ANALYSIS OF POLICE OFFICERS' AND FIREFIGHTERS' PSYCHOLOGICAL CONTRACTS, AND ITS INFLUENCE ON THEIR OCCUPATIONAL STRESSORS AND WELL-BEING

By

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ABSTRACT

This thesis investigates the application of psychological contract theory to police officers and firefighters. Chapter 1 systematically searches the published psychological contract measures to evaluate how this concept is operationalised within many tools. Chapter 2 critically reviews the PSYCONES measure of psychometric properties and identifies it as a valid and reliable tool, although some of the concepts are not necessarily psychometric. Chapter 3 investigates the experiences of police officers in relation to psychological contract, occupational stressors and well-being. Work–life balance is identified as an important factor affecting the well-being of employees. Chapter 4 examines the role of psychological contract and its effect on the well-being of police officers through an online survey. Significant results are identified. Chapter 5 explores the experiences of firefighters in regard to psychological contract, occupational stressors, coping strategies and well-being. Chapter 6 investigates the importance of psychological contract and its effect on the well-being of firefighters through an online survey. A few significant relationships are identified. In Chapter 7, the thesis is concluded, the findings for both samples are summarised, and the limitations, future research and implications are discussed.

To my husband, son, parents and family for their consistent support.

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STATEMENT OF AUTHORSHIP

Chapters 3 and 5 contain material that has previously been published in journals.[1] In addition,

Chapter 4 has been accepted[2] and Chapter 6 has been submitted[3] for publication to a journal.

As a consequence, each chapter has its own introduction, discussion and conclusion sections.

Efforts have been made to avoid repetition of material but there might be overlapping content

in these chapters.

[1]Chapter 3: Duran, F., Woodhams, J., & Bishopp, D. (2018). An interview study of the experiences of police officers in regard to their psychological contract, stressors, and well-being. *Journal of Police and Criminal Psychology.*

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[1]Chapter 5: Duran, F., Woodhams, J., & Bishopp, D. (2018). An interview study of the experiences of firefighters in regard to their psychological contract, and stressors. *Employee Responsibilities and Rights Journal, 30*(3), 203-226

[3]Chapter 6: Duran, F., Bishopp, D., & Woodhams, J. (under review). Relationships between psychological contract violation, stress and well-being in firefighters. *International Journal of Workplace Health Management*

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PART I

INTRODUCTION

INTRODUCTION

Workplace well-being is a growing concern for organisations. The Chartered Institute of Personnel and Development define well-being in the workplace as "creating an environment to promote a state of contentment which allows an employee to flourish and achieve their full potential for the benefit of themselves and their organisation" (CIPD, 2007, p. 4). Poor workplace well-being costs around £57 billion a year in lost productivity (CIPD, 2016) and can affect both employees and organisations.

In recent years, a construct that has gained prominence in examining the consequences of poor workplace well-being is the 'psychological contract'. The psychological contract is defined as "an individual's belief(s) regarding the terms and conditions of a reciprocal exchange agreement between that focal person and another party" (Rousseau, 1989, p. 123). This thesis focuses on research questions regarding how employees' perceived obligations in the workplace (their psychological contract) affect their well-being. It investigates the interrelationships between psychological contract, organisational stressors, coping and well-being. It also considers how psychological contract might be used to improve the working environment and its impact on employees. For example, by identifying unmet obligations and taking steps to redress these, employers and managers can improve their workers' quality of life and productivity, and they can also reduce economic loss to the organisation as a result of sickness and absences (Fenton, Pinilla, Sing, Sadhra, & Carmichael, 2014).

In 2010, the UK government put in place austerity measures that aimed at economic recovery and debt reduction (Office for Budget Responsibility, 2013). These austerity measures have included attempts to make savings by reducing public sector employment; for example, there were 36,000 National Health Service jobs cuts in 2012 and a further 144,000 public sector redundancies were expected in 2016 (Reeves, Basu, McKee, Marmot, &

Stuckler, 2013). According to the UK's Office of National Statistics, more than 500,000 public sector employees' lost their jobs between June 2010 and September 2012, resulting in an increase in suicide rates and mental health problems such as depression (ONS, 2012; Reeves et al., 2013). Specifically, the total number of firefighters in England in 2015 was 37,161, a decrease of 3.6 per cent from the previous year (Shaw, 2015). Similarly, police officers in the UK are facing similar challenges with a 2.2 per cent (2,752 officers) decrease in the numbers of officers compared to the previous year (Allen, 2017).

Budget cuts, downsizing, restructuring and staff shortages due to an organisation's reduction of the size of its workforce creates an environment in which there is great potential for employees to feel that their employers are not fulfilling their obligations (Morrison & Robinson, 1997; Turnley & Feldman, 1998). Such an environment results in increasing stress and strain (Gakovic & Tetrick, 2003; Maslach, Schaufeli, & Leiter, 2001; Zitlin, 1995). The aim of this thesis, therefore, is to investigate the current state of psychological contract in a sample of firefighters and police officers, and to consider the potential influence of psychological contract breach and violation on their work-related stress and well-being.

Several theories explain work-related stress, including the demand-control-support model (Karasek & Theorell, 1990), the person-environment fit theory (Caplan, 1987), and the effort-reward imbalance model (Siegrist, 1996). However, this thesis draws on the most influential model, namely conservation of resources theory (COR; Hobfoll, 1989, 2001), because it describes both why certain circumstances are stressful and the process of people's reactions to those circumstances (Hobfoll, Restubog, & Monier, 1995). According to this model, an individual strives to sustain, protect and build resources, and the threat of loss or actual loss of resources, as might happen in organisations undertaking austerity measures, could lead to stress. In the COR model, the critical ingredient for stress is the loss of resources. The threat of loss or the actual loss of resources can lead to job dissatisfaction,

anxiety and thoughts about resigning (Byrne et al., 2013; Hobfoll & Shirom, 1993). The strength of this theory and its applicability to this thesis are that it first and foremost focuses on identifying the objective source of stress. Therefore, we propose that if employees perceive that they have unmet or broken promises, they may perceive these as a loss of resource leading to stress and poor well-being. Furthermore, some of their unmet promises could, in a climate of austerity cuts, relate to actual loss of resources.

Theoretical basis of psychological contract

The framework of social exchange theory is one of the central theories for understanding the psychological contract because in employment relationships both economic and social expectations are relevant for an employee (Rupp & Cropanzano, 2002; Shore & Tetrick, 1994). Gouldner (1960) proposed that work exchanges are based on reciprocity norms; for example, "people help those who have been helpful to them, and people should not injure those who have helped them" (p. 171). Moreover, in the psychological contract framework, individuals feel obliged to reciprocate benefits they receive; for example, employees might offer loyalty and hard work in exchange for organisational inducements such as fringe benefits (Conway & Briner, 2005; Rhoades & Eisenberger, 2002). Blau (1964) argued that individuals try to achieve balance in their exchanges, and that a perceived imbalance in their fulfilment of obligations might lead to negative consequences. For example, an employee's determination can be low if he/she perceives the employer to be treating him/her poorly.

Another critical theory for understanding the psychological contract is equity theory (Adams, 1965). This theory is based on the same assumptions as social exchange theory but adds a dimension of social comparison. Adams (1965) proposed that the 'ratio' of an individual's contributions (i.e., inputs) is influenced by the received outcomes for both the individual and referent others. Explicitly, employees' reactions and behaviours are influenced

by the degree to which comparisons with co-workers are favourable, unfavourable, or balanced. When employees perceive inequity, they restore the balance between the two ratios either by a change in attitude or by corrective actions. This notion of exchange and fairness supports psychological contract theory, where inputs are employees' contributions and outcomes are rewards that are received in exchange for contributions (Guest, Isaksson, & De Witte, 2010; Restubog, Kiazad, & Kiewitz, 2015).

Rousseau (1989) argued that the psychological contract construct evolves from reciprocity; however, it is distinct from the norms of reciprocity because consistency between what is promised and what is received is a key issue within psychological contract theory. In contrast, Gouldner (1960) proposed that equivalence of returns is not an issue within the social norms of reciprocity. Taylor and Tekleab (2004), on the other hand, argued that social exchanges and reciprocity offer some insight into the theoretical understanding of psychological contract because the psychological contract is formed through mutual obligations as social exchanges.

Psychological contract elements

In the pre-Rousseau period, the psychological contract was believed to be formed of employees' "inner needs that they have learned from others, traditions and norms which may be operating, their own past experience, and a host of other sources" (Schein, 1980, p. 24). In the post-Rousseau period, by contrast, beliefs arising from experiences with past organisations/employers are no longer considered to form part of the psychological contract (Roehling, 2006).

Rousseau (2001) identified four phases in the formation and evolution of psychological contract. The first is the pre-employment phase; this consists of, for example, experiences gained from previous employment, and exposure to experience via family,

friends, and media. The second is the recruitment phase, where the psychological contract is formed through an interactive process in which promises are exchanged (Rousseau, 1990). These expectations are then refined in the third phase through post-entry expectations, namely socialisation. Finally, the fourth phase comprises employees' personal experiences in the ongoing process of exchange, such as changes in the psychological contract due to organisational changes (Guest & Clinton, 2010). Moreover, psychological contract could be shaped, formed or changed by factors outside of work, although relatively few studies have explored this aspect.

The formation of a person's psychological contract is influenced by his/her schema and expectations about employment relationships. These schemas develop early in life when the individual acquires values about hard work, reciprocity, and work ethics, generally from their parents (e.g., Protestant work ethic) (Coyle-Shapiro & Parzefall, 2008). There are, therefore, individual differences in such schemas. It has been argued that family, friends and colleagues at work influence these schemas and that, once formed, they are resistant to change (Morrison & Robinson, 2004; Rousseau, 2001). However, an individual's perceptions of the psychological contract have been shown to alter over time. For instance, the newly recruited employee's perception of their employer's obligations changes after the employee enters the organisation and receives inducements, as well as after learning the specific expectations of the organisation for occupational success. At the same time, newly recruited employees also change their perceptions of employee obligations based on their own contributions (De Vos, Buyens, & Schalk, 2003; Robinson et al., 1994).

An essential element of the psychological contract is the content. This refers to the employee's expectations about what he/she owes and is owed in turn by the organisation (Rousseau, 1990, p. 393). Earlier researchers have tried to categorise the content of psychological contract in different ways. Conway and Briner (2005) argued that

psychological contract content consists of two types of information: the first is the list of items each party brings to the deal; and the second is linkage between items that the employee and employer input into the deal. Most previous studies have focused on the first type of information only. In contrast, Rousseau (1990) categorised the content of psychological contract into two types: transactional and relational contracts (see Chapter One for a detailed explanation of this).

Emergency services personnel roles involve placing themselves in personal danger, being prosocial and team players, and regularly engaging with the public in a manner that is subject to public scrutiny. This thesis seeks, therefore, to address this gap in the literature by adopting a qualitative approach to studying firefighters' and police officers' perceptions of psychological contract. This allows consideration of the content of their psychological contract with their employer, how this might change over time, with whom they perceive themselves as having a psychological contract, and whether this is shaped, formed or changed with others outside of their immediate employment.

Consequences of psychological contract fulfilment, breach and violation

The evaluation of fulfilment of obligations is a crucial aspect of psychological contract theory. Psychological contract fulfilment occurs when an employee perceives that their employer has fulfilled their promised obligations (Lambert, Edwards, & Cable, 2003; Walker, 2013). A breach of psychological contract occurs when an employee becomes aware of one or more unmet promise-based obligations (Coyle-Shapiro, 2002; Morrison & Robinson, 1997). While psychological contract can be studied from both an employee's and an employer's perspective, psychological contract breach is always considered from the employee's perspective only. In the long term, psychological contract breach can develop into a negative emotional reaction that is termed 'violation of the contract', which can include

feelings of disappointment, frustration, anger, bitterness, resentment and distress (Pate, Martin, & McGoldrick, 2003). However, the reaction to a breach of contract as a violation depends on the individual's interpretation of breach (Parzefall & Coyle-Shapiro, 2011). For example, when a broken promise is perceived, employees expect an explanation for it, and if the explanation is not provided or is unsatisfactory, they develop their own reasons in terms of violation, eliciting negative attitudes and behaviours (Weick, 1995). Chapters Four and Six provide a more detailed explanation of the effects of psychological contract violation.

