0.12$ ) and task cohesion is low ( $b = -0.17$ ).

We add the control variables in Model 8. We find that men more frequently display personal aggression than women ( $b = 0.22$ ). Furthermore, younger employees more frequently display personal aggression ( $b = -0.23$ ). Employees with higher education less often engage in personal aggression than employees with less education ( $b = -0.17$ ). Working more hours per week also leads to more personal aggression ( $b = 0.16$ ). The other control variables are not related to personal aggression. After adding the control variables, we see that temporary employees and permanent employees no longer differ in terms of personal aggression, thereby refuting Hypothesis 1. Adding the control variables does not alter our conclusions with regard to the effects of workplace cohesion. This model explains about fourteen percent of the total variance.

To test the interaction hypotheses, we include the interaction terms in Model 9. Similar to our findings for production deviance, we see that there are no differences in personal



**Figure 2.** Effects of task cohesion on production deviance for temporary and permanent employees.

aggression among temporary and permanent employees with average levels of social cohesion and task cohesion (i.e., when social cohesion and task cohesion are zero,  $b = 0.03$ ;  $p > 0.05$ ). The significant interaction terms show that temporary employees more frequently display personal aggression than permanent employees when levels of social cohesion are higher ( $b = 0.21$ ) and levels of task cohesion are lower ( $b = -0.17$ ).

To ease the interpretation of these interaction effects, we graphically present the effects of the interactions in Figures 3 and 4 while keeping the other variables at their mean. In Figure 3, we see that permanent employees are more likely to display personal aggression when social cohesion is higher ( $b = 0.08$ ). The same holds for temporary employees, but the steep slope of the blue line indicates that the effect of social cohesion is stronger for temporary employees than for permanent employees ( $b = 0.21$ ). This finding is in line with Hypothesis 2.

Figure 4 shows that task cohesion reduces personal aggression. Similar to the previous moderation effects, we see that this effect is stronger for temporary employees than for permanent employees ( $b = -0.10$ ). This finding supports Hypothesis 3.

Table 8 summarizes the consequences of our findings for the three hypotheses. Hypothesis 1 stated that temporary workers more often engage in deviant behavior than employees with a permanent contract. In our study, this hypothesis is supported for property deviance, but we find no direct effects of having a temporary contract on production deviance and personal aggression. We find support for a moderation effect of social cohesion on the temporary employment-deviant behavior relationship (Hypothesis 2) for each type of deviant behavior. Support for a moderation effect of task cohesion (Hypothesis 3) is found for production deviance and personal aggression.<sup>5,6</sup>

Discussion and Conclusions

With the increased popularity of hiring temporary workers, this practice’s effects have been thoroughly studied in the academic literature. Temporary work is considered a tool to reduce unemployment (Gebel 2013). For employers, temporary work is often understood as beneficial because it allows employers to adapt the personnel size to cyclical

