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What Happens When the Going Gets Tough? Linking Change Skepticism, Organizational Identification, and Turnover Intentions

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Abstract

In times of increasingly turbulent public sector change and frequent career shifts, the relationship between attitudes towards workplace change, organizational identification and turnover intent are highly relevant, but poorly understood. Using data from the Australian Public Service's (APS) employee survey, this article examines the psychological mechanisms that lead employees to consider leaving their own organization, and the APS as a whole. The combined effect of skeptically perceived workplace change and strong organizational identification leads to an increase in turnover intentions at the organizational level, which testifies to the potentially destructive effect of workplace changes.

Keywords: change skepticism; organizational identification; turnover intentions

1. Introduction

For decades, the general conception of governmental organizations has been centered around their stability and bureaucratic nature. However, from the 1980s onwards, the public sector has been confronted with substantial environmental volatility and turbulence (Dan & Pollitt, 2015). While the organizational change literature has long pointed at changes as drivers of more flexible, entrepreneurial and adaptive organizations (Burns & Stalker, 1961; Kanter, 1984), scholars taking a psychological perspective have shown the potentially harmful effects of organizational changes on the well-being, attitudes and behavior of individual employees (Aselage & Eisenberger, 2003; Rafferty & Restubog, 2010). Given the often limited successes of change and the stress and uncertainty that they bring about for civil servants, it is likely that many civil servants experience some degree of skepticism towards ongoing change (Stanley, 2005). In this study we test whether this increase in stress and uncertainty, fueled by skepticism about the feasibility of workplace changes, may result in high levels of voluntary turnover and turnover intent, factors that may be severely detrimental for the organization, its human capital and even its performance (Park & Shaw, 2013).

While the recognition is growing that turnover is not necessarily bad and that intergovernmental mobility in particular can foster positive outcomes (Wynen, Op De Beeck & Hondeghem, 2013; Park & Shaw, 2013), the potentially disruptive effects of turnover have placed the topic firmly on the agenda of many governments across the globe (APSC, 2015). Considerable attention has gone into understanding why employees want to leave their organization and/or the public sector (e.g. Wynen & Op De Beeck, 2014; Kim & Fernandez, 2017), and in anticipating or reversing these intentions (APSC, 2017).

Against the backdrop of ever-increasing levels of public-sector change, however, it is curious that to date no public administration studies have examined the relation between employees' attitudes towards workplace change and their intention to leave their organization and/or the public sector. This lacuna becomes even more apparent when considering previous

observations that the positive effects of public-sector reform often remain limited, or that changes miss their intended targets completely (Dan & Pollitt, 2015). Using data from the Australian Public Service (APS), this study will therefore examine the relation between change-specific skepticism and turnover intentions at the level of individual employees.

In addition, we analyze the extent to which employees' identification with their organization moderates the relation between change skepticism and turnover intentions. Having been primarily developed and tested on private sector cases (see meta-study Riketta, 2005), the current study builds on insights from management scholars who have found organizational identification to serve as a "critical glue" that connects individuals to organizations in turbulent times (Van Dick et al., 2004). Consistent evidence is found for the negative effect of strong organizational identification on turnover intentions (Riketta, 2005). Examining the interplay between change skepticism, organizational identification and turnover intentions will provide insight on the expected positive relation between negative attitudes towards change and turnover intentions, and explores whether organizational identification could mitigate this relationship.

Furthermore, the APS context offers the novel opportunity to examine the interrelations between change skepticism, organizational identification and turnover intent within a broader governmental context. More specifically, it allows us to explore whether skeptic and/or weakly identifying employees could be more likely to leave not just their own organization but also the government as a whole (where mobility between organizations is not necessarily undesirable, cf. OECD, 2016; Wynen, Op de Beeck & Hondeghem, 2013).

The following section utilizes a combination of literature from public administration, organizational and management sciences as well as organizational psychology to present an integrated overview of the state of the art on turnover intention, organizational identification

and change skepticism. Subsequently, sections three and four present the data and methodology utilized in greater detail, before turning to the results of our analyses. Section five discusses the theoretical insights that may be distilled from our analyses, after which the concluding section rounds up the paper with several final remarks, implications for practitioners and suggestions for future research.

2. Theoretical framework

Turnover and turnover intent are ever-present management issues for current-day public organizations. Heightened levels of turnover affect the availability of human capital within the organization, disrupt the social ties that foster beneficial organizational cultures and intra-organizational levels of trust, and incur socialization and training costs of new replacements (Wynen & Kleizen, 2017). In turn, these factors can negatively affect the performance of the organization (Meier & Hicklin, 2007; Park & Shaw, 2013). This study focuses on turnover intent as a primary cognitive mediator that precedes the actual decision of an individual to leave the organization (Tett & Meyer, 1993;).

Given its potential consequences, it is unsurprising that substantial academic attention has already been devoted to factors that may increase or prevent the intent of individuals to leave their organization (e.g. Podsakoff et al., 2007; Griffeth et al., 2000). While taking into account extant insights on the antecedents of turnover intent (see with regard to this, subsection 2.3), the main goal of our investigation is to complement this literature by turning towards the (yet unexplored) interplay between two factors related to the perceptions of individuals on the organization and the change being implemented, that lead them to consider leaving their organization: change skepticism (section 2.1) and organizational identification (section 2.2).

2.1. The relationship between change skepticism and turnover intentions

Evidence suggests that employees are frequently unoptimistic regarding the efficacy of organizational changes (Corley & Gioia, 2004). Oftentimes, the measurable effects of organizational change remain limited (Dan & Pollitt, 2015; Bellou, 2006). In some cases workplace change may even fail outright, offering hardly any improvements while causing major disruptions and adaptation costs for employees (Marks & Mirvis, 1997). Under such circumstances, it would be unsurprising if employees become skeptical of the efficacy and contribution of at least some workplace changes, whether as a learned attitude following experience with previous changes, due to the nature of an incoming change, or a combination of both (Marks & Mirvis, 1997; Wanous et al., 2000).

In this context, it is helpful to elaborate somewhat on two related concepts put forward by scholars investigating attitudes towards change: change cynicism and change skepticism. Substantial attention has been devoted towards the definition and separability of both, with the emerging consensus being that change skepticism denotes a cognitive evaluation that a change is unlikely to attain its stated objectives (i.e. an expected lack of effectiveness), while cynicism involves both an affective and a cognitive evaluation that the *intentions* of managers that introduce a change are disingenuous (Stanley et al., 2005; Albrecht, 2008).

Although substantially related constructs, this analytical distinction is important, as change skepticism could theoretically exist in the absence of change cynicism. For instance, employees might evaluate managers' intentions regarding a change as genuine, while simultaneously believing that said change is unlikely to contribute anything positive to the organization (Stanley et al., 2005). Indeed, contributions incorporating factor analyses of both variables have supported the assertion that change cynicism and change skepticism form separable constructs, although high correlations are simultaneously observed (Stanley et al., 2005; Albrecht, 2008). However, while some work into the differing antecedents of both has been performed (e.g. Stanley et al., 2005; Wanous et al., 2000), extant studies on the consequences of negative

evaluations of the effectiveness of change have overwhelmingly focused on cynicism instead of skepticism (e.g. Wanous et al., 2000). Our understanding of the interrelationship between change skepticism and its potential attitudinal and behavioral consequences therefore remains in its infancy, despite change skepticism likely being prevalent in many organizations.

Nevertheless, we may postulate that skepticism towards a given change invokes a number of unintended responses in employees, including heightened propensities for turnover intent. Theoretical support for this argument is provided by work in the area of social exchange theory (SET) (Tekleab, Takeuchi & Taylor, 2005). SET theorists argue that employees and their organizations develop implicit psychological contracts, as each party tries to maximize the benefits stemming from their relationship (Aselage & Eisenberger, 2003; Bellou, 2006). In this context, the resources provided by the organization to the employee need not necessarily be of purely economic importance, but may also include aspects such as valued work environments, job content, stability, organizational support or care and respect (Aselage & Eisenberger, 2003). Violation of the psychological contract by the organization is associated with a host of potentially detrimental outcomes at the employee level, such as reductions in job satisfaction and – most important for our purposes – increased turnover intent (Tekleab, Takeuchi & Taylor, 2005).