According to several research findings, psychological contract breach seems to have stronger associations with negative outcomes than does the content of the contract itself (Conway & Briner, 2009). However, how content relates to outcomes is a relatively neglected area. Exceptions to this include a study by Hui, Lee and Rousseau (2004), which found a negative association between transactional contract and organisational citizenship behaviour (OCB) and a positive association between relational contract and OCB. Moreover, Raja, Johns and Ntalianis (2004) found a positive association between a more relational contract, job satisfaction and organisational commitment, and positive relationship between a more transactional contract and intentions to quit. However, a meta-analysis by Zhao et al. (2007) did not confirm these findings. They assessed the impact of psychological contract breach on work-related outcomes and compared their results with Wanous et al.'s (1992) meta-analysis that investigated the effects of expectations being met. Breach had a larger effect on negative outcomes in comparison to the positive effect of psychological contract fulfilment. Thus, this might indicate that it is not the content of a psychological contract that is important (i.e., whether it is transactional or relational); rather, it is the breach of the psychological contract that results in negative consequences. Chapters Three and Five further discuss the effects of psychological contract breach.

The relationships between psychological contract breach or violation and negative employment and individual outcomes are not necessarily direct. A number of mediators and moderators have been identified that appear to suppress the deleterious effects of psychological contract breach. These moderators include personality traits (How, Weingart, & Rousseau, 2004; Raja et al., 2004; Restubog et al., 2007), perceived importance of the promise (Conway & Briner, 2002), justifications for the violation, procedural justice perceptions (Kickul & Lester, 2001), attractive employment alternative (Turnley & Feldman, 1999), and job dissatisfaction (Turnley & Feldman, 2000). Furthermore, Bal, De Lange and Jansen (2007) found age to be a potential moderator: older workers may react differently to perceived breach than do younger workers. Finally, both relational and transactional contract types have been found to be a significant moderator between the perceived breach->felt violation and felt violation->burnout relationships (Jamil, Raja, & Darr, 2013; Lambert et al., 2003). Regarding mediators, Clinton and Guest (2014) identified exchange fairness and organisational trust as a mediator that buffers the effects of psychological contract breach on voluntary turnover. In addition, Thompson and Heron (2006) found that affective commitment fully mediates the relationship between psychological contract fulfilment and knowledge-sharing behaviours, which were positively related with innovative performance.

It is, therefore, important to recognise the complex relationships that can exist between psychological contract and related concepts as well as outcomes. This thesis takes a mixed-methods approach to investigating the interrelationships between psychological contract, organisational stress, coping strategies, fairness, self-efficacy, and employee well-being. While it was beyond the scope of the current thesis to investigate all of the potential mediators/moderators outlined above, Chapters Four and Six adopt a quantitative approach by examining the relationships between psychological contract violation, source of occupational stressors and job-related well-being, and by investigating fairness and self-

efficacy as potential mediators of relationships between psychological contract violation, anxiety and depression.

AIMS OF THE THESIS

In summary, there are several reasons for studying the psychological contract of emergency services personnel. The first is that psychological contract captures exchanges in the employment relationship, focusing on substantial issues in that exchange, such as trust, fairness, promotion, training, development, decision-making and so on (Conway & Briner, 2005; Turnley & Feldman, 2000), which, arguably, are highly likely to be affected by the introduction of austerity measures. Secondly, such organisational changes as have been seen in the public sector can have serious implications, and the psychological contract is a useful lens through which to understand the feelings and reactions of employees to these changes (Rousseau, 1989, 1990, 1995). Third, around the world, public and private sectors are facing the pressure of austerity following the global financial crisis (Crotty, 2009; Dolton & Makepeace, 2011). Due to the implementation of financial cuts in the UK, the Office for Budget Responsibility (2010) has predicted that the public sector will continue to undergo extensive organisational changes that influence its employment relationships (Conway, Kiefer, Hartley, & Briner, 2014; Dolton et al., 2011). Therefore, this is an issue of international importance and not one that is likely to disappear soon. Finally, psychological contract breach and violation have been associated with negative consequences for employees' well-being; research in this area has, therefore, the potential to identify areas for intervention that public sector organisations in both the UK and overseas can adopt (Coyle-Shapiro & Kessler, 2002; Guest & Conway, 1998, 2002).

Research questions and rationale

The overarching aim of the thesis is to investigate how the psychological contract is associated with occupational stress and general well-being in firefighters and police officers. To achieve this aim, the following research questions are addressed:

(1) What are the experiences of police officers and firefighters in regard to psychological contract and its relationship with organisational stress and well-being?

(2) Are psychological contract breach and violations related to occupational stress and well-being?

(3) How are the effects of psychological contract violation on work-related stress and well-being mediated?

In answering these questions, the research took a mixed-methods approach combining interviews with online surveys. The intention behind the collection of both qualitative and quantitative data was to develop a better understanding of the concept of psychological contract with respect to structured instruments and to explore psychological contract as a concept in more depth with a smaller subset of participants (Creswell, 2003). Framework analysis was chosen for the analysis of the interview data because it is a flexible method that is not aligned with a particular epistemological, philosophical or theoretical approach (Ritchie & Spencer, 2003). In addition, the matrix framework is simple and easy to follow, facilitating the understanding and interpretation of the data (Ward, Furber, Tierney, & Swallow, 2013). For the analysis of the quantitative survey data, the multivariate method of structure equation modelling was chosen. This allows simultaneous analysis of all the variables in the model where measurement error is not totalled in a residual error (Chin, 1998). This method allowed

for the study of the structural relationships between the causal variable of psychological contract violation and the health outcome variables and the impact of potential mediators.

Structure of the thesis

The thesis is divided into three parts:

Part I (Chapters One and Two) introduces the psychological contract and how it is measured in research. Chapter One systematically reviews the literature to identify all the published measures of psychological contract, and it investigates how the term 'psychological contract' is defined and operationalised through these measures. Chapter Two critically evaluates the PSYCONES (psychological contracts across employment situations) measure (Isaksson et al., 2005). The measure is described and studies that have used the measure are outlined. Finally, the psychometric properties of the measure are scrutinised.

Part II (Chapters Three to Six) of the thesis presents a series of empirical studies that address gaps in the psychological contract literature. Chapter Three examines police officers' experiences of psychological contract as reported through telephone interviews. In this study, the active police officers were asked about their perceived obligations, psychological contract fulfilment and breach, and the effects of this fulfilment and breach on their stress and well-being in this time of austerity measures. Chapter Four uses the survey data to investigate the effects of psychological contract violation on police officers' work-related stress and well-being, and the role of mediators in this relationship. Chapter Five explores firefighters' experiences of psychological contract through semi-structured interviews. It sheds light on how psychological contract breach affects employees' well-being and stress. Chapter Six uses survey data to investigate the influence of psychological contract violation on firefighters'

stress and well-being at a time of austerity measures. In this study, a mediation model is tested using the potential mediators of fairness and self-efficacy, and the thesis assesses how the mediators might suppress the negative effects of psychological contract violation on job-related well-being.

Part III (Chapter Seven) concludes the thesis. In this section, the main results of the thesis are summarised, and comparisons are made between the findings from the two groups of participants (firefighters and police officers). Further, the limitations are discussed and directions for future research are suggested. Lastly, the theoretical and practical implications of the thesis results are discussed.

CHAPTER 1

THE MEASUREMENT OF PSYCHOLOGICAL CONTRACT: A

SYSTEMATIC EVALUATION

This chapter systematically searches the literature to identify all the published measures of psychological contract, and it investigates how the term 'psychological contract' is defined and operationalised through these measures. First, it provides an overview of the psychological contract construct. Following this, it reports the free-text searches of bibliographic databases, the manual searches of reference lists, and the consultation with experts to identify articles where psychological contract is a key factor or variable. Finally, the identified measures categorise the published measures into content, feature and evaluation. This is intended to provide, therefore, an outline for researchers to select an appropriate measure from a range of measures, whose descriptive information is readily available.

Chapter 1: The Measurement of Psychological Contract: A Systematic Evaluation

In the literature on organisational behaviour, the psychological contract concept is considered an essential tool for understanding employment relationships and the influence it has on employees' well-being (Anderson & Schalk, 1998; Conway & Briner, 2005, 2009; Guest, 2010; Rousseau, 1995). Several methods are utilised in assessing the construct: scenarios (Edwards et al., 2003), critical incident techniques (Herriot, Manning, & Kidd, 1997), interviews (Dick, 2006), daily diaries (Conway & Briner, 2002), case studies (Greene, Acker, & Black, 2001), and questionnaires (Rousseau, 1990). Conway and Briner (2005) estimated that the standard method in the academic literature had been questionnaire surveys, of which 70% were cross-sectional studies, 20% were longitudinal studies, and 10% were qualitative studies. Therefore, the primary aims of this review are to systematically identify all published psychological contract measures and to evaluate how this concept is operationalised across the many available tools relating to expectations, promises, obligations, or beliefs.

The concept of psychological contract emerged in the literature of organisational behaviour in the 1960s with Argyris and Levinson; it gained popularity in the 1980s and 1990s through the work of Denise Rousseau. Before Rousseau's contribution, the psychological contract was defined as unwritten expectations between employees and managers (Argyris, 1960; Levinson, Price, Munden, & Solley, 1962, Schein, 1980). In 1989, Rousseau redefined the notion of psychological contract as "an individual's belief(s) regarding the terms and conditions of a reciprocal exchange agreement between that focal person and another party" (p. 123). While earlier work had conceptualised psychological contract as a *matching* of employee and employer's expectations (Conway & Briner, 2005; Coyle-Shapiro & Parzefall, 2008), Rousseau (1989) argued that it should be considered as a

set of obligations resulting from perceived promises. Her work focused on promises and obligations rather than expectations, because all promises involve expectations, but it is not necessary that expectations involve a promissory element (Rousseau & McLean Parks, 1993). Further, Robinson (1996) suggested that the promissory expectations in the psychological contract emanate from perceived implicit and explicit promises made by the employer (p. 575). Therefore, the central aim of the Argyris, Levinson and Schein definition was that expectations arising from reciprocal exchange constitute the psychological contract (Conway & Briner, 2005), while Rousseau's focus was on an individual's perceptions of the exchange between the two parties. Despite the ambiguities in the definition of psychological contract, there are two points on which most scholars agree (e.g., McLean Parks et al., 1998; Millward et al., 1998; Shore & Tetrick, 1994). The first is that the psychological contract is a subjective perception, in terms of how employees interpret, understand and enact their employment contracts on a daily basis at work (Millward & Brewerton, 1999; Sels et al., 2004). The second point is that the psychological contract is reciprocal in terms of an individual's belief regarding the mutual obligations of both parties (Rousseau, 1990, 1995).

Psychological contract could be studied from both the employee's and the employer's perspectives (Conway & Briner, 2005; Rousseau, 1989). Researchers have suggested that there are two approaches – a unilateral and a bilateral approach – to measuring psychological contract (Rousseau, 1990; Rousseau & Tijoriwala, 1998). If taking a unilateral approach to its measurement, the measure will focus on either the employee's or the employer's perception of exchanged mutual obligations. In contrast, if adopting a bilateral approach to measurement, both the employer's and the employee's perceptions of mutual obligations are examined (Freese & Schalk, 2008; Herriot & Pemberton, 1995).

Rousseau (1990, 1995) categorised the obligations constituting elements of psychological contract content into transactional and relational obligations. Transactional

refers to obligations associated with short-term contracts, such as pay and performance (e.g., extrinsic, closed-ended timeframe, static, observable and narrow). In contrast, relational obligations reflect more long-term contracts, such as job security (e.g., open-ended, intrinsic, dynamic and subjective) (Conway & Briner, 2009; MacNeil, 1985; Millward & Brewerton, 2000; Rousseau & McLean Parks, 1993). In addition, there has been work on different types of contracts, with differentiation between balanced contracts (which focus on external employability and internal advancement), transactional contracts (which are short term and focus on economic exchange), transitional contracts (which are a cognitive state reflecting the consequences of organisational change and transitions) and relational contracts (which are long-term contracts focusing on socio-emotional and economic exchanges) (Rousseau, 2000).