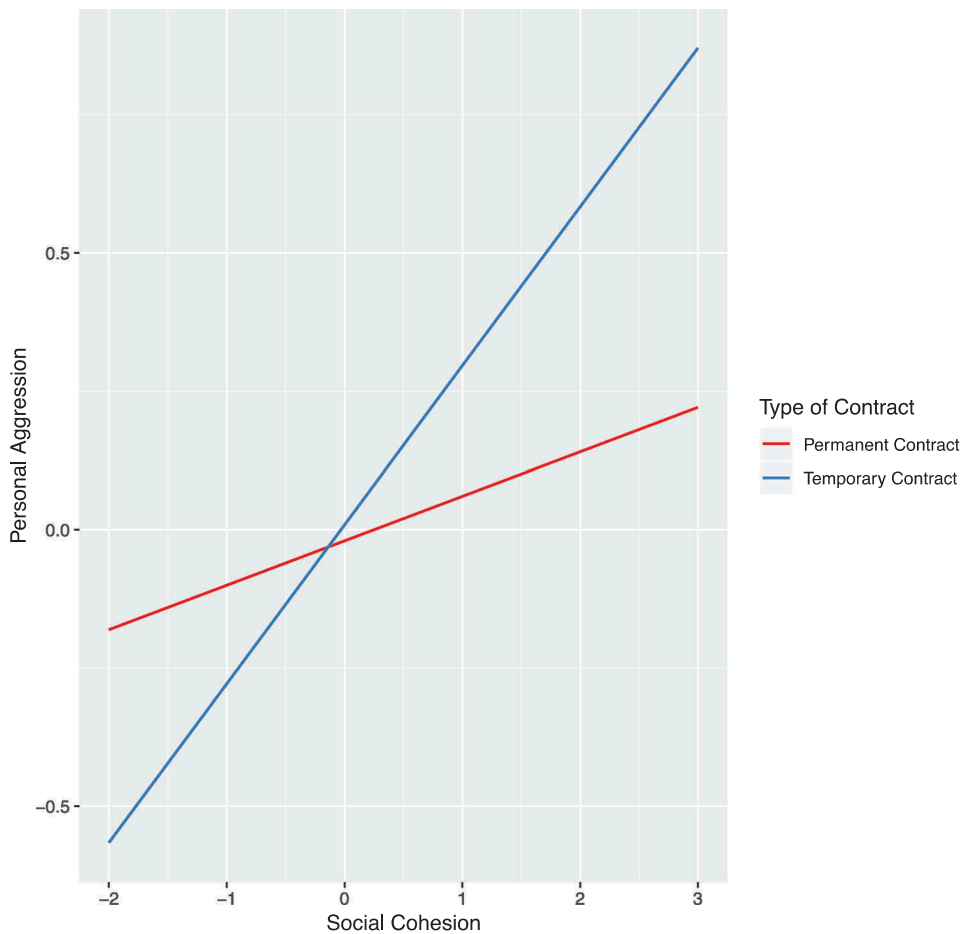
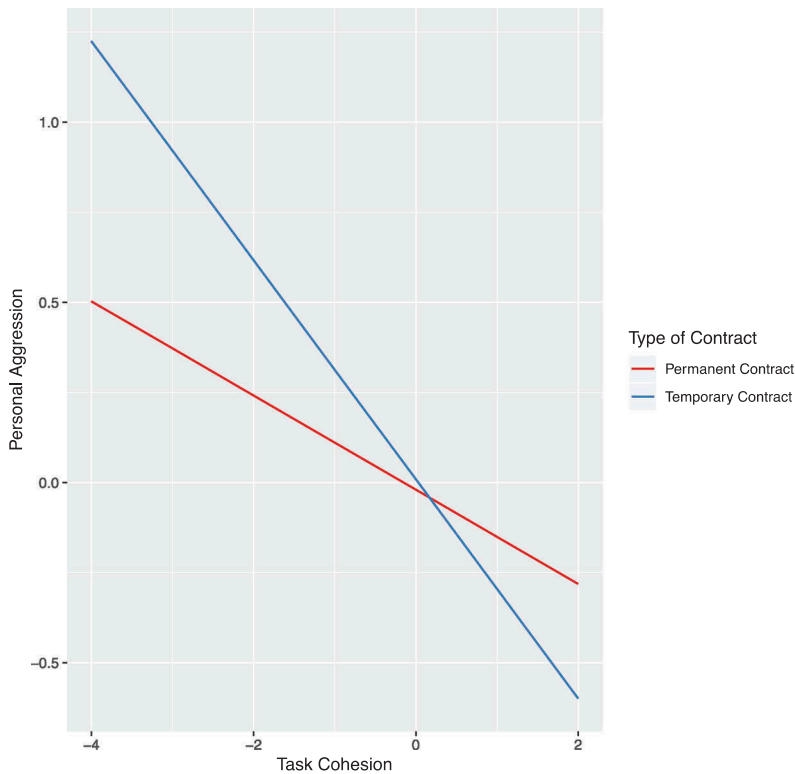


Figure 3. Effects of social cohesion on personal aggression for temporary and permanent employees.



**Figure 4.** Effects of task cohesion on personal aggression for temporary and permanent employees.

**Table 8.** Hypotheses and findings.

Hypothesis	Property Deviance	Production Deviance	Personal Aggression
Hypothesis 1: <i>Temporary workers more often engage in deviant behavior than employees with a permanent contract</i>	Support	No Support	No Support
Hypothesis 2: <i>The relationship between temporary workers and deviant behavior is stronger when social cohesion is higher</i>	No Support	Support	Support
Hypothesis 3: <i>The relationship between temporary workers and deviant behavior is weaker when task cohesion is higher</i>	No Support	Support	Support

changes (De Grip, Hoevenberg, and Willems 1997). However, it may be more detrimental for temporary workers themselves because it hinders their career development (Scherer 2005; Steijn, Need, and Gesthuizen 2006) and increases insecurity and stress (De Cuyper et al., 2008). The extent to which temporary work has unintended consequences for the organization is unclear. Few studies have investigated potential moderators of the relationship between holding a temporary contract and organizational behavior, and even fewer studies have focused on neglect or deviant behavior (cf. De Cuyper et al., 2008; Berntson et al. 2010). In this study, we therefore examine the extent to which temporary work affects deviant behavior at the workplace and the extent to which this relationship is affected by workplace cohesion. We predicted that *temporary workers more often engage in*

*deviant behavior than employees with a permanent contract* (Hypothesis 1) since temporary work is associated with higher levels of work-related stress and perceptions of unjust treatment through poorer work conditions while also decreasing the opportunities to voice complaints about stress and unjust treatment.