We argue that, when perceived skeptically, organizational change is likely to cause employees to reconsider or perceive a breach in their psychological contract with the organization (Bellou, 2006). During skeptically perceived changes, adaptation efforts and (temporary) increases in workload may induce high levels of stress (Corley & Gioia, 2004). Simultaneously, tensions between skeptically received new responsibilities, structures and routines and the perceived core tasks of an individual employees may foster a degree of role ambiguity, as the employee perceives an increased misfit between internalized role and organizational identity perceptions and day-to-day work (Corley & Gioia, 2004). As the employee thus prefers the pre-change

situation to the post-change situation while simultaneously not seeing any benefit to the change, the employee may perceive said change to bereave him/her of valuable resources that were available in the pre-reform situation, in turn leading to a re-evaluation or perceived breach of the psychological contract (Bellou, 2006). Employees skeptical of introduced changes may therefore feel less obligated towards the organization or even betrayed by it, resulting in increased propensity to display turnover intent (Tekleab, Takeuchi & Taylor, 2005). We therefore hypothesize that:

H1: an increase in employee skepticism with introduced workplace changes is positively associated with turnover intentions .

2.2. The relation between organizational identification and turnover intentions

As Ashforth and Mael (1989) expressed it in their seminal contribution ‘Social Identity Theory and the Organization’, social identification refers to “the perception of oneness or belongingness to some human aggregate” (p. 21). As a specific form of social identification, organizational identification (henceforth OI) reflects the specific ways in which individuals define themselves in terms of their membership in a particular organization.

The theoretical background of social identification and OI is the social identity approach, the main argument of which is that individuals think and act on behalf of the group they belong to. This because this group membership adds to their social identity, which partly determines one’s self-esteem (Haslam et al., 2003). The social identity approach consists of two closely related theories: social identity theory (SIT) and Self-Categorization Theory (SCT) . According to SIT, people tend to classify themselves not only on the basis of their individual characteristics and interpersonal relations (personal identity), but also in terms of the characteristics of the groups to which they belong (social identity) (Tajfel & Turner, 1986). SCT suggests that the visible

boundaries created by an organization's structure will increase the chances of individuals perceiving their organization (and the departments within) as salient social categories.

OI has been associated with a variety of organizationally relevant outcomes (Riketta, 2005). OI helps capture the essence of who people are: why they think about their environments the way they do and why they behave accordingly (Ashforth et al., 2008). Defining oneself in terms of an organization stimulates one to enact the values, beliefs, and norms of the organization (Ashforth et al., 2008). Haslam et al. (2003) even state that without OI, "there can be no effective organizational communication, no heedful interrelating, no meaningful planning, no leadership" (p. 365).

Evidence in the private sector literature shows that strong OI is associated with low turnover intentions (Rousseau, 1998; Riketta 2005). Van Dick et al. (2004) suggest two reasons why this negative effect of strong OI on turnover intentions is so ubiquitous. First, it is well-established in the SIT/SCT literature that individuals show stronger support for the organization and for in-group members as they identify more with the organization (Ashforth & Mael, 1989). OI is a motivation stemming from membership in the organization to act on behalf of the organization. Not leaving the organization is such an act. Second, strong OI refers to the psychological intertwinement of an individual's self-concept with the organization. The more individuals identify with their organization, the more they define themselves in terms of their membership in the organization and the more their own future is determined by the organization's future. For reasons of self-enhancement, strong OI is thus expected to lead to low turnover intentions (Tajfel & Turner 1986). Leaving the organization would be detrimental for one's self-concept because leaving would be a loss of part of one's self (Haslam et al., 2003). We therefore hypothesize that:

H2: an increase in employee organizational identification is negatively associated with turnover intentions.

Next to examining the direct individual effects of change skepticism and OI on turnover intent, this study will also look at two additional puzzling questions.

First, the study of turnover intent in a government context such as the APS offers an interesting opportunity to study how change skepticism and organizational identification relate not just to turnover at the organizational level, but also at the level of the respective government as a whole. Although, to our knowledge, the idea that civil servants exhibiting turnover intent may either be inclined to stay within government or, conversely, seeking out jobs in the private sector has not been addressed until now, several lines of research suggest that this may be a viable avenue for research. On the one hand, research on public service motivation (PSM) suggests that civil servants on average have a relatively high degree of intrinsic motivation to work in public sector positions. PSM potentially decreases the likelihood that employees intent to leave the APS when having decided to leave their own organization when perceiving changes as not contributing to the workplace (e.g. Perry, 1996).

On the other hand, several arguments may be advanced for the position that change skepticism increases the likelihood that civil servants will intend to leave not just their own organization; but also APS as a whole. First, many public sector changes affect multiple organizations within a policy sector or a governmental level. This includes policy changes affecting multiple public organizations, reshuffling and terminations occurring after elections, whole-of-government reform and changes towards e.g. shared service centers that often affect multiple similar organizations (Christensen & Lægheid, 2007;). Under these circumstances, civil servants may determine that other organizations are undergoing similar changes to an internal change they view with skepticism, concluding that leaving the APS entirely is the only way to relieve this

issue. Second, one may advance the view that individuals tend to evaluate organizations on the basis of heuristics, i.e. internalized rules of thumb that reduce complex evaluations to simpler ones (Tversky & Kahneman, 1973). Bitektine (2011) argues that individuals may evaluate unfamiliar organizations based on their membership of a class of organizations (e.g. public organizations) and the characteristics that an individual assumes are relevant to membership of that class. Thus, if civil servants become convinced that public organizations have a propensity to introduce ineffective change or are likely to breach the psychological contract, e.g. on the basis of change initiated within their current public organization, they may assume that working at another public sector organizations is similarly unattractive (Aselage & Eisenberger, 2003). We choose to construct a hypothesis based on the expectation that change skepticism increases intent to leave the APS (although it must be noted that absence of an effect could also have been hypothesized on the basis of PSM and public ethos research):

H3: an increase in employee skepticism with introduced workplace changes is positively associated with the intent to leave the APS.

The APS setting also enables to test whether one of the core tenets of OI, that is: OI as an organization-specific concept, also holds in a public sector setting where organizational borders between different public agencies might not be so clear-cut. Whole-of-government reforms place more emphasis on central coordination and collaboration, thus thinking outside previous organizational boundaries (Christensen & Læg Reid, 2007). In many countries, including in Australia (Australian Government, 2013), efforts have been taken to arrive at a common identity of the central government, for instance by developing a common branding policy in which the central government logo is consistently applied in addition to agency-specific branding elements to products issued by government agencies. This mixture of agency identities with government identities might lead to a more hybrid pattern of identification, which might affect employees' willingness to remain within the APS once they decided to leave their own

agency. Furthermore, the common legislative framework for employing staff in the APS enables these forms of mobility between APS agencies and departments. Internal mobility is even encouraged by the Australian government so that employees obtain a diverse career experience to enhance their skills and capabilities (Australian Public Service Commission, 2015, 2016). We therefore hypothesize that:

H4: an increase in employee organizational identification is positively associated with the intent to stay within the APS.

Second, we so far described how change skepticism may provoke various aversive cognitive and attitudinal responses which lead employees to consider leaving their organization (H1), whereas strong OI has been theorized and found to decrease turnover intentions (H2). A key question then becomes: how do change skepticism *and* organizational identification relate to turnover intentions? Could OI provide some kind of psychological attachment between organizations and their members that outweighs the uncertainty and dissatisfaction that arise from skeptically perceived workplace change? Or could the destructive effect of the latter potentially reduce the positive effects of OI (from an organizational perspective)? While we formulate no explicit hypotheses that tap into this puzzling question, this study will be the first to examine the nexus between change skepticism, organizational identification and turnover intentions.