There is evidence that transactional and relational obligations are distinct elements on the same continuum (Millward & Hopkins, 1998; Rousseau, 1990). However, this assumption is not always supported empirically; for example, Millward and Brewerton (2000) argued that transactional and relational contracts are not mutually exclusive (MacNeil, 1985; McLean Parks, Kidder, & Gallagher, 1998; Philip & Lopez, 2013). This implies that there might be various possible combinations of transactional and relational psychological contract (Isaksson, De Cuyper, Oettel, & De Witte, 2010). For example, a person can have a relational deal while simultaneously having a short timeframe (McLean Parks et al., 1998). Therefore, McLean Parks and her colleagues suggested that the focus of psychological contract research should move towards examining the features of psychological contracts, namely stability, scope, focus, timeframe, particularism, multiple agency and volition, rather than the content of psychological contracts.

The *fulfilment* of psychological contracts has benefits for the employer and employees. Organisations that ensure fulfilment of the psychological contract are able to sustain effective employment relationships (Guest, 2004). Psychological contracts have been shown to impact

on employee and employer behaviour and well-being (Coyle-Shapiro & Kessler, 2000) and the employer's fulfilment of obligations affects the employee's intentions whether to resign or stay with an organisation (De Cuyper & De Witte, 2006; Flood, Turner, Ramamaoorthy, & Pearson, 2001). When employers do not meet the perceived obligations of employees, a breach of psychological contract occurs (Morrison & Robinson, 1997). This gives rise to negative emotions, termed violation (Zhao et al., 2007), and other undesirable outcomes, such as substandard work performance (Turnley & Feldman, 1999), reduced organisational trust (Robinson, 1996), increased intention to leave the organisation (Raja, Johns, & Ntalians, 2004), reduced commitment and loyalty (Coyle-Shapiro & Kessler, 2000), and reduced psychological well-being (Conway & Briner, 2002). Fulfilment and violation can be perceived as bipolar constructs; however, as Rousseau and Tijoriwala (1998) have stated, it is possible that an employee's psychological contract can be largely fulfilled at the same time as the existence of a violation; that is, fulfilment and violation can co-occur. Despite such arguments, some existing measures of psychological contract place fulfilment and violation at opposite ends of a continuum (e.g., Robinson et al., 1994).

Researchers often use the terms 'breach' and 'violation' interchangeably; however, Morrison and Robinson (1997) have argued that there is a difference between these two terms: a *breach* of contract refers to "the cognitive awareness of one or more obligations having not been fulfilled" and a *violation* refers to "negative emotions resulting from the breach such as emotional distress and anger". This was supported by the meta-analysis of Zhao et al. (2010) who concluded that breach and violation are different but related; that is, perception of broken promises could result in feelings of negative emotions. Furthermore, there are various approaches for measuring psychological contract breach. The first approach is measuring breaches as a composite of measures. The second approach uses weighting that is similar to the composite measure whereby breaches are measured through promises or

obligations, and the participants also indicate the importance of each of the content items. To obtain a weighted breach score, each raw breach score is multiplied by the perceived importance score and then averaged. Lastly, global measures directly assess subjects' overall perceptions of fulfilled or failed-to-fulfil obligations or promises (Conway & Briner, 2005; Robinson & Morrison, 2000; Zhao et al., 2007).

Rousseau and Tijoriwala's (1998) literature review described a framework for better understanding psychological contract measurements based on their 'focus'; that is, on specific content areas. They identified three *foci* of psychological contract measures. *Content-oriented measures* assess particular contents of the contract, such as job security and training opportunities. They focus on the concrete terms of the perceived exchange relationships (e.g., Rousseau, 1990). *Feature-oriented measures* compare the psychological contract to some attribute or characteristic (such as the extent to which the contract is stable or unstable over time (e.g., Sels et al., 2004)). *Evaluation-oriented measures* assess the degree of contract fulfilment, change, and/or violation (e.g., Robinson & Morrison, 2000; Rousseau, 2000).

McLean Parks and her colleagues (1998) argue that the feature-oriented approach for measuring psychological contract is more relevant across populations than is the content approach. While the content-oriented approach provides insight into the types of obligations (Rousseau et al., 1998), the disadvantage is the difficulty of finding stable and generalisable measures across populations over time (Barksdale & Shore, 1997). For example, in Rousseau (1990) study training and working extra hours belonged to transactional psychological contract, whereas in Robinson and Morrison's (1994) study they belonged to relational psychological contract. Therefore, this problem could be addressed through a feature-oriented approach by comparing psychological contracts across settings rather than through specific terms or obligations (Rousseau & Tijoriwala, 1998). For example, 'timeframe' would be measured by asking participants to indicate 'the extent to which they expect a long-term

relationship with their employer'. On the other hand, a content approach would assess this obligation through opportunities for career development, which in one setting will have transactional (i.e., short-term) meaning and in other setting relational meaning (Sels et al., 2004).

There are already some critical reviews (Conway & Briner, 2005, 2009; Cullinane & Dundon, 2006; Meckler, Drake, & Levinson, 2003; Millward & Brewerton, 2000) that have contributed new insights to psychological contract theory by highlighting the theoretical weaknesses, ambiguous definitions, inappropriate methodologies, inadequate explanatory power, and lack of practical application (Conway & Briner, 2009; Freese & Schalk, 2008; Rousseau & Tijoriwala, 1998; Tetrick, 2004). Moreover, there are literature reviews of psychological contract measures that have summarised the state of knowledge at the time they were published (Conway & Briner, 2005, 2009; Freese & Schalk, 2008; Rousseau & Tijoriwala, 1998; Tetrick, 2004). However, there are a few limitations with these reviews. Freese and Schalk's (2008) review considered the development and psychometric properties of content and evaluation-oriented measures, but largely ignored the feature-oriented approach (see McLean et al., 1998; Millward & Brewerton, 2000; Sels et al., 2004). Furthermore, Rousseau and Tijoriwala's (1998) review described a framework for better understanding psychological contract measurements based on their concept of 'focus' and highlighted that many of the measures in their review failed to measure employees' perceptions of mutual obligations. The weakness of their review was that they did not systematically identify and categorise all the published measures that could be used by researchers for conducting future research. In addition, Tetrick's (2004) review argued that the measures should explicitly define whom they are referring to in terms of the organisation or the employer because an organisation consists of more than one employer; thus, the word 'organisation' is unclear. Therefore, this review will investigate whether the questionnaire

developers or researchers have taken this point seriously or not. Another important point to consider is Conway and Briner's (2009) review, which argued that the survey approach to this construct has limitations, such as a weak method for capturing behaviour and social activity events, problems of causality with cross-sectional design, and unsuitability for measuring the implicit beliefs. However, the survey approach is a popular method for measuring psychological contracts (Conway & Briner, 2005); despite its limitations, it has amassed more literature quantitatively, although no single agreed-upon scale for measuring this construct has been identified.

Following earlier reviews, it is worth revisiting the literature to determine what new measures have been published since then, what approach they take to measurement, what foci they have, and whether they have responded to the academic critiques. Furthermore, this review will classify the obligations measured by each scale, helping future researchers identify which scales' content is relevant to their research question. Our aim here, therefore, is to identify all known, published measures of psychological contract, providing a brief outline of each measure and a record of the individual studies that have used each measure, and classifying measures as to their focus (the framework of Rousseau & Tijoriwala, 1998) and how they might support future research in this area.

The current review contributes to the literature in a number of ways: First, it reviews all the previously published psychological contract measures to overcome the challenges faced by the psychological contract researcher in the selection of measures that best meets the needs of their research, as well as to capture what is meant by psychological contract. Second, it categorises the published measures into content, feature and evaluation. This will, therefore, provide an outline for researchers to select an appropriate measure from a range of measures, whose descriptive information is readily available. Finally, this review aims to identify how the psychological contract is defined in terms of expectations, obligations, or promises

The first stage of the review was to search for papers that used a measure of psychological contract, thereby enabling a list of psychological contract measures to be identified. The second stage involved collating the information from these studies about each measure.

Search strategy

An electronic search strategy was co-developed with a subject librarian and the authors. The search terms utilised were:

"psychological contract*" OR

psychological contracts OR

"psychological contract*" or ((staff* or worker* or employee or employer) adj2 (relationship* or expect* or promise* or oblig* or contract*)).

A forward search was undertaken in June 2016 using the following bibliographic databases: Web of Science, PsycInfo, Google Scholar, Applied Social Sciences Index and Abstracts (ASSIA), Ovid Medline, and CINAHL.

Identification of the original scales

Within social sciences research, SPICE is an appropriate search tool for answering the research question. Therefore, the evaluation of papers yielded from the database searches for inclusion was informed by the SPICE tool (adapted from Booth & Brice, 2004). The presence of the term 'psychological contract' among all targeted populations and settings (setting); the development or testing of a psychological contract measure, or its use as an outcome variable in a quantitative study (perspective); quantitative studies that have used psychological contract measurement as a key factor/variable (intervention); classification of identified measures into content-oriented, feature-oriented and evaluation-oriented measures and classification of obligations within each measure (evaluation). In addition, the reference lists

of all the identified papers were searched to identify any further papers not found by the database search (representing a backward search).

Inclusion criteria

The inclusion criteria were:

- All journal articles where psychological contract was assessed as a key variable (data-based papers only, from 1967 to June 2016, Week 4)

- All targeted populations such as employees and employers from industrial, commercial, health, educational, retail sectors

- Quantitative studies written in the English language only

- Measuring psychological contract from the employees' perspective.

Exclusion criteria

The exclusion criteria were:

- Papers published in a language other than English with no translation readily available

- Qualitative studies, case reports, editorials, reviews, dissertation abstracts

- Focus on the employer's perspective only.

Data extraction

Information about each measure was extracted from the articles and recorded on a standardised data extraction proforma. This sheet included author(s) and scale name, country, target population, mode of completion (self-report), the number of studies that used the specific scale, purpose of the measure, subscale(s) (number of items), scaling response (such as Likert or point scale), tests of internal consistency and comments on how the items of the scale were developed (see Table 1 for a summary of each measure). The authors of the

original scales were also contacted regarding any missing information about the psychometric properties (e.g. internal consistency) within the papers (up to two emails were sent). The selection of the papers by inclusion and exclusion criteria was discussed and clarified by the two authors (FD & DB), and the authors extracted the information for each measure independently (see Table 1).