In addition, we expected workplace cohesion to moderate the relationship between temporary work and deviant behavior. Temporary workers who work in social cohesive groups, where deviant behavior is not discouraged, or even may be encouraged as an act of resistance will be more likely to engage in deviant behavior (Hypothesis 2). In contrast, we expected that temporary workers will be less likely to engage in deviant behavior when they experience more task cohesion (Hypothesis 3) because deviant behavior is punished within such groups.

We used data from the *Work and Politics 2016* data set, which contains information from approximately 1,467 respondents in the Netherlands. We selected respondents in waged employment with colleagues, enabling us to study 787 respondents. We then distinguished between people with a fixed, temporary contract – temporary workers – and people with a permanent full-time or part-time contract. Based on the principal component analysis, we further distinguished between three forms of deviant behavior at the workplace: *Production deviance* (i.e., minor acts of deviant behavior aimed at the organization, such as wasting time during work), *property deviance* (i.e., serious acts of deviant behavior aimed at the organization, such as stealing company property/finances) and *personal aggression* (i.e., serious deviant behavior aimed at others in the organization, such as verbal abuse). We applied OLS regression analyses on all three scales to test our hypotheses (see summary in Table 8).

First, our findings showed that there is only evidence for a direct effect of temporary work on one type of deviant behavior. Temporary workers and permanent workers only differ significantly regarding property deviance but not with respect to production deviance or personal aggression. We thus find mixed evidence with regard to the first hypothesis, which stated that temporary workers more often engage in deviant behavior. Apparently, contract type is not directly related to “minor” acts of anti-organizational behavior but has an effect on more serious acts of deviant behavior aimed at the organization.

Second, we studied the moderating role of workplace cohesion, where we distinguished between task cohesion – the extent to which employees work in a cohesive team to reach the teams’ objectives – and social cohesion – the extent to which employees have social ties with their colleagues, also outside working hours. Our findings show that people who experience more social cohesion and less task cohesion are more often involved in each type of workplace deviance. With regard to the moderating effect of workplace cohesion, we found that the relationship between temporary work and deviant behavior is weakened by task cohesion, and reinforced by social cohesion, which is in line with Hypotheses 2 and 3. Both moderation hypotheses hold in the case of production deviance and personal aggression. The only exception is property deviance, for which no moderation effect of social cohesion is found but which, in turn, was also the only form of deviant behavior that yielded a direct effect of temporary employment. Apparently, property deviance is less dependent on its social context.

In sum, we conclude that temporary work is associated with more deviant behavior primarily under certain conditions. Compared to employees on permanent contracts,

temporary workers more often engage in deviant behavior when social cohesion is high and task cohesion is low. While temporary workers do not display production deviance or personal aggression more often than permanent workers, they do engage more often in this type of behavior when social cohesion is higher and less often when task cohesion is higher.

Our work contributes to the existing literature on deviant behavior and worker resistance by showing that workplace cohesion is crucial for the relationship between temporary work and deviant behavior. This is an important finding because it implies that temporary work does not lead to deviant behavior *per se*. To understand how workplace cohesion plays a role, the distinction between task cohesion – which reflects the way colleagues work together as a team to complete tasks – and social cohesion – which reflects how colleagues relate – is key. The relationship between temporary employment and deviant behavior is weaker when task cohesion is higher. As we have argued, this may tap into the corrective forces of social networks (Horne 2001). Following this line of reasoning, deviant behavior is not tolerated in task-cohesive teams because it hinders the opportunity to reach their goals. On the other hand, we found that social cohesion reinforces the negative effect of temporary work on deviant behavior. We argue that this aspect of social cohesion is counterproductive for correcting deviant behavior since reprimanding group members can endanger the group as a whole and even may enforce norms encouraging deviant behavior, e.g. as acts of resistance (Hodson 2001; Lucas et al. 2017). In such instances, group members' engagement in deviant behavior may actually operate as a way to develop and improve relationships between coworkers and gain the trust of workers. All in all, the extent to which temporary work has negative outcomes for the organization hinges on the integration of temporary workers in the organization. The complex role of workplace cohesion is an important insight from which employers managing (the integration of) temporary workers may profit. Integration is important: research has shown that the loyalty of permanent workers to an organization is eroded when employers hire temporary personnel (Davis-Blake, Broschak, and George 2003).