2.3. Other included antecedents of turnover

Before turning to the empirical results, we present a short discussion of the extant research into other relevant antecedents of turnover intent that we will control for. While a full overview is beyond the scope of this article (interested readers may consult meta-analytic works such as Tett & Meyer, 1993; Griffeth et al., 2000; Podsakoff et al., 2007), it is useful to briefly discuss the relevance of a number of antecedents that will be included in our models.

Findings on *personal characteristics* have been modest (Griffeth et al., 2000). Nevertheless, age has been found to reduce turnover intent in some investigations, while mixed results exist on the significance and sign of gender (Wynen & Op De Beeck, 2014) and Bright (2008) finds that minority status increases turnover intent. *Demographic characteristics* have shown more consistent results, as tenure in the organization, qualification level and having carer responsibilities have been shown as relevant turnover intent predictors (Griffeth, et al., 2000; Wynen & Op De Beeck, 2014; Bright, 2008). Tenure is considered to reduce the inclination for turnover, as individuals become more intertwined with the organization, receive fewer job opportunities and as longer-tenured civil servants will be more committed to the organization (Wynen & Op De Beeck, 2014), while carer responsibilities reduce turnover inclinations as individuals require additional stability in their work-sphere (Griffeth et al., 2000). Education may increase turnover intent, as highly qualified individuals perceive more job opportunities and have greater wage variance (Bright, 2008).

Among the well-established *attitudinal predictors*, job satisfaction stands out as a consistent, often-researched and strong predictor of turnover intent and turnover (Podsakoff et al., 2007). Job satisfaction is often considered to consist out of multiple relevant dimensions. In this study, we therefore include two relevant dimensions of satisfaction, namely workgroup satisfaction and satisfaction with supervisors (Griffeth et al., 2000). Other work on attitudes and demographics have looked into factors such as organizational identification and person-organization fit (e.g. Moynihan & Pandey, 2007; Bright, 2008), with Moynihan & Pandey (2007) for instance arguing that selecting for strong congruence between an applicant and the organization may offer a practical tool to reduce turnover intent in the public sector.

Finally, a number of *job-related characteristics* have been found to be relevant for individuals' turnover intent, although results have been mixed. HRM policies such as training and development have been argued to reduce employee turnover, as employees' psychological

contract with the organization is reinforced and commitment is increased (Newman, Thanacoody & Hui, 2011). Huselid (1995) similarly finds weakly significant reductions in turnover for HRM policies, including training, work-life balance programs, information sharing programmes, etc. Other objective characteristics such as type of work, whether an employee is engaged part-time and classification level might be important, as jobs have differing scopes, motivational potential, challenges, stressors and environments, which in turn have been found to affect turnover rates (Mowday & Spencer, 1981).

Combined with change skepticism and organizational identification, these variables results in a testable model as represented schematically in Figure 1 (variables of particular interest in italics).

[Please add Figure 1 here]

3. Methods

Our analyses make use of the 2014 wave of the APS employee census. The employee census was designed to measure key issues such as employee engagement, leadership, health and wellbeing, job satisfaction, and general impressions of the APS. It was administered to all available APS employees (recorded in the Australian Public Service Employment Database (APSED), providing a comprehensive view of the APS and ensuring that no eligible respondents were omitted from the survey sample (reducing sampling bias and sample error). The total targeted population equaled 151,792 out of which 99,392 employees responded, leading to a response rate of 68%. The methodology used minimized sampling bias and sample error by ensuring that all APS employees had been invited to participate. Non-sampling bias

was checked by comparing the survey sample against the overall APS population on gender, classification, location, and employment category. No significant difference could be detected.¹

We used a subsample of the APS employee census, since respondents did not always answer all of the questions. The final data consists of a representative sample of 48,511 employees. Due to these missing data for the explanatory or dependent variables, the data used for the analyses is limited. To test the representativeness of our used sample, we compared this sample to the original and representative sample using a Representativity indicator², which demonstrated no problems.

3.1. Measuring turnover intentions

Our measure of turnover is based on employees' turnover intentions, rather than actual turnover. In the APS employee census, employees were asked the following question: "Which of the following statements best reflects your current thoughts about working for your agency?" They were given the following options:

- I want to leave my agency as soon as possible,
- I want to leave my agency within the next 12 months,
- I want to leave my agency within the next 12 months but feel it will be unlikely in the current environment,
- I want to stay working for my agency for the next one to two years, or
- I want to stay working for my agency for at least the next three years.

¹ Further information on the survey methodology is available at: <https://www.apsc.gov.au/3-survey-methodologies>

² Such an indicator is based on the standard deviation of estimated probabilities. See <https://www.cmist.manchester.ac.uk/research/projects/representative-indicators-for-survey-quality/tools/>. For our data the S(p) equaled 0,0258 and the R-indicator (M()) is equal to 0.948, indicating that respondents in the subsample do not differ significantly from respondents in the original and representative sample. Note that the logistic regression was only able to correctly specify 56% of the outcomes (pseudo R² of 0.002), further strengthening our belief that our used sample does not differ from the original, representative sample.

Based on these options, our dependent variable (“turnover intentions”) was constructed. This variable was set to one if employees indicated to be willing to leave the organization (answer category 1-3) and was set to zero otherwise.³

In order to measure employees’ intent to leave not just their own organization but also the APS as a whole, a second dummy dependent was constructed; intention to take another job at the APS (“intention to remain in APS”). Employees who indicated to be willing to leave the organization in the next 12 months (answer category 1-3) were asked to answer a follow-up question: “Which one of the following best describes what you intend to be doing in the next 2 months?”. They were given the following options:

- Working for another APS agency
- Working for another Commonwealth government agency
- Working in the state or local government sector
- Working in the private sector
- Working in the not-for-profit sector
- Self-employed
- Studying full-time
- Not in the labor force (e.g. not looking for work)
- Retired
- Other

The second dependent was set to one if the respondent selected the category ‘working for another APS agency’ and to zero otherwise, thus capturing whether the respondent intends to

³ The rationale for the bivariate coding relates to separating employees on the basis of *whether* they want to leave rather than *when* they want to leave. We believe that there is a clear break in terms of “intending to leave” between the first three questions in the survey vs. the remaining two questions (who start with “I want to stay”).

leave the APS or not. Since we are only looking at movements within the active labor market, the last four answer categories (Studying full-time, not in the labor force, retired and other) were dropped from our analyses.

[Please include Figure 2 here]

In Figure 2, an overview is given of the intention to leave the current organization and the willingness to stay within the APS. The majority has no intention to take another job. However, when employees do have the intention to leave their current organization, we notice that 45% of them want to keep working within the APS.

3.2. Measuring perceptions of change skepticism and organizational identification

The APS employee census also includes questions on our main independent variables of interest; “change skepticism” and “organizational identification”. Employee's’ change skepticism is based on the question; “In your opinion, to what extent do you think these changes are likely to improve your team’s ability to do their work in the longer-term?” which was posed after respondents indicated that their work group was directly affected by changes (see annex for an overview of the changes). Respondents were given the following answer categories: to a very great extent, quite a lot, somewhat, hardly at all, or, not at all. The variable change perception is set to zero if the respondent answered, ‘Not at all’ and set to 1 otherwise. Accordingly, respondents that are truly skeptical of the changes (i.e. perceiving the changes to be ineffective) are captured in the 0 category, while non-skeptics, i.e. those perceiving at least some positive contribution of the change, are captured in the 1 category.

Concerning organizational identification, it is generally agreed upon that OI is a multidimensional concept rather than a unidimensional one (Ashforth et al., 2008; Ashforth & Mael, 1989). We build on previous work by management and organizational psychology

scholars to use items that relate to three dimensions of organizational identification (Riketta, 2005; Van Dick et al., 2004). First, a cognitive component, which relates to the knowledge of being a member of a certain group. Second, an affective dimension, which is the emotional attachment to that group. Third, an evaluative aspect, which describes the value connotation assigned to that group from outside. In this article, we include the following items from the APS employee census (each item is rated on a 5-point scale that ranges from “strongly disagree” to “strongly agree”):

- I feel a strong personal attachment to my agency (cognitive);
- I am proud to work in my agency (affective);
- When someone praises the accomplishments of my agency, it feels like a personal compliment to me (evaluative).