Results

The search strategy yielded 23,868 articles (see Figure 1). After eliminating duplicate studies (n = 4315), articles were excluded on the basis of title and abstract where the psychological contract was not used as a variable (n = 15,206 articles) and then the exclusion criteria (n = 3948). In total, 399 studies were included in the review, from which 34 psychological contract measurement scales were identified. Of these 34, one scale focused on the employer's perspective only (Guest & Conway, 2002); two scales were in a language other than English (Freese & Schalk, 1997; Tilburg Psychological Contract Questionnaire: Freese, Schalk, & Croon, 2008); one scale was a Chinese version of Rousseau's psychological contract inventory (PCI) (Hui, Lee, & Rousseau, 2004) and two scales were unobtainable (Tallman & Bruning, 2005; Ten Brink, 2004). Therefore, 28 scales met the inclusion criteria for this study and were included in the review. We identified 22 original validated scales. Two were extensions of previous measures (Robinson & Rousseau, 1994; Scheel & Mohr, 2013) and four were refinements of previous scales (Kickul et al., 2002; Raja et al., 2004; Robinson et al., 1994; Robinson & Morrison, 1995). Table 1 provides an outline of the included measures. As can be seen, most tests were developed with samples from private or public sector organisations mostly in the business/commercial, retail and educational sectors.
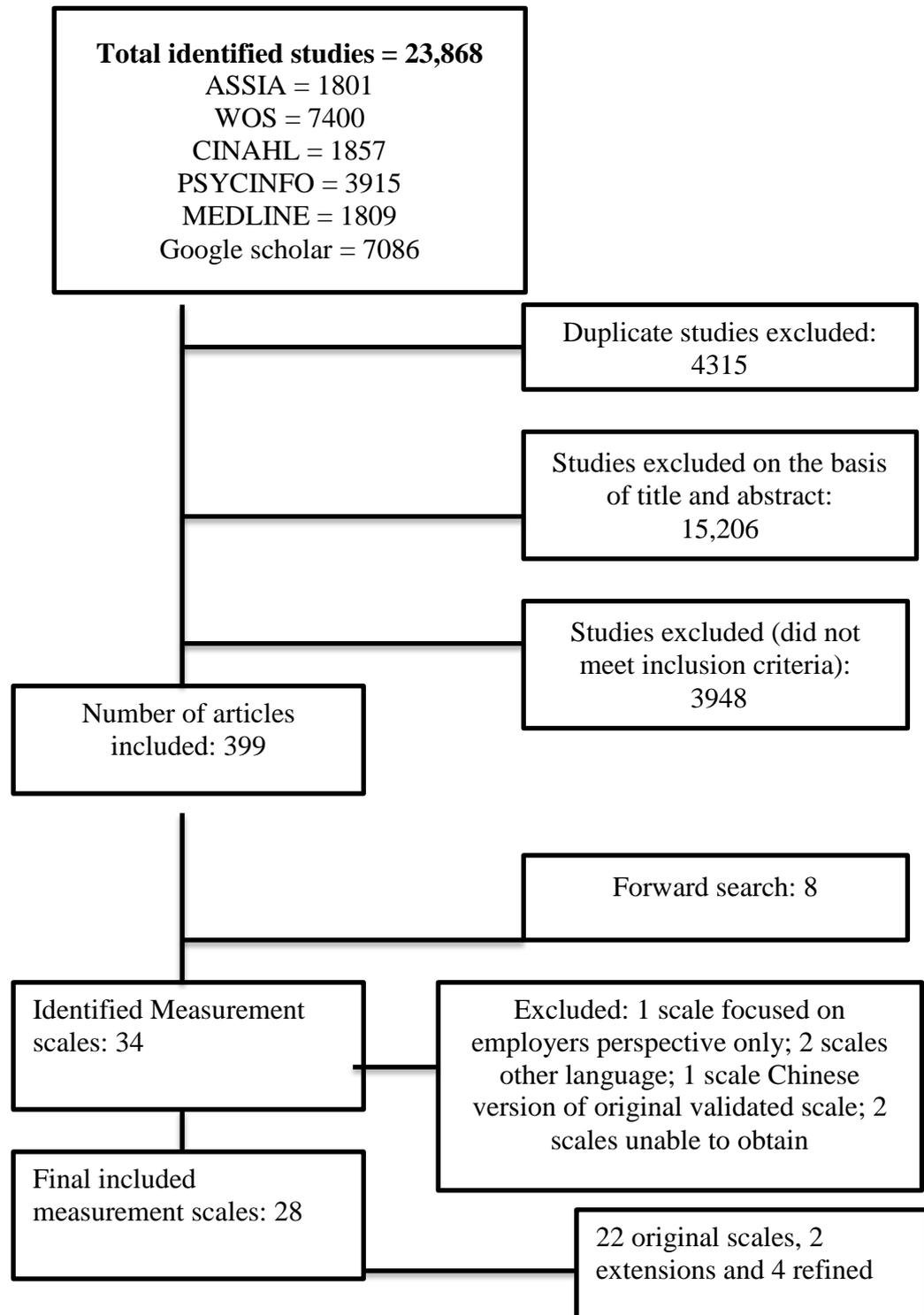
Figure 1. Flow chart of the review process

Table 1.

Description of the identified psychological contract (PC) measures

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies (α – value)	Comments
Rousseau, 1990	USA	224 MBA graduating students (job offer accepted)	41	2(15)	5 point scale 1= not at all to 5 = very highly	To assess the emergence of employer–employee obligations, i.e. employee-focused obligations and employer-focused obligations	Not mentioned	Scale items are developed inductively (i.e. through interviews). The focus of the measure is on the employee and employer obligations that are further categorised into relational and transactional obligations.
Robinson & Rousseau, 1994.	USA	Time 1 = 224 MBA graduating students (job offer accepted) Time 2 = 128	27	2(15)	5 point scale 1 = very poorly fulfilled to 5 = very well fulfilled.	To measure the employers violation of PC	α – value = 0.78	An extension of Rousseau (1990) and the focus is on measuring the psychological contract violation. There is a second dichotomous measure for assessing violation i.e. if the employee's response is yes, s/he will be asked for further explanation.
Robinson, Kraatz & Rousseau, 1994	USA	224 MBA graduating students	4	2(15)	5 point scale 1 = not at all to 5 = very highly	To measure the perceived obligations that develops during recruitment	α – value = 0.80	Scale items are derived from Rousseau (1990). The perceived employer violation is measured with the similar list of items where high scores indicate violation and low scores indicate fulfilment.
Guzzo, Noonan & Elron, 1994	USA	148 expatriates	0	7	5 point scale Strongly disagree to strongly agree	To measure the status of psychological contract	α – value =	Scale items are from Eisenberger et al., (1986). The scale measures psychological contract in terms of perceived organisational support having three domains: current job assignment, off-the- job life and plans for repatriation.

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies	Comments
Robinson & Morrison, 1995	USA	126 MBA alumni of a business school.	17	2(12)	5 point scale very implicit to very explicit	To assess the explicitness of the promises and PCV	α – value = 0.75 - 0.78	Scale items are derived from Rousseau (1990) measure. The focus of the scale is to measure the explicitness of the promises made and PCV with different scoring criteria. Responses are reversed score to measure PCV.
Robinson, 1996	USA	125 MBA alumni of a business school.	29	7 items	5 point scale 1 = not at all obligated to 5 = very obligated	To assess the psychological contract breach	α – value = 0.78	Scale items are derived from Rousseau (1990) and on the basis of open-end questions, 7 items from the list of Rousseau statements are selected. The focus of the scale is to measure psychological contract breach. The total score is obtained by subtracting obligations and fulfilment scores.
Freese & Schalk, 1996	Netherlands	338 employees from recreational, educational and health care	0	46 items		To assess the perceived employee and employer obligations	α – value = 0.61 -0.82	Scale items are derived from list of expectations from Kotter (1973) and Loquist & Danish (1969). The items are divided into 5 subscales: Job content (5 items), opportunities for personal development (4 items), social aspects (4 items), HRM policy (16 items) and reward (9 items).
Work-related Expectations Survey (WES; Porter et al., 1998)	USA and Ireland	339 employees from aerospace, electronics manufacturer and accounting firm.	0	2(12)	5 point scale 1 = minimally or not at all to 5 = to a very large extent	To assess the dimensions of PC from employee perspective	Not mentioned	Scale items are derived from the literature review. The focus is to measure the psychological contract gap evaluating the differences in the perception of organisational inducements and employees' perspective.

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies (α – value)	Comments
Thomas & Anderson, 1998	UK	880 British army officers	0	7 items	7 point scale Very poor to very good	To assess the changes in psychological contract	Not mentioned	Scale items are extracted from the monthly attitude survey and focus on the changes in psychological contract in relation to career, job security, job satisfaction, social aspects, pay, effects on family and accommodation.
Millward and Hopkins, 1998	UK	476 highly skilled employees to low skilled employees	18	2(31)	5 point scale Strongly disagree to strongly agree	To measure contractual obligation	α – value = 0.86 - 0.88	Scale items are developed inductively (i.e. through interviews). The focus of the measure is on relational and transactional contract.
Turnley & Feldman, 1999	USA	800 managerial level employees	11	15 items	10 point scale 1 = not important to 10 = extremely important	To measure the degree of psychological contract violation	α – value = 0.83	Scale items are derived based on Rousseau (1990), Robinson and Morrison (1995). The focus of the scale is to assess the degree of psychological contract violation. Identical list of items is scored with different scaling response to evaluate what employer has promised and what the employees have received.
Robinson & Morrison, 2000.	USA	147 employees (completed MBA)	77	2(9)	5 point scale 1 = strongly disagree to 5 = strongly agree	To assess perceived contract breach and feelings of violation	α – value = 0.92	Scale items are based on Rousseau (1989) and Robinson (1996). This scale is used to measure felt violation and perceived psychological contract breach.
Psychological Contract Inventory (PCI; Rousseau, 2000)	USA	630 employees from Singaporean and US firms.	59	4(72)	5 point scale 1= not at all to 5 = to a great extent	To measure the content and evaluation of PC	α – value = = 0.32 – 0.85	Focus of the scale is to measure balance, relational, transactional and transitional types of psychological contract. The items can also be categorised into employee obligations, employer obligations, psychological contract transitions and PC fulfilment. These categories are also further classified such as security, stability and soon.

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies (α – value)	Comments
Coyle-Shapiro & Kessler, 2000	UK	703 managers and 6953 employees South East of Britain.	3	2(18)	5 point scale 1 = not at all to 5 = to a very large extent	To measure the psychological contract fulfilment	α – value = 0.53 – 0.91	Scale items are extracted from Rousseau (1990) and the focus is to assess psychological contract fulfilment. PCF is measured in two ways: by calculating the gap between what is obligated and what is provided; OR the explicit contract fulfilment measures the extent to which an obligation is fulfilled. The scoring response differs for both the scales.
Flood, Turnor, Ramamoorthy & Pearson, 2001	Ireland	402 employees	0	3(50)	5 point scale 0 = I have no expectations to 4 = to a very great extent	To measure the psychological contract variables	α – value = 0.66 – 0.92	No information on the generation and selection of items. There are three variables that are measured: met expectations, obligation to contribute and obligation to conform.
Psychological contract survey (DeMuse, Kenneth, Thomas & Scott, 2001)	USA	204 individuals across three generations	0	17 items	5 point scale 1 = factor is/was not present at all to 5 = factor is/was present in very large amount.	To assess the perception of relational psychological contract	α – value = 0.93	Scale items are derived from previous literature and examine relationships between the employee and the employer. The original scale had 24 items that was revised and shortened into 17 items.
Bunderson, 2001	USA	454 clinicians	1	4(12)	5 point scale 1 = not at all to 5 = to a great extent	To assess professional and administrative obligations in terms of what is expected and what is observed	α – value = 0.71 – 0.82	Scale items are developed from the interviews conducted with the professionals. The same list of items are rated two times by the respondent indicating what was expected and what is observed within terms of obligations.

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies (α – value)	Comments
Kickul & Lester, 2001 (Psychological contract Breach)	USA	183 full-time employed (part-time MBA students)	9	2(26)	5 point scale 1 = not at all fulfilled to 5 = very fulfilled	To measure how well the employer have fulfilled its extrinsic and intrinsic PC obligations	α – value = 0.70 and above	Scale items are adopted from Kickul (2001) to assess extrinsic and intrinsic obligations. The items are further categorised into four factors i.e. autonomy and control, organisational rewards, organisational benefits, growth and development. These four factors are divided into two subscales measuring extrinsic outcomes, intrinsic promises.
Kickul, Lester & Finkl, 2002 Psychological contract Breach	USA	246 full-time employed part-time MBA students	0	2(11)	Same as above for Kickul and Lester, 2001	To measure how well the employer have fulfilled its extrinsic and intrinsic PC obligations	α – value = 0.89 – 0.90	Scale items are adopted from Kickul and Lester (2001) to assess extrinsic and intrinsic obligations. The 26 items of the scale are revised and only 11 items are included in the scale to measure extrinsic and intrinsic outcomes.
De Vos, Buyens & Schalk, 2003	Netherlands	975 newcomers from private firms	10	4(76)	5 point scale 1 = not promised at all to 5 – promised to a very great extent.	To assesses change in the psychological contract	α – value = 0.63 – 0.86	Scale items are derived from previous research. The focus of the measure is to assess: perceived employer promises, perceived employee promises, perceived employer inducements and perceived employee contributions.
Raja, John & Natalians, 2004	USA	197 employees from five private and public sector organisations in Pakistan	5	2(18)	5 point scale strongly disagree to strongly agree	To measure contractual obligation	α – value = 0.72 – 0.79	This measure is refinement of Millward and Hopkins (1998) 31-item measure to 18-items measure. The focus is to measure transactional and relational contract.
Sels, Janssens & Van den Brande, 2004	USA	1,106 Belgian employees	4	10 (32)	5 point scale 1= not at all to 5 = to a great extent	To measure different dimensions of psychological contract	α – value = 0.70 – 0.85	Scale items are developed from previous literature. The focus of the measure is to assess perceived employer obligations and perceived employee obligations in terms of time frame, tangibility, scope, stability, collective contract level and symmetry.