Although, the WOPO2016 data set offers a unique opportunity to examine deviant behavior in the workplace among temporary and permanent workers, two limitations should be discussed. First, our theorizing about social cohesion involves assumptions at the organizational level, particularly regarding group norms and interactions between team members. In our empirical analysis, cohesion is measured at the individual level and not at the (aggregated) organizational level. Unfortunately, the available data do not include further information on the organizations or teams in which people work. Future research may further explore the role of colleagues. Multilevel analyses may be carried out to establish how and under what conditions employee characteristics and team/organizational characteristics interact to stimulate (or mitigate) deviant behavior. Our findings indicate that task cohesion and social cohesion affect the relation between contract types and two types of deviant behavior. To further scrutinize the role of group norms on people within a team, it would be interesting to study deviant behavior among members of the same team. We therefore encourage future researchers to study the moderating effect of workplace cohesion on the relationship between temporary work and deviant behavior in a within- and between-organization design. Second, the cross-sectional nature of the WOPO2016 data set does not allow us to test causal relations, and we must be careful with a causal interpretation of the findings. Further research into the effect of workplace cohesion will therefore benefit from panel data. This especially holds true for the negative



association between temporary work and deviant behavior. While it appears (theoretically) plausible that being a temporary worker induces deviant behavior, the opposite may also be the case: people may not obtain a permanent contract *because* they engage in deviant behavior (and are caught).

## Notes

1. The OECD index for Employment Protections Legislation (EPL) is an indicator for the strictness of a country's EPL. The index ranges from 0 (no protection) to 5 (highest protection). According to this index, EPL for permanent workers is 2.9 (OECD countries' average being 2), while that for temporary workers is 1.2 (OECD countries' average being 1.7). Index and methodology available at: <http://www.oecd.org/employment/emp/oecdindicatorsofemploymentprotection.htm>.
2. [https://www.eerstekamer.nl/wetsvoorstel/35074\\_wet\\_arbeidsmarkt\\_in\\_balans](https://www.eerstekamer.nl/wetsvoorstel/35074_wet_arbeidsmarkt_in_balans).
3. Others propose that temporary workers will be more productive because their temporary work could serve as a stepping stone for a permanent position. Empirical evidence shows that this mechanism only is observable if employers use temporary work as a screening device and is absent when temporary work is temporary by the nature of the work for which temporary workers are hired (Engellandt & Riphahn, 2005; Broschak, Davis-Blake & Block, 2008).
4. Pearson's  $r$  correlations between all variables in the model are presented in Table A1.
5. The dependent variables in our analyses are skewed, although the use of factors somewhat reduces this problem. To test the robustness of our findings we also ran Poisson-analyses with the number of deviant acts as the dependent variable. The results of these additional analyses (available on request) lead to similar conclusions regarding our hypotheses, except for Hypothesis 3 for personal aggression: task cohesion does not affect the relations between permanent and temporary workers and personal aggression.
6. We also examined whether our outcomes were affected by outliers. OLS regression analyses without outliers (available on request) also lead to similar conclusions regarding our hypotheses. However, we no longer find support for Hypothesis 2 for personal aggression: in these analyses, social cohesion does not affect the relations between permanent and temporary workers and personal aggression.

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## Appendix

Table A1. Correlation matrix (Pearson's  $r$ ,  $N = 787$ ).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Property Deviance	1.00													
2 Production Deviance	0.66***	1.00												
3 Personal Aggression	0.66***	0.60***	1.00											
4 Temporary Contract	0.18***	0.13***	0.12***	1.00										
5 Social Cohesion	0.11**	0.07	0.10**	0.10**	1.00									
6 Task Cohesion	-0.09*	-0.12***	-0.18***	-0.11**	0.27***	1.00								
7 Sex (Ref. = Female)	0.06	0.06	0.20***	0.04	-0.02	-0.05	1.00							
8 Age (Logged)	-0.20***	-0.22***	-0.17***	-0.27***	-0.04	0.02	0.06	1.00						
9 Educ. Level: Low	0.06	0.01	0.07	0.06	0.07	-0.08*	0.01	0.08*	1.00					
10 Educ. Level: Middle	0.00	0.02	-0.02	0.03	0.02	-0.03	0.00	0.03	-0.35***	1.00				
11 Educ. Level: High	-0.04	-0.03	-0.03	-0.07	-0.07*	0.09*	-0.01	-0.09**	-0.40***	-0.72***	1.00			
12 Union Membership	-0.06	-0.08*	-0.04	-0.14***	0.08*	0.03	0.08*	0.23***	0.04	-0.03	0.00	1.00		
13 Working Hours	0.08*	0.08*	0.21***	-0.08*	-0.02	-0.04	0.49***	0.02	-0.10**	-0.11**	0.18***	0.06	1.00	
14 Job Satisfaction	-0.06	-0.10**	-0.08*	-0.12***	0.11**	0.53***	0.03	0.09*	-0.08*	-0.03	0.09*	-0.04	0.09*	1.00

NB. \*  $p < .05$ ; \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed test.