These 3 items are strongly related and load on the same factor (running an exploratory factor analysis with a polychoric correlation matrix in order to account for the Likert scales). Consequently, factor scores were calculated and used in the ensuing regression analysis.

3.3. Control variables

Following subsection 2.3, we also include a wide range of variables on the individual and organizational level that control for alternative explanations for turnover intention and the willingness to stay working for the APS. The first set reflects individual characteristics that may influence turnover intention. These variables include: age, gender, classification (What is your current job level?), tenure within the APS and the organization, whether the respondent has carer responsibilities, and, finally, the language of the respondent. Next to these individual characteristics, we also include job characteristics. These include; the amount of training which is offered to the respondent, the type of work and whether it is full time. Moreover, we also added the individual’s perception on his/her organization and workgroup. As such indexes were

included on workgroup culture, organizational culture and supervisor support. Just as for organizational identity, factor scores were calculated and used in the subsequent regression models. Table 1 shows descriptive statistics with a reference to the precise survey question that was used, as well as a (Pearson) correlation analysis.

[Please include Table 1 here]

The linear correlation analysis among regressors is reported in Table 2. There appears to be a strong correlation between supervisor support, organizational and workgroup culture. Consequently, we also test for multicollinearity using the variance inflation factor. The mean VIF equals 1.35 whereby, as expected, the highest VIFs exists for number of organizational culture (1.96) and supervisor support (1.9). These values indicate that no collinearity exists between the variables or in other words; that the shared variance of the variables is rather low and their discriminant validity is potentially high.

[Please include Table 2 here]

3.4. Model

As far as the methodological perspective is concerned, we have opted to employ a bivariate probit model. This approach allows us to jointly examine turnover at the level of the organization as well as turnover at the level of the APS in general, using a single-equation framework. Such a single-equation framework is necessary, since and as discussed by Wynen et al. (2013) and Moynihan and Pandey (2007), interorganizational ties influence the availability of information about the number and nature of jobs in other agencies. Given the nature of APS agencies (e.g. common procedures, often common locales, interorganizational cooperation), these ties are likely to be quite strong, more so than between firms in the private sector. Consequently, in the public sector, many decisions are joint in nature, and the decision

to leave the current agency is contingent on the opportunities available in other agencies (Wynen et al., 2013).

The two binary decisions hence need be studied jointly. More specifically, one has to account for the possibility that the disturbances of the equation for the intention to take another job in the APS are correlated with those in the equation estimating the intention to leave the organization. A bivariate probit model allows to do exactly this, while also accounting for the issue of sample selectivity in the equation estimating turnover at the level of the APS. The sample used to estimate this equation is not randomly selected but rather depends on the intention to leave the current organization. This kind of selectivity can be addressed using the bivariate probit model with sample selection.

Data on the intention to take another job within the APS (y_2) may only be observed when the other variable ‘intention to leave’ (y_1) is equal to one. The model is as follows:

$$y_{i1}^* = \beta_1 x_{i1} + \varepsilon_{i1}, y_{i1} = 1 \text{ if } y_{i1}^* > 0, 0 \text{ otherwise} \quad (1)$$

$$y_{i2}^* = \beta_2 x_{i2} + \varepsilon_{i2}, y_{i2} = 1 \text{ if } y_{i2}^* > 0, 0 \text{ otherwise}$$

$$(\varepsilon_1, \varepsilon_2) \sim \text{BVN}(0,0,1,1, \rho)$$

$$(y_{i1}, y_{i2}) \text{ is observed only when } y_{i2} = 1.$$

Consequently, there are three types of observations in the sample with specific probabilities, which need to be taken into account when generating the log-likelihood function:

$$\ln L = \sum_{i=1}^N \{ y_{i1} y_{i2} \ln \Phi_2(\beta_1 x_{i1}, \beta_2 x_{i2}; \rho) + y_{i1} (1 - y_{i2}) \ln [\Phi(\beta_1 x_{i1}) - \Phi_2(\beta_1 x_{i1}, \beta_2 x_{i2}; \rho)] + (1 - y_{i1}) \ln \Phi(-\beta_1 x_{i1}) \}$$

where Φ relates to the bivariate normal cumulative distribution. For more technical information on this model we refer to Greene (2003: 710-712). As equation (1) indicates, sample selection arises because the observation of y_1 is not random but conditional on the observation of $y_2=1$.

The appropriateness of the overall approach is indicated by ρ ($\rho=-0.205^{***}$). When $\rho=0$, the bivariate model can be estimated using an independent probit model. In other words, ρ represents the extent to which the disturbances in the first and second step are independent. It is important to note that our set-up differs from the two- step Heckit procedure (Heckman 1979). More precisely the use of a full information maximum likelihood approach to maximize equation (2) does not imply the calculation of the inverse Mill's ratio (IMR). However exclusion criteria should still be included. Exclusion criteria are variables which are able to predict leaving the current organization but which have no explanatory power when predicting the decision to stay working within the APS. These variables have to be included in the selection equation (decision to leave the current organization) but should be excluded from the outcome equation (intention to take another job within the APS) (see Wooldridge 2010, Chapter 19 for a more detailed discussion). The variables on job characteristics and perceptions of the organization and workgroup fulfill this requirement. They are assumed to be important when considering to leave the current organization but are believed to have no explanatory power when considering to stay working for the APS⁴.

3.5. Results

Table 3 reports the estimates from the bivariate probit model with sample selection. On the left side, a model is calculated without interactions (Columns 3 & 4), while a model with interactions between change skepticism and organizational identification is included on the right side (Columns 5 & 6). Both models include the intention to leave the current organization (y_1) and the willingness to stay working in the APS (y_2). When investigating the significance

⁴ When using these variables to predict moving out of the APS, regressions fail in doing so (a correct classification of just 56%). However, when using these variables to predict moving out of the current organization they are rather successful (a correct classification of 80%). This 'crude' measure supports our ρ finding and shows that these variables are ideally suited as exclusion criteria.

of the correlation between the residuals from the equations in the bivariate probit model, we notice that the coefficient of ρ is significantly different from 0. This indicates that, for both the model with and the model without interaction, a bivariate probit model is the correct approach to deal with our data. Single equation frameworks might consequently lead to biased results. Moreover, the model which includes the interaction has a significantly better fit compared to the model without one ($\chi^2(2)=50.03^{***}$). Hence, we focus on the model with the interaction term where the interaction term is included.

The analysis is based on a very large sample (over 40,000 observations). With such large samples, estimations based on small-sample statistical inferences can be ineffective at best and misleading at worst. An extremely large sample will make the standard error extremely small, so that even minuscule distances between the estimate and the null hypothesis become statistically significant (Lin, Lucas & Shmeli, 2011). Hence, we have visualized our main findings of the interaction model in figures 3, 4 and 5. Simultaneously, these figures also serve a second goal as these offer an intuitive way of interpreting interactions terms. As discussed by Wooldridge (2010), the interpretation of interaction terms in a Maximum Likelihood model like ours can easily lead to erroneous deductions.

[Please include Figures 3, 4 & 5]

Based on Figure 4, it seems that change skepticism is negatively related to turnover intention. When one perceives changes in the organization as having a positive effect, the intention to leave the organization drops significantly. But the opposite is also true, when one perceives the changes to have a negative effect, the intention to leave the organization increases. Although we note that care must be taken to avoid causal statements due to our cross-sectional data, this finding does offer support for H1.