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies (α – value)	Comments
Psychological Contract Across Employment Situational Scale (PSYCONES; Isaksson, Guest, De Witte et al., 2005)	UK, Sweden, German, Israel, Netherlands, Spain and Belgium	5,000 employees and 202 managers from educational, retail and sales, and food sector.	10	3(46)	0 = no promise had been given to 5 = promise fully kept

For the state: 1 = not at all to 5 = totally

For violation 1 = strongly disagree to 5 = strongly agree. | To measure the employee–employer obligations, state of the PC and emotions concerning PC | α – value = 0.77 – 0.85 | Scale items are developed on the basis of an inductive approach. The focus of the measure is to assess perceived employer and employee obligations, psychological contract violation and the state of the psychological contract (i.e. fairness and trust). There are different scoring scales for each subscale. |
| Coyle-Shapiro, and Conway, 2005 | UK | 347 public sector employees | 12 | 2(36) | 5 point scale

1 = not at all to 5 = to a very large extent | To assess employee - employer obligations and contract fulfilment | α – value = 0.83 – 0.94 | Scale items are generated from previous research (Robinson, 1996; Rousseau 1990; Turnley & Feldman, 1999). The focus of the measure is to assess the perceived employer obligations perceived employer inducements and psychological contract fulfilment. |
| Psychological Contract Survey (Roehling, 2008) | USA | 1,054 employees | 2 | 2 (77) | 5 point scale

1 = not at all obligated to 5 = very highly obligated | To assess psychological contract fulfilment | α – value = 0.66 – 0.95 | Scale items are derived from pervious literature. The focus of the measure is to assess the beliefs about mutual employee–employer obligations and psychological contract fulfilment. The three belief elements for measuring the psychological contract fulfilment are: 'obligation form', 'expectation form' and 'promise form'. The scale items are also divided into employee and employer obligations that are further divided into eight categories. |

Measure (Author(s), Year)	Country	Target population	No of Studies used this scale	Sub-scale(s) (Items)	Scaling response	Purpose of the measure	Internal consistencies (α – value)	Comments
Raeder, Wittekind, Imauen & Grote, 2009	Switzerland	507 portfolio workers	0	4(42)	5 point scale 1 = never to 5 = always	To assess psychological contract breach in Swiss employment context. .	α – value = 0.55 -0.91	This scale is the revision of Raeder and Grote (2004). Potentially, the translated version of this study could not be identified. The focus of the measure is to assess psychological contract breach indirectly through employee expectations, employer inducements, employer expectations perceived by employees, employee contributions.
Psychological Contract of Safety Scale (Walker, 2010)	Australia	424 health care workers	2	2(28)	10 point scale 0 = obligations not at all met to 10 = obligations completely met	To measure the employee fulfilment of obligations and employer breach of obligations in regard to safety	α – value = 0.98	Scale items are derived from Rousseau (1990). The focus is to measure the extent to which their employer met their safety obligations (safety obligations mean anything that has been promised in regard to safety by the employers).
Scheel & Mohr, 2013	Germany	171 German parish volunteers; 28 pastors	0	2(12)	5 point scale 1= does not apply at all to 5 = applies completely.	To assess the value- oriented dimension of the PC	α – value = 0.70 – 0.89	Scale items are developed by an inductive approach. It is an extension of PCI (Rousseau, 2000) in terms of obligations. The focus is to measure value –oriented psychological contract content ('valuable cause or mission that have the potential to explain beneficial and negative outcomes in employments relationships'). It consists of two factors: value-oriented organisation obligations and the value-oriented employee obligations.

*PC – psychological contract

*PCF- psychological contract fulfilment

*PCB - psychological contract breach

*PCV - psychological contract violation

Relative popularity of the measures

Table 1 displays the number of studies using each scale. In terms of popularity, Robinson and Morrison's (2000) measure was the most commonly used and featured in 77 studies to assess perceived contract breach and violation. Robinson and Rousseau (1994) was the next most popular psychological contract measure to assess violation because it was used in 27 studies. For assessing the psychological contract content and fulfilment, the popular measure was the PCI (Rousseau, 2000) used in 59 studies to (1) measure employee–employer obligations, (2) compare obligations against transactional, relational, balanced or transitional contracts, and (3) evaluate obligations in terms of fulfilment. After PCI (2000), Rousseau (1990) was used in 41 studies to assess employee and employer obligations. The other measures that were also used widely were Coyle-Shapiro and Conway (2005), Coyle-Shapiro and Kessler (2000), De Vos et al. (2003), Kickul and Lester (2001), Millward and Hopkins (1998), psychological contracts across employment situation (PSYCONES, 2005), Raja et al. (2004), Robinson et al. (1994), Robinson and Morrison (1995), Roehling (2008), Sels et al. (2004) and Turnley and Feldman (1999).

Classification of obligations within scales

The classification of obligations varied across the reviewed scales. Six measures (Robinson, 1996; Robinson, Kraatz, & Rousseau 1994; Robinson & Morrison, 1995; Robinson & Rousseau, 1994; Rousseau, 1990; Walker, 2010) included employee obligations and employer obligations that were categorised as *transactional obligations* (obligations that focus on tangible exchanges such as short-term contracts focusing on economic exchanges) and *relational obligations* (obligations that focus on both tangible and intangible exchanges such as long-term contracts focusing on mutual trust and loyalty) (Rousseau, 1990). One scale categorised obligations into *administrative obligations* (based on transactional

obligations) and *professional obligations* (based on relational obligations) (Bunderson, 2001). Another scale solely focused on the relational obligations of the psychological contract (De Muse et al., 2001). Furthermore, within three scales, obligations were also divided into *explicit obligations* (written or oral) and *implicit obligations* (inferred through other statements) (Coyle-Shapiro & Kessler, 2000; Kickul & Lester, 2001; Kickul, Lester, & Finkl, 2002).

Items within scales

The items within seven of the published scales (Coyle-Shapiro & Conway, 2005; Coyle-Shapiro & Kessler, 2000; Robinson, 1996; Robinson, Kraatz, & Rousseau, 1994; Robinson & Morrison, 1995; Robinson & Rousseau, 1994; Walker, 2010) were adapted from the list of items comprising the original Rousseau (1990) measure. Two measures (De Vos et al., 2003; Coyle-Shapiro & Conway, 2002) combined items from three to five different scales developed by other researchers (see Table 1 for details). Three scales were developed for specific populations, with items reflecting the nature of these occupations: individuals serving in the armed forces (Thomas & Anderson, 1998); expatriates (Guzzo et al., 1994); and pastors (Scheel & Mohr, 2013).

Target population

The concept of psychological contract has been studied in a variety of samples, namely volunteer, permanent, and temporary employees. Moreover, it was identified that the psychological contract measures have been developed with employees from business, education, healthcare, industry, aerospace, electronics manufacturers, the public sector, and the recreational sector, as well as with expatriates, army officers, newcomers, portfolio workers, and pastors (see Table 1).

Table 2.

Psychological contract definition within the measures

Author, year	Psychological contract definition within the measures	Mutual obligations
Rousseau, 1990	The respondents beliefs are measured as obligations	Employee and employer obligations
Guzzo, Noonan & Elron, 1994	The respondents believes are measured as what organisation should provide	Employer obligations
Robinson, 1996	Same as Rousseau (1990)	Employee and employer obligations
Freese & Schalk, 1996	Psychological contract is measured in terms of expectations	Employee and employer obligations
Porter et al., 1998	The respondents believes are measured as what inducements are offered by the organisation	Employer obligations
Thomas & Anderson, 1998	The respondents beliefs are measured as expectations	Employer obligations
Millward & Hopkins, 1998	The respondents' beliefs are measured as expectations, commitment, preference, feel, chance	Employee and employer obligations
Turnley & Feldman, 1999	The respondents indicate the extent to which each aspect they have actually received to the extent/amount the organisation had committed to provide	Employee and employer obligations
Rousseau, 2000	Same as Rousseau (1990)	Employee and employer obligations
Coyle-Shapiro & Kessler, 2000	Same as Rousseau (1990)	Employee and employer obligations
Flood, Turnor, Ramamoorthy & Pearson, 2001	The respondents are asked about range of beliefs using the terms such as feel, expectations	Employer obligations
De Muse et al., 2001 (Psychological Contract Survey)	Same as Rousseau (1990)	Employer obligations
Bunderson, 2001	The respondents indicate the extent to which organisational fulfils professional and administrative obligations	Employer obligations
Kickul & Lester, 2001	The respondents believes are measured as what the organisation has promised or obligated to provide explicitly or implicitly	Employer obligations
Kickul, Lester & Finkl, 2002	Same as Kickul & Lester (2001)	Employer obligations
De Vos et al., 2003	The respondents' beliefs are measured through the promises that are made explicitly or implicitly	Employee and employer obligations
Raja, Johns & Ntalians, 2004	Same as Rousseau (1990)	Employee and employer obligations
Sels et al., 2004	Same as Rousseau (1989, 1990)	Employee and employer obligations
Isaksson et al., 2005 (PSYCONES)	Same as Rousseau (1990)	Employee and employer obligations
Coyle-Shapiro & Conway, 2005	The respondents beliefs are measured as obligations	Employee and employer obligations
Roheling, 2008	The respondents' beliefs are measured as obligations, expectations and promises	Employee and employer obligations
Raeder et al., 2009	The respondents beliefs are measured as expectations and inducements	Employee and employer obligations
Walker, 2010	Same as Rousseau (1990)	Employee and employer obligations
Scheel & Mohr, 2013	Same as Rousseau (1990)	Employee and employer obligations

Psychological contract definition within the scales

The psychological contract measures were compared to identify how each measure defined the psychological contract beliefs (see Table 2). Most of the tests measured the beliefs in terms of obligations, like Rousseau (1990). PCI (Rousseau, 2000) items featured the beliefs as commitments or obligations. Few measures assessed psychological contract as expectations (e.g., Freese & Schalk, 1996; Thomas & Anderson, 1998). Four scales measured beliefs using items consisting of a range of beliefs, namely expectations, likelihood and feel (Flood et al., 2001; Millward & Hopkins, 1998; Raeder et al., 2009; Roehling, 2008).

Content within scales

To compare the underlying themes and content of the various measures used, each facet of psychological contract has been categorised into development, financial rewards, performance-related pay, timeframe (duration of the contract), social benefits loyalty, job security, Human Resources Management policy and negative emotions. Most themes focused on obligations related to growth and development, financial rewards, performance-related pay, timeframe, loyalty, social aspects (e.g., teamwork), HRM policy (e.g., rules clarification) and job security (see Table 3). Robinson and Morrison (2000) and PSYCONES were the only measures that focused on negative emotions (e.g., anger, frustration, betrayal). Thomas and Anderson's (1998) measure was developed with military officers; thus, it concentrated on items related to family and accommodation. There were also a few items related to autonomy and control (Kickul & Lester, 2001; Kickul, Lester, & Finkl, 2002); plans for repatriation (Guzzo, Noonan, & Elron, 1994); respect (De Muse et al., 2001); retention (Raeder et al., 2009); and work–life balance (De Vos et al., 2003).

Table 3.