A similar trend can be observed for organizational identification in Figure 3, which is negatively associated with the intention to leave the current organization (in support of H2). The stronger employees identify themselves with their current organization, the less likely they seem to be to leave the organization. Moreover, and based on column 6 of Table 3, even if an employee with a strong organizational identification leaves the current organization, chances are high that he/she will stay working in the APS (in support of H4). This fits well within our theoretical framework. Concerning change skepticism and the intent to leave the APS, we observe that employees that perceive changes as having a positive contribution seem to be less likely to leave the organization vis-à-vis employees perceiving a change to have no positive contribution. Given the large sample size, this finding offers inconclusive support for H3.

In order to examine the interplay between change skepticism and organizational identification, we examine Figure 5. This figure reflects the predicted probabilities for the interaction of organizational identification and change skepticism. The lines clearly overlap for employees being skeptic or non-skeptic regarding workplace change on the intention to leave the current organization when they have a low organizational identification. However, when organizational identification increases, we see that the lines start to diverge. Even when employees have a similar degree of (strong) organizational identification, the intention to leave the current organization seems to be higher for those perceiving previous changes as having no contribution compared to those perceiving changes as positive. This finding tentatively suggests that the development of strong organizational identification could tie employees to the organization. Nevertheless, it seems that if employees have a strong organizational identification, perceiving that an implemented change will contribute nothing positive is associated with a significant increase in the intention to leave the organization. This difference has also been confirmed statistically. Starting from a score for organizational identification of 3 or higher, this difference

has also been confirmed statistically (the difference is significant at the 1% level; Contrast= -0.14***).⁵

4. Discussion and Conclusion

This study set out to examine the puzzling relation between employees' perceptions of the contribution of workplace changes, organizational identification and turnover intentions. Adding to the public sector turnover literature, we performed a joint estimation of employees' intent to leave their agency and the APS as a whole. As the latter is contingent on the former, the errors in these two equations are not likely to be independent (see also Wynen et al., 2013).

Our findings support the expected negative relation between change skepticism and turnover intentions (in support of H1). Our findings also suggest that turnover intentions are reduced as individuals identify more strongly with the organization (in support of H2). This relation is well-established in management scholarship (Riketta, 2005), and also seems to hold in a public sector context.

A particular interest of this paper concerns the combined effect of change skepticism and organizational identification on turnover intentions. Arguably, two expectations can be formulated: one where the negative effect of OI on turnover intentions outweighs the effect of skeptically perceived workplace change (less turnover intentions), and one where the positive effect of skeptically perceived workplace change outweighs the effect of OI (more turnover intentions). Our findings support the second expectation. For employees with a low OI, whether workplace changes were deemed positive or not had no effect on their intention to leave the

⁵ As a robustness check, models were run with change skepticism coded as 0 (changes led 'not at all' or 'hardly at all' to improvements) and 1 for other responses ('to a very great extent', 'quite a lot', 'somewhat'). The interaction term remained significant (and even became significant for the model estimating intention to take another job within the APS). The robustness check hence offers support for our previous findings.

current organization. However, employees with a similar degree of strong OI seemed *more* likely to leave their organization when they perceived previous changes in the workplace with skepticism, *despite* the strong psychological bond between them and the organization. Although causality remains an issue, this finding suggests a highly detrimental impact of skeptically perceived workplace changes, and thus runs against a series of business studies that point at the attenuating impact of strong OI during times of workplace change (Rousseau, 1998; Van Dick et al., 2006; Riketta 2005).

An important motive for individuals to identify with organizations relates to a basic human need for safety, affiliation, and uncertainty reduction (Pratt, 1998). Workplace changes, however, are characterized by uncertainty and ambiguity (Rafferty & Restubog, 2010). During these times of turbulence, employees might feel uncertain about the organization's future. Faced with uncertainty, most employees will focus on resolving this ambiguity and getting clarity about their identity (Corley and Gioia, 2004). If employees perceive that reforms will negatively affect the continuity of the organization with whom they identify, this might motivate individuals to identify with other organizations to reduce their anxiety. Employees generally want to feel that they continue working for the same organization (Rousseau, 1998). If the identity of their organizations – as core antecedent of OI – is under threat, employees might decrease their OI, which in turn can result in a decrease in job satisfaction, citizenship behavior, performance, and emotional well-being and an increase in turnover intentions.

An additional interest of this study was to analyze what happens after employees have made the decision to leave their organization in the APS: do they intend to remain within the APS, or do they intend to leave the APS altogether? In contrast to the private sector, turnover in the public sector is not necessarily undesirable (e.g. OECD, 2016). Whereas turnover towards the private sector results in a loss of human capital for the public sector as a whole, shifts in

positions between governmental organizations retain accumulated knowledge and experience, and may even result in some benefits such as exchanges of experience and best-practices.

Our results demonstrate the value of investing in psychological ties with employers, as strong OI is significantly and negatively associated with employees' intentions to leave the APS. This finding contributes to the OI literature which generally assumes that organizational identification would only affect turnover at the organizational level (Ashfordt & Mael, 2008). This observation fits with efforts of governments around the globe to arrive at a common identity of *the* central government.

We offer some timely and valuable contributions to the literature on turnover. Despite the recognition that individual as well as organizational factors are crucial, we know of no previous studies in public administration which have linked change skepticism and organization identification to turnover intentions. Furthermore, the inclusion of interaction terms has been argued to be fruitful contributions to the literature on turnover (Wynen, Op de Beeck, & Hondeghem, 2013). Lastly, this article raises some important insights in the distinction between turnover at the organizational level and turnover at the government-wide level.

Furthermore, our findings have a number of implications for practitioners. Perhaps most importantly, we observe a more complicated relationship between OI and workplace change perceptions than was previously assumed. OI is often thought to be exclusively beneficial to various workplace attitudes and behaviors (e.g. Riketta, 2005; Van Dick et al., 2004). However, our interaction tests tentatively suggest that when civil servants identify more strongly with the organization and perceive recent workplace change with skepticism, they may become more disillusioned with the organization than others, resulting in increased levels of reported turnover intention. Although change is thus a necessary and almost continuous factor in modern public sectors, managers should take care to avoid violating the expectations of their civil servants

during the change process, in particular when the latter identify strongly with current organizational symbols, routines, etc., which may be altered during the change process. Otherwise, public organizations may risk losing even some of their most stalwart employees. Simultaneously, our observations indicate that OI could be a powerful factor in retaining human capital not just for the organization, but for the APS as a whole. We therefore suggest that selecting civil servants likely to exhibit strong ties to the organization and fostering identification in current employees remain worthwhile strategies to pursue (see e.g. Van Dick et al., 2004).

Finally, it is worthwhile for policy-makers interested in the mobility of civil servants between public organizations to take into account its interrelated nature with public sector turnover. Such a broader perspective would recognize that, although turnover may be detrimental to organizations when viewed as separate entities, it is less problematic for the sector as a whole when civil servants intend to move between public organizations (see e.g. APSC, 2016, p.14). However, our result that high OI individuals who perceive change skeptically seem to be more likely to leave the APS entirely indicate that care should be taken not to violate psychological contracts with employees.

We should also address some limitations for future studies to address. This study uses cross-sectional data, which first leads to issues concerning causality. Based on our theoretical framework grounded in previous empirical research, we expect that the significant relations we observed are also causal. However, future studies should use other designs – panel data or experiments – which are better equipped to make causal claims more confidently. A second problem which affects cross-sectional designs is the issue of endogeneity. While we have tried to minimize the risk by including both individual (gender, age, language...), job (type of work, training, full-time) and organizational (workgroup culture, supervisor support, organizational culture) fixed effects, endogeneity cannot be ruled out completely. Similarly, same source bias

(SSB) could be a specific and potential issue for our data and analyses (though robustness checks were run, which are available on request). Future research should provide refined testing of our examined relationship using panel data, allowing to reduce the possible endogeneity and SSB issue while allowing to make causal claims. In addition, future studies could combine perceptual with objective measurements of workplace change. Lastly, our data did not allow to examine an often overlooked issue in public sector turnover studies, which relates to the importance of private sector alternatives for turnover intentions (but see Selden and Moynihan, 2000).