Content of psychological contract measures

Author, year	Growth	Financial reward	Performance-related pay	Short-term	Social benefit	Loyalty	Job security	HRM policy	Negative emotions
Rousseau, 1990	✓	✓	✓	✓		✓	✓		
Robinson & Rousseau, 1994	✓	✓	✓	✓		✓	✓		
Robinson, Kraatz & Rousseau, 1994	✓	✓	✓	✓		✓	✓		
Guzzo, Noonan & Elron, 1994					✓			✓	
Robinson & Morrison, 1995	✓	✓	✓	✓		✓	✓		
Robinson, 1996	✓	✓	✓						
Freesee & Schalk, 1996	✓	✓	✓		✓			✓	
Porter et al., 1998	✓		✓					✓	
Thomas & Anderson, 1998	✓	✓			✓		✓		
Millward & Hopkins, 1998	✓	✓	✓	✓		✓	✓		
Turnley & Feldman, 1999	✓	✓	✓				✓		
Robinson & Morrison, 2000									✓
Rousseau, 2000	✓	✓	✓	✓	✓	✓	✓	✓	
Coyle-Shapiro & Kessler, 2000	✓	✓	✓	✓	✓	✓	✓	✓	
Flood, Turnor, Ramamoorthy & Pearson, 2001	✓	✓							
De Muse et al., 2001	✓					✓			
Bunderson, 2001	✓	✓	✓	✓		✓	✓		
Kickul & Lester, 2001	✓	✓	✓						

Author, year	Growth and development	Financial reward	Performance -related pay	Short-term	Social aspects	Loyalty	Job security	HRM policy	Negative emotions
Kickul, Lester & Finkl, 2002	✓	✓	✓						
De Vos et al., 2003	✓		✓		✓	✓	✓	✓	
Raja, Johns & Ntalians, 2004	✓	✓	✓	✓		✓	✓		
Sels et al., 2004	✓	✓	✓	✓	✓	✓	✓		
Isaksson et al., 2005 (PSYCONES)	✓	✓	✓		✓	✓	✓	✓	✓
Coyle-Shapiro & Conway, 2005	✓	✓					✓		
Roheling, 2008	✓		✓						
Raeder et al., 2009	✓				✓	✓	✓		
Walker, 2010	✓		✓						
Scheel & Mohr, 2013				✓		✓	✓		

Table 4.

Classification of psychological contract measures

Content-oriented	Feature-oriented	Evaluation-oriented
Rousseau, 1990	Millward & Hopkins, 1998	Rousseau, 1990
Robinson & Rousseau, 1994	Raja, Johns & Ntalians, 2004	Robinson & Rousseau, 1994
Robinson, Kraatz & Rousseau, 1994	Sels et al., 2004	Robinson, Kraatz & Rousseau, 1994
Guzzo, Noonan & Elron, 1994	Rousseau (2000)	Guzzo, Noonan & Elron, 1994
Robinson & Morrison, 1995		Robinson & Morrison, 1995
Robinson, 1996		Robinson, 1996
Freesee & Schalk, 1996		Freesee & Schalk, 1996
Porter et al., 1998 (Work-related Expectations Survey)		Porter et al., 1998 (Work-related Expectations Survey)
Thomas & Anderson, 1998		Thomas & Anderson, 1998
Rousseau, 2000 (Psychological Contract Inventory)		Turnley & Feldman, 1999
Coyle-Shapiro & Kessler, 2000		Robinson & Morrison, 2000
Flood, Turnor, Ramamoorthy & Pearson, 2001		Rousseau, 2000 (Psychological Contract Inventory)
De Muse et al., 2001 (Psychological Contract Survey)		Coyle-Shapiro & Kessler, 2000
Bunderson, 2001		Flood, Turnor, Ramamoorthy & Pearson, 2001
Kickul & Lester, 2001 (Psychological Contract Breach)		De Muse et al., 2001 (Psychological Contract Survey)
Kickul, Lester & Finkl, 2002 (Psychological Contract Breach)		Bunderson, 2001
De Vos et al., 2003		Kickul & Lester, 2001 (Psychological Contract Breach)
Isaksson et al., 2005 (PSYCONES)		Kickul, Lester & Finkl, 2002 (Psychological Contract Breach)
Coyle-Shapiro & Conway, 2005		De Vos et al., 2003
Roheling, 2008 (Psychological Contract Survey)		Isaksson et al., 2005 (PSYCONES)
Raeder et al., 2009		Coyle-Shapiro & Conway, 2005
Walker, 2010 (Psychological Contract of Safety Scale)		Roheling, 2008 (Psychological Contract Survey)
Scheel & Mohr, 2013		Raeder et al., 2009
		Walker, 2010 (Safety Scale)

Categorisation of psychological contract measures

As per Rousseau and Tijoriwala (1998), each measure was classified as content-oriented, evaluation-oriented, and feature-oriented. Table 4 indicates that some measures fell exclusively into one category whereas others fell into two or more. For example, the PCI (Rousseau, 2000) has all three foci, as per the authors' definition.

1. Content-oriented measures

All but two psychological contract measures (Robinson & Morrison, 2000; Turnley & Feldman, 1999) can be classified as having a content-oriented focus in that they examined specific terms of the psychological contract, such as job security, training opportunities, personal development, high pay, support, overtime, loyalty, no competition, transfers, minimum stay, and extra-role behaviour. While definitions of psychological contract (e.g., Rousseau, 1990) include references to mutual obligations or promises, 16 psychological contract measures assessed mutual obligations (i.e., an individual's perceptions of both employee and employer obligations). Additionally, three measures (Millward & Hopkins, 1998; Raja et al., 2004; Sels et al., 2004) can be considered to indirectly assess content-oriented aspects of a contract depending upon the focus of the study in which they were used (Rousseau & Tijoriwala, 1998).

2. Feature-oriented measures

Four psychological contract measures were feature-oriented (Millward & Hopkins, 1998; Raja et al., 2004; Sels et al., 2004; Rousseau, 2000). Sels et al.'s (2004) measure comprises six dimensions to capture the nature of the psychological contract: timeframe (the perceived duration of the relationship), tangibility (the extent to which psychological contract terms are explicitly specified), scope (the degree to which the margin between work life and personal

life is permeable), stability (the extent to which the change in psychological contract is exclusive of negotiation), symmetry (the extent to which the relationship is unequal), and contract level (the extent to which the contract is synchronised at an individual or collective level). Raja et al.'s (2004) measure is a refinement of Millward and Hopkins' (1998) measure, where transactional contracts and relational contracts are positioned at opposite ends of a continuum. Similarly, Rousseau's (2000) measure identifies four different types of contracts (i.e., transactional, relational, balanced and transitional contracts) to measure the extent to which the perceived contract is characterised by these aspects.

3. Evaluation-oriented measures

All but five measures (De Muse et al., 2001; Flood et al., 2001; Millward & Hopkins, 1998; Raja et al., 2004; Sels et al., 2004) assessed the degree of psychological contract fulfilment either directly (i.e., the extent to which perceived obligations are met) or indirectly (i.e., by calculating the difference between perceived obligations and perceived employer inducements; for example: Coyle-Shapiro & Kessler, 2000; De Vos et al., 2003; Porter et al., 1998; Robinson, 1996). Furthermore, some measures assessed the degree of psychological contract change over a period (De Vos et al., 2003, De Muse et al., 2001; Robinson et al., 1994; Thomas & Anderson, 1998). Others measured the degree of psychological contract violation (PSYCONES, 2005; Robinson & Rousseau, 1994; Robinson, Kraatz, & Rousseau, 1994; Robinson & Morrison, 1995, 2000; Turnley & Feldman, 1999). Seven measures evaluated psychological contract breach (Bunderson, 2001; Kickul & Lester, 2001; Kickul, Lester, & Finkl, 2002; Raeder et al., 2009; Robinson, 1996; Robinson & Morrison, 2000; Walker, 2010).

Discussion

This review aimed to systematically search and identify all the published psychological contract measurement scales, ascertain how psychological contract measure is conceptualised in the field, and categorise the identified measures depending on their focus, i.e., content-oriented, feature-oriented or evaluation-oriented measures. Following previous critical reviews, four measures were published. These 'newly found measures' were developments of earlier measures. Raeder et al. (2009) was an English version of Raeder and Greto's (2004) scale; the former focused on the previous definitions of psychological contract, namely expectations to assess psychological contract. Similarly, Roehling (2008) was developed from previously published measures (Rousseau, 1990; Robinson et al., 1994; Robinson & Morrison, 1995) with additional open-ended questions regarding employee and employer obligations. This measure focused on both pre- and post-Rousseau definitions in assessing employee expectations, and employee beliefs about employee and employer promises. Moreover, Walker's (2010) assessment developed that of Rousseau (1990) to focus the obligations on the safety of employees. Lastly, Scheel and Mohr (2013) was an extension of Rousseau's (2000) measure in terms of developing another form of obligation, i.e. value-oriented obligation; however, this questionnaire was developed with pastors, so the content of the measure needs to be considered before generalisation. It was further identified that within 28 measures, four of those identified in the review (Bunderson, 2001; PSYCONES, 2005; Scheel & Mohr, 2013; Rousseau, 1990) were original measures, in that they were developed from the theoretical ideas of the time, rather than being adaptations.

The psychological contract is a loosely defined concept that pertains to measuring beliefs, promises, expectations or obligations. Roehling (2008) measured the psychological contract in terms of expectations, obligations and promises, and his strong suggestion was that expectations should not be the focal belief in future conceptualisations of the

psychological contract construct. However, a recently developed measure by Raeder et al. (2009) assesses psychological contract in terms of expectations, in contrast to the notion of this new psychological contract definition. Prior research (Robinson, 1996; Robinson et al., 1994; Rousseau, 1989; Turnley & Feldman, 2000) and the present review indicate that promises are much more specific about what will happen, when, and why it will happen, than are expectations, which are more general beliefs. In comparison to unmet expectations, unmet obligations are more likely to cause adverse employee reactions (Conway & Briner, 2005; Guest, Isaksson, & De Witte, 2010). There were also measures that measured psychological contract regarding implicit and explicit beliefs, and some measures (e.g., De Vos et al., 2003; Kickul & Lester, 2001) measured promises that were made implicitly and explicitly. Therefore, these kinds of measures are not recommended for data collection, because, if a measure consists of beliefs that are relatively explicit, it is at odds with the definition of psychological contract measuring implicit beliefs (Conway & Briner, 2009).

During the review of the different measures, it was noted that 8 measures did not assess a core aspect of the psychological contract, namely perceived mutual employee–employer obligations; instead, they focused solely on perceived employer obligations. This is problematic, since definitions of psychological contract (Rousseau, 1989) stress the reciprocal exchange according to which it is the individual's perceptions of both their obligations to the employer and their employers' obligations to them that are important. Interestingly, it was observed that more recently published measures (e.g., Raeder et al., 2009; Roehling, 2008; Scheel & Mohr, 2013; Walker, 2010) have considered this critical aspect of the construct.

Among the practitioners, the PCI (Rousseau, 2000) was the prominent method for measuring psychological contract. This measure assesses psychological contract in terms of commitments and obligations, and it focuses on the core aspect of psychological contract,

namely reciprocal exchange. The second most popular measure to assess psychological contract was Rousseau (1990). This scale was the one most often adapted or from which items were borrowed to form a new measure. Conway and Briner (2009) suggested that the psychological contract scale (Millward & Hopkins, 1998) measure was a common usage questionnaire, but this was not consistent with our findings. We found that the scales of Millward and Hopkins (1998) and Raja et al. (2004) were not as popular as the content and evaluation-oriented measures discussed. This might have been because the measures had feature than content approach, and it was recognised that this approach was not the focus of many studies.

In relation to psychological contract breach and violation, Robinson and Morrison (2000) was the most popular measure: the number of studies using this measure was highest among all the identified 28 measures. This global measure supported Morrison and Robinson's (1997) definition of breach and violation; however, there was no clear information about how the scale items were generated. Another popular measure was Robinson (1996), whose approach for measuring breaches involved aggregating promises (composite measure) and obtaining the total score by subtracting obligations and fulfilment scores. Therefore, we suggest these measures could be used to assess psychological contract breach and violation. Contrary to previous recommendations, for seven psychological contract measures, which had adapted or borrowed from the list of items in Rousseau (1990), no pilot study results had been reported (Coyle-Shapiro & Conway, 2005; Coyle-Shapiro & Kessler, 2000; Robinson & Morrison, 1995; Robinson et al., 1994; Turnley & Feldman, 1999; Walker, 2010). Therefore, they cannot be recommended until they have been established as valid and reliable.