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6. Tables & Figures

Table 1 Descriptive statistics

Variables	Question(s) in survey	Description	Eq(1) N=48511		Eq(2) N= 10257		
			Mean	Sd.	Mean	Sd.	
Dependents							
Intention to leave (0: No; 1: Yes)	q44	Dummy	0,211	0,408	1,000	0,000	
Intention to take another job at the Australian Public Service (0: No; 1: Yes)	q45	Dummy	0,451	0,498	0,451	0,498	
Independents							
Organizational identification	q22a/b/c	Factor score	3,661	0,850	3,005	0,929	
change skepticism (reversed coding; 0- no positive contribution, 1- positive contribution)	q27	Dummy	0,811	0,391	0,724	0,447	
Individual characteristics							
Gender (0: Male; 1: Female)	q1	Dummy	0,582	0,493	0,543	0,498	
Age	q2	Categorical (4 cat.)	2,351	0,763	2,181	0,740	
Length of service (APS) (0: Less than 5 years; 1: 5 years or more)	q8	Dummy	0,782	0,413	0,747	0,435	
Length of service (Agency)	q9	Categorical (3 cat.)	2,563	0,626	2,473	0,630	
Qualification	q10	Categorical (3 cat.)	2,388	0,866	2,482	0,819	
Language (0: English native speaker; 1: Non-English native speaker)	q14	Dummy	0,143	0,350	0,137	0,344	
Carer (0:No; 1:Yes)	q15	Dummy	0,289	0,453	0,275	0,447	
Classification (0: Trainee/Grad/APS1-6; 1: EL/SES)	Actual classification	Dummy	0,330	0,470	0,326	0,469	
Job characteristics							
Training	q54	Categorical (5 cat.)	2,755	1,190	2,608	1,187	
Type of work	q16	Categorical (15 cat.)	8,819	5,162	8,811	5,196	
Full time (0: Part-time/Casual; 1: Full-time)	q31	Dummy	0,867	0,339	0,887	0,316	
Perceptions of workgroup & organization							
Workgroup satisfaction (reversed coding)	q19a/b/c/d/e	Factor score	0,002	0,947	0,412	1,114	
Supervisor satisfaction (reversed coding)	q20a/b/c/d/e/f/g	Factor score	0,002	0,947	0,407	1,101	
Organizational satisfaction (reversed coding)	q62a/b/c/d/e/f/g/h/i/j/k	Factor score	0,012	0,957	0,491	1,073	

Table 2 Pairwise correlation matrix

Variables		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Intention to take another job at the Australian Public Service	(1)	1.0000																
Organizational identification	(2)	0.0214	1.0000															
Change skepticism (reversed coding; 0- no positive contribution, 1- positive contribution)	(3)	0.0132	0.1064	1.0000														
Gender	(4)	0.0548	0.0162	0.0687	1.0000													
Age	(5)	-0.0080	0.0082	-0.0917	-0.0613	1.0000												
Length of service (APS)	(6)	0.0582	-0.0415	-0.0550	-0.0030	0.3856	1.0000											
Length of service (Agency)	(7)	-0.0321	0.0785	-0.0484	-0.0293	0.2575	0.5449	1.0000										
Qualification	(8)	-0.1023	0.0282	0.0079	-0.0618	-0.0679	-0.1134	-0.1070	1.0000									
Language	(9)	-0.0101	0.0551	0.0407	-0.0210	0.0149	-0.0687	-0.0254	0.1153	1.0000								
Carer	(10)	0.0266	0.0278	-0.0156	0.0759	0.1593	0.1507	0.1136	0.0076	0.0666	1.0000							
Classification	(11)	-0.0313	0.0312	-0.0045	-0.0733	0.1787	0.2124	0.0241	0.2365	-0.0588	0.0789	1.0000						
Training	(12)	-0.0309	0.0564	0.0660	-0.0205	-0.0877	-0.1276	-0.0637	0.0477	-0.0024	-0.0429	-0.0599	1.0000					
Type of work	(13)	-0.0124	-0.0123	0.0258	0.0675	-0.0605	0.0131	-0.0120	0.0692	-0.0498	0.0079	0.0806	0.0523	1.0000				
Full time	(14)	-0.0010	0.0190	-0.0078	-0.2182	-0.0225	-0.0886	-0.0849	0.0494	0.0494	-0.2157	0.0558	0.0735	-0.0826	1.0000			
Workgroup satisfaction	(15)	0.0143	-0.2755	-0.0642	0.0358	0.0314	0.0568	0.0550	-0.0675	0.0549	0.0333	-0.0826	-0.0731	-0.0678	0.0202	1.0000		
Supervisor satisfaction	(16)	0.0101	-0.2286	-0.1081	0.0127	0.1261	0.0984	0.0768	-0.0219	0.0468	0.0587	0.0090	-0.0897	-0.0331	-0.0057	0.5566	1.0000	
Organizational satisfaction	(17)	0.0078	-0.3146	-0.1200	0.0106	0.0609	0.0406	0.0610	-0.0645	0.0652	0.0402	-0.1435	-0.0769	-0.0209	-0.0225	0.5744	0.5968	1.0000

Table 3 Bivariate Probit Estimates with Sample Selection (N=48,511)

Variables	1		2	
	3	4	5	6
	Intention to leave (y1)	Intention to take another job within the APS (y2)	Intention to leave (y1)	Intention to take another job within the APS (y2)
Change skepticism (reversed coding; 0- no positive contribution, 1- positive contribution)	-0.214*** (0.0174)	0.0516* (0.0301)	0.240*** (0.0663)	-0.0255 (0.0888)
Organizational identification	-0.579*** (0.00931)	0.142*** (0.0330)	-0.482*** (0.0164)	0.127*** (0.0339)
Interaction change skepticism & Organizational identification			-0.136*** (0.0192)	0.0252 (0.0295)
Individual Characteristics				
Gender (Female=1)	-0.104*** (0.0155)	0.115*** (0.0253)	-0.105*** (0.0155)	0.115*** (0.0253)
Age	$\chi^2(3)=438.85***$	$\chi^2(3)=13.23***$	$\chi^2(3)=437.82***$	$\chi^2(3)=13.15***$
Length of service (APS) (5 years or more=1)	0.0821*** (0.0249)	0.363*** (0.0415)	0.0814*** (0.0249)	0.362*** (0.0415)
Length of service (Agency)	$\chi^2(2)=183.0***$	$\chi^2(2)=70.06***$	$\chi^2(2)=180.36***$	$\chi^2(2)=69.99***$
Qualification	$\chi^2(2)=77.63***$	$\chi^2(2)=91.21***$	$\chi^2(2)=77.05***$	$\chi^2(2)=91.37***$
Language (0=English native speaker)	0.0314 (0.0212)	-0.00866 (0.0370)	0.0349* (0.0212)	-0.00974 (0.0370)
Carer (No=0)	0.00643 (0.0166)	0.0548* (0.0287)	0.00596 (0.0166)	0.0549* (0.0287)
Classification (Trainee/Grad/APS1-6=0)	0.0615*** (0.0176)	-0.0883*** (0.0289)	0.0616*** (0.0177)	-0.0884*** (0.0289)
Job characteristics				
Training	$\chi^2(4)=49.71***$ (0.00619)		$\chi^2(4)=49.41***$ (0.00619)	
Type of work	$\chi^2(14)=98.89***$		$\chi^2(14)=100.13***$	
Full time (Part-time/Casual=0)	0.140*** (0.0230)		0.142*** (0.0230)	
Perceptions of workgroup & organization				
Workgroup satisfaction	0.0534*** (0.00948)		0.0533*** (0.00947)	
Supervisor satisfaction	0.0727*** (0.00965)		0.0714*** (0.00964)	
Organizational satisfaction	0.157*** (0.0101)		0.158*** (0.0101)	
Constant	1.325*** (0.0634)	-0.255*** (0.0781)	1.005*** (0.0776)	-0.205** (0.0920)
N	38,254	10,257	38,254	10,257
ρ		-0.205*** (0.0697)		-0.210*** (0.0702)
LR test of indep.eqns. (rho=0)		$\chi^2(1)=8.63***$		$\chi^2(1)=8.93***$
LR test model 1 versus 2				$\chi^2(2)=50.03***$