The psychological contract measures included in the review were mostly developed with employees and employers from commercial, retail, industrial and educational sectors

(such as Bunderson, 2001; Kickul & Lester, 2001; PSYCONES, 2005; Robinson & Morrison, 2000; Rousseau, 1990), meaning they can be readily applied across different occupational settings. However, there were three scales that were developed with samples of army officers, expatriates and pastors (Guzzo et al., 1994; Scheel & Mohr, 2013; Thomas & Anderson, 1998), which limits the generalisability of these measures to different sectors. Thus, as recommended by previous reviewers, researchers should conduct a pilot study and assess the psychometric properties of a measure before using a questionnaire with a new sample.

It was identified that a unilateral approach was the focus of all published studies that emphasised the employees' perspective and neglected employee and employer perceptions on exchanged obligations. This could be because organisations tend to be composed of more than one 'employer' per employee. For example, an employee could have both a supervisor and a line manager, and each of these 'employers' could differ in terms of what they expect from their employee (Conway & Briner, 2005; Freese & Schalk, 2008). Furthermore, it was observed that recent measures have not considered previous reviewers' recommendations (Conway & Briner, 2009; Tetrick, 2004), and they have not explicitly mentioned whom they specifically refer by 'employer' or 'organisation'. Thus, this clarification would improve how psychological contract could be scrutinised from the bilateral approach.

Finally, this review contributed by categorising the published measures through the framework suggested by Rousseau, although this has not itself necessarily been validated. All the identified measures could be categorised as both content-oriented and evaluation-oriented; four were also feature-oriented. This, therefore, provided an outline for researchers to select an appropriate measure from a range of measures, which are categorised into a framework with descriptive information readily available. It was recognised that the 'focus' of the study had a vital role in categorising the measure. Specifically, practitioners could also

use feature measures to assess the content-oriented aspect, depending on how the measure is used in the empirical study.

Strength and weakness of this review

In this review, a comprehensive search strategy was adopted which included keyword searches of six electronic databases, manual searching of reference lists of published studies/chapters, and contacting experts in the subject area. As a result, the review identified additional measures that had been recently published. There are, however, several limitations to this review: due to the inclusion criteria used, two measures published in a language other than English were not included, and two scales were unobtainable (up to two emails were sent to the authors).

Despite these limitations, this review may assist researchers and practitioners in selecting content-oriented, feature-oriented and evaluation-oriented psychological contract measures that are suited to their research or practice, since this review has summarised the details of each measure and the studies in which they have previously been used. This review contributed to psychological contract literature by overcoming the challenges faced by the psychological contract researcher in capturing what is meant by psychological contract. PCI (Rousseau, 1990; 2000) and PSYCONES (2005) are the only measures that have a manifold usage by measuring perceived employee–employer obligations and by comparing transactional, transitional, relational and balanced contracts, psychological contract fulfilment, breach and violation, and level of trust and fairness, i.e., state of psychological contract. Further, they are original scales, so items have not been adapted or borrowed from other measures without conducting a pilot study. Regarding psychological contract breach and violation, Robinson and Morrison (2000) and Robinson (1996) are the most commonly used measures. Therefore, these four measures can be recommended to researchers working in the

educational, industrial, healthcare, retail, and commercial sectors. Moreover, the content of the psychological contract is enormous; therefore, a pilot study should be conducted when applying a developed measure to a new sample (e.g. firefighters and police officers), or the specific content could be tailored to reflect the obligations and demands of those roles.

Conclusion

This review identified 28 psychological contract measures that were categorised into three types of psychological contract measure: content-oriented, feature-oriented and evaluation-oriented measures. Few of the measures met the full definition of psychological contract regarding measuring mutual obligations, i.e., employee and employer obligations from the employee's perspective. Moreover, with the passage of time, the actual content of the measures has been expanded by incorporation of more concepts into this construct. The rigorous classification of psychological contract measures reported in this paper can assist researchers and practitioners to make an informed choice when selecting a measure of the psychological contract, as well as by highlighting the limitations of existing tools, such as identifying whether they meet the full definition of the construct, and whether they measure reciprocal promise-based obligations or expectation.

CHAPTER 2

A PSYCHOMETRIC CRITICAL REVIEW OF PSYCHOLOGICAL CONTRACTS ACROSS EMPLOYMENT SITUATIONS (PSYCONES) MEASURE

The PSYCONES measure is widely used within organisational and research settings. It was developed by a group of researchers as a part of a European project in 2005 for studying mutual employee and employer obligations, the levels of trust and fairness, and emotions related to a psychological contract violation. The aim of this chapter is to critically review the conceptual basis, reliability, and validity of the PSYCONES measure. This chapter first introduces the measure and then describes how studies that have used the test are identified. The psychometric properties are then scrutinised, and, finally, the validity and reliability of the measure is discussed.

Chapter 2: A Psychometric Critical Review of Psychological Contracts Across Employment Situations (PSYCONES) Measure

There has been rapid growth in identifying the salient factors that underpin robust employment relationships, including organisational, social and psychological characteristics. Stronger employment relationships are associated with job satisfaction, effective use of human resources, lower turnover and absenteeism, and higher morale within the workplace (Lowe & Schellenberg, 2001). 'Psychological contract' is a construct that has recently gained prominence in examining the consequences of poorer employee–employer relations (such as turnover, absenteeism, trust, fairness, and well-being) (Guest, Isaksson, & De Witte, 2010; Rousseau, 2000). This concept has been developed from the notion of 'psychotherapy contract' (Menninger, 1958) applied to organisational settings (Coyle-Shapiro & Parzefall, 2008). The construct has evolved over the past few decades to describe the intangible aspects of employment conditions and the consequences of organisational changes (Freese & Schalk, 2008).

Several tools are used to measure this construct: for example, the psychological contract inventory (PCI; Rousseau, 2000), Robinson and Morrison (2000), and the psychological contracts across employment situations (PSYCONES, 2005) measure. These tools assess fulfilment, breach, change and violation of mutually perceived employee–employer obligations/promises. In this paper, the PSYCONES tool is critically reviewed. While it has not been widely used, its popularity is growing in both research and practice. It is, therefore, timely to consider whether this tool is a reliable and valid measure of the psychological contract.

Many of the concepts considered to be part of the construct of psychological contract have been developed over time from the work of various authors (see Freese & Schalk, 2008).

A full review of the underlying criteria that contribute to the concept is provided by Rousseau and Tijoriwala (1998) and Freese and Schalk (2008). While there is validity to some of the ideas assessed, one critical issue concerns the measurement properties of some of the scales. Many components of the psychological contract are merely lists of obligations. While this provides a loose form of quantification, it may not translate into robust psychometric measurements. Nonetheless, it has been proposed as a psychometric test and requires consideration within the classical test theory paradigm (e.g. Nunnally, 1978; Kline, 1999) of validity and reliability.

Overview of the PSYCONES measure

Isaksson et al. (2005, as cited in Guest et al., 2010) developed PSYCONES to measure the content of psychological contract (degree of fulfilment or non-fulfilment of obligations or promises); the state of psychological contract (levels of trust, fairness); and emotions concerning psychological contract (perceived violation of a psychological contract). Within the measure, psychological contract is operationalised as "the perceptions of the reciprocal expectations and obligations implied in the employment relationship" (Isaksson & Bernhard, 2003, p. 1). Non-fulfilment of obligations is described as the breach of the contract, and the emotional impact of this is described as the degree of violation.

PSYCONES was first utilised as part of an international project and was initially developed via the assessment of more than 5,000 employees from six European countries (Sweden, Germany, UK, Belgium, Netherlands and Spain) and Israel. Approximately 200 organisations were sampled from three sectors (including employers in the food manufacturing, retail and educational industries) (Guest et al., 2010).

The PSYCONES measure comprises three domains and five subscales. The 'psychological contract content' domain consists of 15 items that measure perceived

employer obligations and 17 items that measure perceived employee obligations. The 'psychological contract violation' domain consists of six items that measure positive and negative feelings resulting from the breach of psychological contract. Lastly, the 'state of psychological contract' domain consists of four items that measure the level of fairness and three items that measure the level of trust (see Table 1 for examples). Hence, the content of PSYCONES shows a clear correspondence with previous measures in the definition of psychological contract, in that it focuses on measuring reciprocal exchange obligations and distinguishes between psychological contract breach and violation (see also Conway & Briner, 2002; Morrison & Robinson, 1997). PSYCONES authors have retained the core elements of the construct, but, unlike other approaches, this measure uses a bilateral approach by collecting data from both the employees' and employers' perspectives.

There are multiple scoring formats for different subscales within PSYCONES, and these deviate from established ordinal and interval rating schemes since they are both ordinal and nominal. The response format to measure the rate of obligations fulfilment is on a 6-point scale ranging from 'no' (0) to 'yes, but promise fully kept' (5), where a high score suggests the fulfilment of contract and a low score indicates the breach of contract. Similarly, the content measure assesses the number of promises made, with total scores ranging from 0 to 15 – using a 6-point scale ranging from 'no' (0) to 'yes, but promise fully kept' (5) – and the measure also reflects the breadth of made promises. The response category to measure the violation of psychological contract uses a 5-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (5), where high scores indicate a violation. The response category to measure the state of psychological contract is on a 5-point ordinal scale ranging from 'not at all' (1) to 'totally' (5) (see Table 1) (Guest et al., 2010; Isaksson & Bernhard, 2003).

Table 1.

Different domains of PSYCONES measure

Domains	Subscales	Number of items	Response format	Example
Content of Psychological Contract	Employer obligations	15 items	a 6-point scale ranging from 'no' (0) to 'yes, but promise fully kept' (5)	"Has your organization promised or committed itself to provide you with a good working atmosphere?"
	Employee obligations	17 items	a 6-point scale ranging from 'no' (0) to 'yes, but promise fully kept' (5)	"Have you promised or committed yourself to be a good team player?"
State of psychological contract	Level of trust	3 items	a 5-point ordinal scale ranging from 'not at all' (1) to 'totally' (5).	"To what extent do you trust senior management to look after your best interests?"
	Level of fairness	4 items	a 5-point ordinal scale ranging from 'not at all' (1) to 'totally' (5).	"Do you feel you are fairly paid for the work you do?"
Emotions concerning psychological contract	Psychological contract violation	6 items	a 5-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (5)	"I feel happy"; "I feel violated".

Review of studies that have used PSYCONES measure

A systematic review was conducted to identify all the articles within bibliographic databases (PsycINFO; ASSIA, Web of Science (ISI); Week 4, June 2016) that reported the use of PSYCONES. The initial step was to conduct a search and to identify all the articles that used the PSYCONES measure. In addition, reports and papers from the grey literature were examined; these included the various technical reports and research papers that resulted from the sizeable pan-European study that utilised the measure.

Search terms

Specific search terms were used for the electronic search; in addition, the subject librarian, subject matter experts and the authors were consulted. There were no limits set on publication date:

A) 'PSYCONES' OR

B) 'psycones' OR

C) "psychological contracts across employment situations."

AND

D) psychometric OR reliability OR validity OR predictive OR criterion OR construct

Identification of the studies

The PICO tool (Akobeng, 2005) was used to evaluate the inclusion criteria for papers extracted from the database. The presence of the term 'PSYCONES' in all populations and settings (population) was searched; studies that have used or examined the measurement properties of the PSYCONES assessment (intervention) were identified; the measurement properties of the PSYCONES were examined and the psychometric properties (outcome) were evaluated. Furthermore, the reference lists of all the identified papers were searched.

Inclusion criteria

The inclusion criteria were: all journal articles where PSYCONES was employed as a questionnaire to measure psychological contract; quantitative studies written in the English language only; psychometric reviews.

Exclusion criteria

The exclusion criteria were: papers published in a language other than English with no translation readily available; unpublished work; editorials; dissertations; books; qualitative studies.

Data extraction

The selection of studies that met the inclusion criteria were retrieved and reviewed by two authors (FD & DB). Both authors extracted data from the papers and recorded details on a data extraction proforma independently, with no discrepancies. This included information about the author(s) and location, sample, the aim of the study, domains of PSYCONES measure and results of the study (see Table 2 for a summary of each identified paper).