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 1 Schematic overview of tested relationships, with variables of particular interest in bold

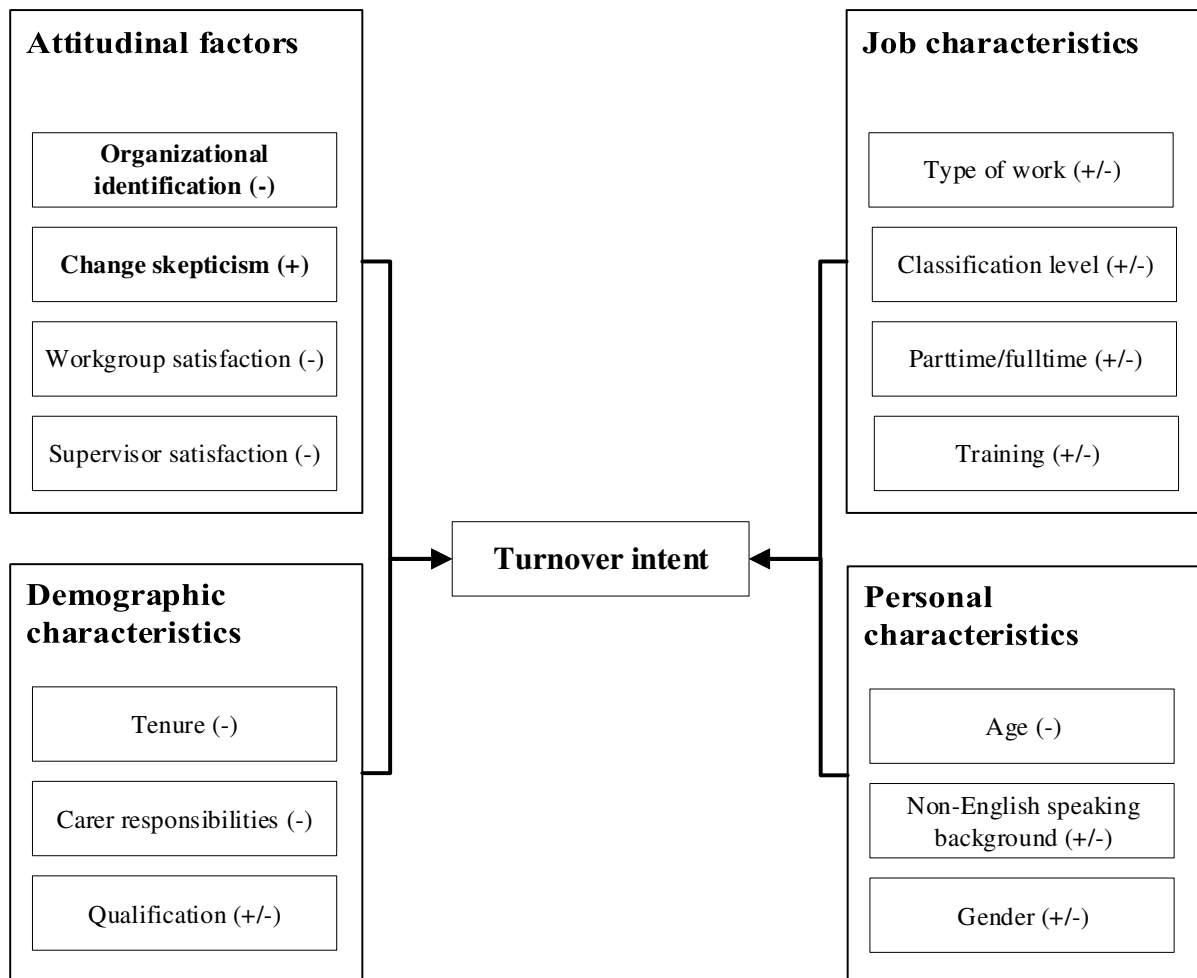


Figure 2 Organizational and APS turnover

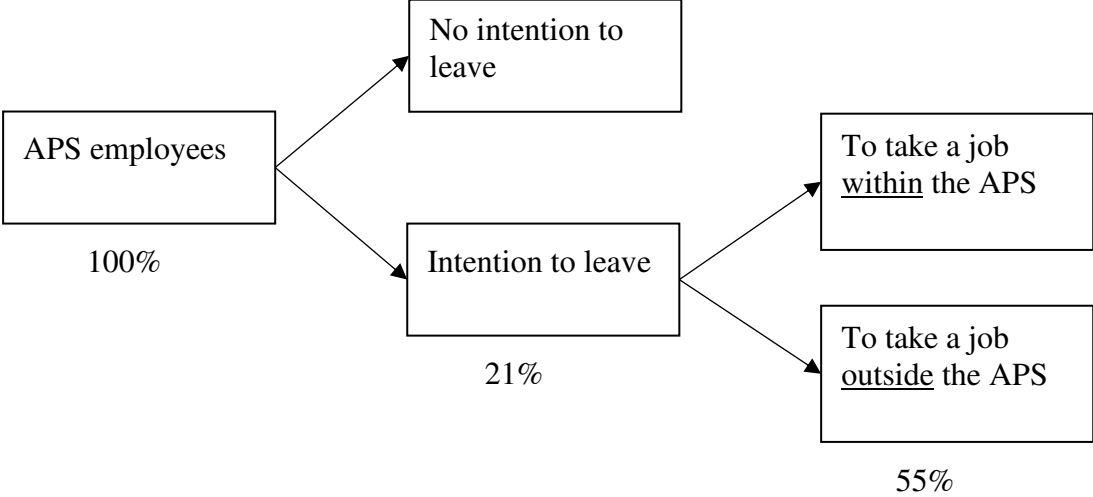


Figure 3 Predictive Margins Organizational Identification

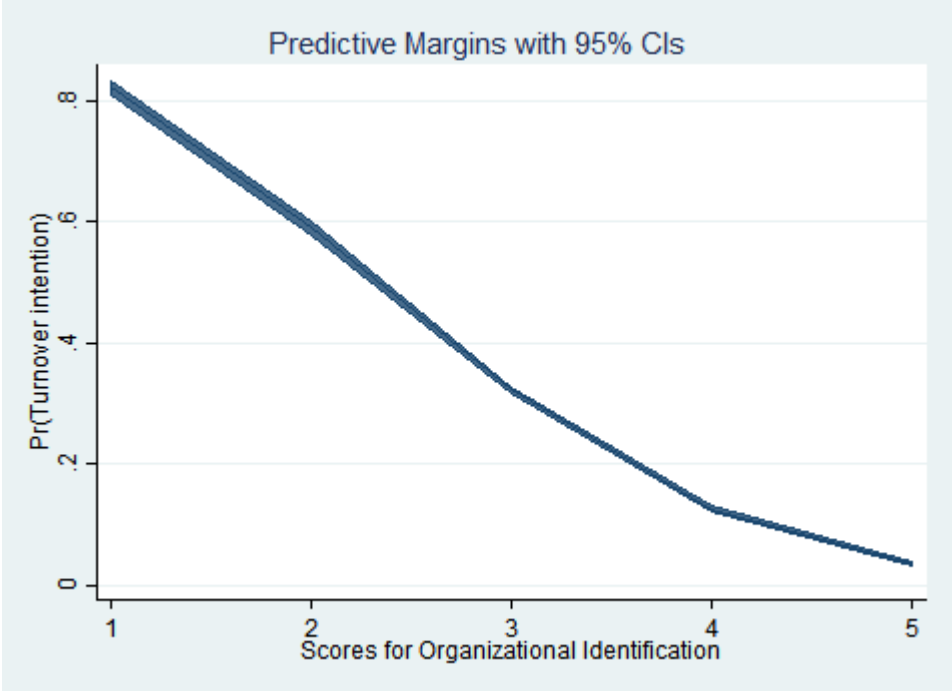


Figure 4 Predictive Margins Change Skepticism

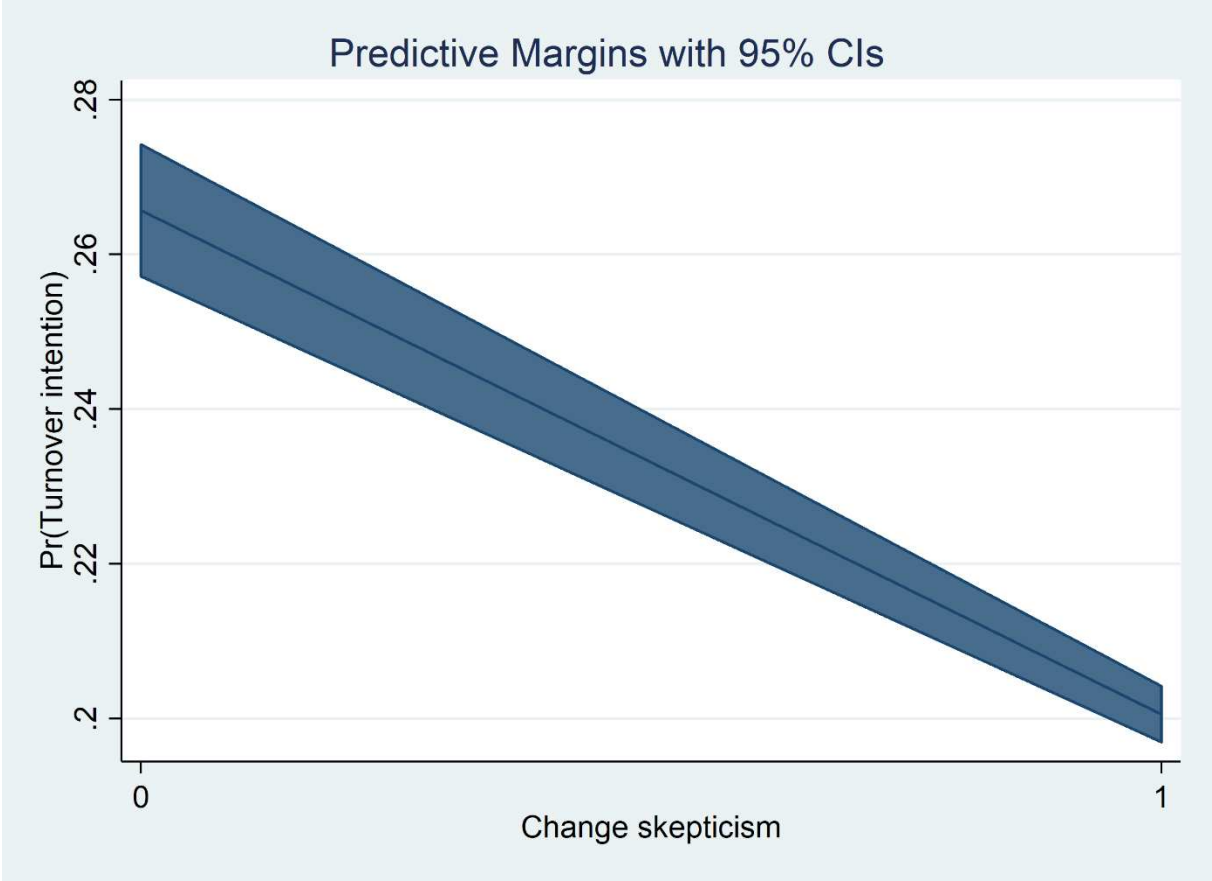
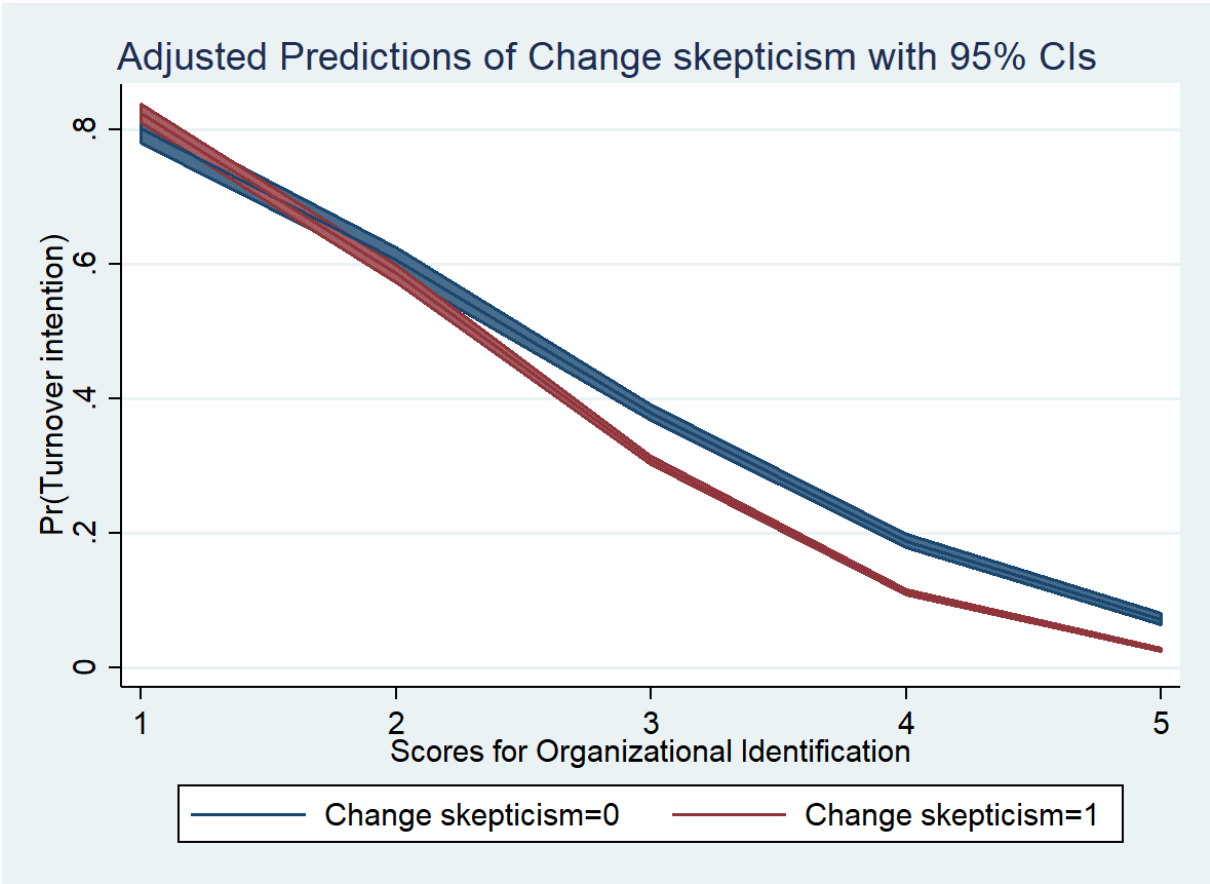


Figure 5 Predicted probabilities interaction Organizational Identification & Change skepticism



7. Annex

Table 4 The changes respondents were subject to and were asked to indicate how these affected the team's ability to do their work in the longer-term.

Change in physical workplace (e.g. moved to a new building, existing workplace renovated)

Machinery of government change

Relocated to a new city

Structural change (change in division or branch structure)

Functional change (e.g. change in responsibilities)

Change in work priorities

Decrease in staffing numbers

Increase in staffing numbers

Change in SES leadership (e.g. change of branch head)

Change in supervisor

Other