Results

In total 67 papers were identified (see Figure 1). After elimination of duplicates (n = 12), articles were further eliminated by exclusion criteria (n = 49). In total, 11 papers were included in the review. Initially, two papers were identified from bibliographic databases; however, one was a critical review of psychological contract measures. For completeness, misspelt search terms (psychones OR pscychones) were also used to identify any missed papers, but no further papers were identified. Furthermore, a Google Scholar search was utilised to identify if any papers existed and this search yielded 61 hits. In addition, the reference lists of all the identified papers were searched to identify any further papers (representing a backward search).

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┌─────────────────────────────────┐
│   Total identified studies = 67 │
│           ASSIA = 2             │
│            WOS = 2              │
│          PSYCINFO = 2          │
│      Google Scholar = 61       │
└─────────────────────────────────┘
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┌─────────────────────────────────┐
│   Duplicate studies excluded:   │
│               12                │
└─────────────────────────────────┘
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┌─────────────────────────────────┐
│   Studies excluded (did not     │
│  meet inclusion criteria): 49   │
└─────────────────────────────────┘
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┌─────────────────────────────────┐
│   Final included papers: 11     │
└─────────────────────────────────┘
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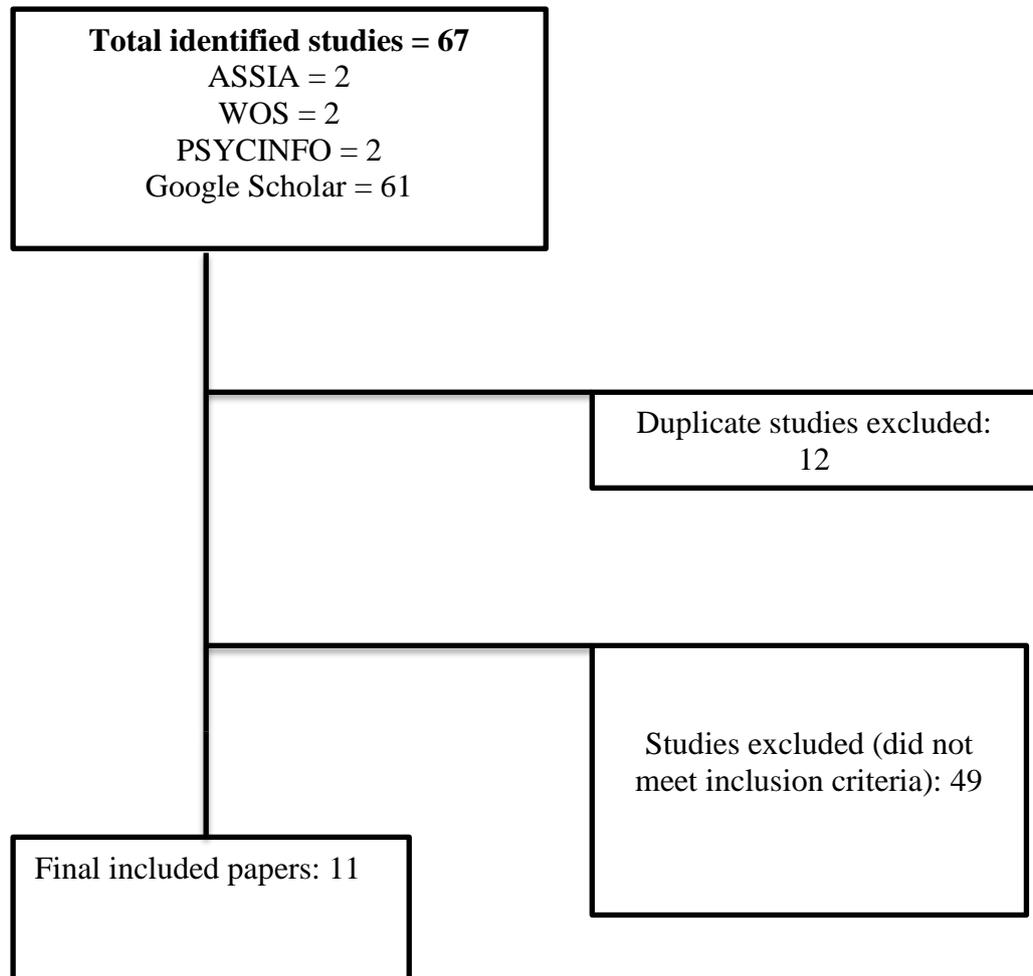
Figure 1. Flow chart of the review process

Table 2 summarises each of the studies identified. Much of the research has originated

from the original PSYCONES project, and there are discriminant validation studies (e.g., De

Cuyper, Van de Heijden, & De Witte, 2011; De Jong & Schal, 2009; Scheel, Rigotti, & Mohr,

2013; Van de Heuvel & Schalk, 2009). The PSYCONES has been employed in cross-

sectional studies to investigate correlations between psychological contract and work-related

and general well-being, affective well-being, occupational self-efficacy, work-related anxiety,

depression and irritation, sick leave, sick presence, accidents and incidents, harassment,

organisation commitment, job insecurity, organisational support, social support by supervisors, workload, skill utilisation (Guest et al., 2010), job and life satisfaction; intention to quit; self-rated performance (De Cuyper et al., 2011), and resistance to change (Van de Heuvel et al., 2009). Moreover, the measure has also been used to predict the relationships between perceived employability, employee well-being, intention to leave, and state of psychological contract (Van de Vaart, Linde, Beer, & Cockeran, 2015; Van de Vaart, Linde, & Marike, 2013). The psychological contract violation subscale has also been assessed as a mediating variable, i.e., as a mediator of a non-linear relationship between the proportion of breached obligations and work-related irritation (De Jong, Clinton, Rigotti, & Oettel, 2012).

Table 2.

Summary of the studies identified through review

Author(s) and location	Sample	Aim of study	PSYCONES measure	Results
Van de Vaart, Linde, Beer & Cockeran, 2015 South Africa	246 employees from various organisations	To investigate correlation between perceived employability, intention to leave and employee well-being	Content and state of psychological contract	Perceived employability predicted employees' intention to leave the organisation; however, the state of psychological contract is not a significant moderator between perceived employability employee well-being and their intention to leave.
Van de Vaart, Linde, De Beer & Marike, 2013 South Africa	246 employees from various organisations	To study the impact of the state of employees' psychological contract on intention to leave the organisation and employee well-being; employee well-being role as a mediator	Content and state of psychological contract	State of psychological contract have significant effect on intention to leave the organisation and employee well-being. Furthermore, employee well-being is a significant mediator between state of psychological contract and intention to leave the organisation.
Van de Heuvel &	208 skilled and unskilled	To study relationship	Content psychological	The more the organisation fulfils employees' perceived

Schalk, 2009 South Africa	employees from Dutch organisation	between psychological contract fulfilment and resistance too organisation related change	contract (employee–employer obligations)	promises; fewer employees resisted the organisation change.
De Cuyper, Van der Heijden & De Witte, 2011 Belgium and Netherlands	463 employees from Belgian manufacturing industry	To study perceived employability and employees' perception of obligations in regards to job and life satisfaction, turn over intentions and self-rated performance	Content psychological contract (employee–employer obligations)	The number of promises is positively related to job and life satisfaction and self-rated performance; perceived employability is positively related to all variables except for job satisfaction.
Oettel, De Cuyper, Schreurs & De Witte, 2011 EU	559 Belgian employees (PSYCONES project's part)	To study perceived job insecurity and fairness association with well-being and organisational attitude	State of psychological contract	Employees' perception of job insecurity and fairness were significant factors in determining well-being and organisational attitude.
De Jong, Clinton, Rigotti & Oettel, 2012 EU	Data from PSYCONES project	To study non-linear relationship between breached obligations, work-related irritation, job satisfaction and general health; the role of violation as a mediator	Breach and violation of psychological contract	Violation strongly mediates the indirect relationship for breached obligations on well-being as compared to fulfilled obligations.
Isaksson, De Cuyper, Oettel & De Witte, 2010 EU	Data from PSYCONES project	To study employment contracts in relation to psychological contract content and fulfilment	Content	The employee and employer obligations were divided into relational entitlements and obligations and transactional entitlements and obligation. Furthermore, permanent workers perceive more relational entitlements and obligations but at similar level of transactional entitlements and obligation.
De Jong &	299 temporary	The effects of	State of	Low fairness related to lower

Schalk, 2010 Netherlands	workers in Netherlands (PSYCONES project's part)	experienced fairness on work-related attitudes	psychological contract	self-reported performance but not related to behaviour intentions.
Kasekende, Muene, Ntayi & Ahiauzu, 2015 Uganda	346 employees in public services	To examine interaction effect of organisational climate and social exchange on psychological contract	State of psychological contract	The interactive effect of organisational climate and social exchange significantly effects psychological contract of employees in public services.
Scheel, Rigotti & Mohr, 2013 Germany	1432 permanent employees and 748 temporary employees	To examine the relation between organisational treatment of a diverse workforce and psychological contract fulfilment	Content (employee–employer obligations)	There was a significant positive relation of incongruence in training distribution with psychological contract fulfilment.
De jong, Schalk & Croon, 2009 Dutch	834 Dutch workers	To assess the impact of job insecurity on the mediating role of trust and psychological contract breach	Content psychological contract (employee–employer obligations)	Job insecurity significantly moderated the relationship between trust and breach

All the studies cited above used the same PSYCONES project data set, except for two (Van de Vaart, Linde, Beer, & Cockeran, 2015; Van de Vaart, Linde, & Marike, 2013) in which new data was collected from 246 employees for various organisations. It is a significant point to note that in 11 years since the publication of the measure, only two studies have been conducted with a new sample (see Table 2). In addition, all existing studies have been cross-sectional; hence, there has yet to be a longitudinal study of the changes in the psychological contract over time, for example in response to organisational change.

Psychometric properties of PSYCONES measure

The studies identified within the review provide some evidence for the measurement properties of PSYCONES, which can be considered in psychometric terms. For a test to be a good measure, it must fulfil particular criteria; that is, it must have reliability, validity and, where applicable, normative data (Kline, 1993). Moreover, a test has to meet some relevant and theoretical requirements for it to be considered as a valid measure of a meaningful psychological concept or set of concepts.

Test construction

PSYCONES is theoretically driven and provides a clear definition of all the components it is measuring. Employee obligations (15 items) and employer obligations (17 items) subscales are of sufficient length; however, psychological contract violations (six items) and the level of trust and fairness (seven items) have much fewer items. Kilne (1993) suggests that, while the reliability estimates may appear sufficient with small number items, it is better to have at least ten items to have sufficient 'bandwidth' (to use Cronbach's term), although this is also a function of the content and the level of measurement in the responses. Thus, PSYCONES appears to be constructed appropriately but might benefit from further development in some of the shorter scales.

Content validity

Content validity refers to the degree to which a scale measures all facets of its underlying construct; this is mostly a theoretical issue (Terwee et al., 2007). Following previous literature, PSYCONES has incorporated the facets of psychological contract of mutual obligations, violation and fulfilment (e.g. Freese & Schalk, 2008; Rousseau & Tijoriwala, 1998). It also clearly states the aim and purpose of the measure and the measured concepts.

Isaksson et al. (2003) indicated that the items were based on the factor analysis of previous instruments, and an extensive pilot study was conducted before finalising the measure. Experts were also involved in the item selection process to ensure the adequacy of the item's content.

Face validity

Face validity refers to the opaqueness of the test items, both in terms of the interpretability of the questions and the underlying constructs they purport to measure (Kline, 1993). A measure with face validity increases motivation among participants, encourages completion, reduces dissatisfaction among users, and makes them more likely to accept results from the measure (Nevo, 1985). Conversely, transparency may lead to fake and socially desirable responses (Kline, 1993), but not when there is nothing to gain from lying. PSYCONES appears to have face validity because the meaning of items and their relevance is self-evident.

Reliability (error of measurement)

Reliability, in psychometric terms, is essentially about the error of measurement; technically, it refers to the difference between the true score (if no error existed) and the observed score. Empirically, however, it may be prone to a variety of artefacts, which can inflate it artificially. Reliability of a measure is particularly important where its output is being used for decision-making about individuals or organisations (Bowling, 2001).

Reliability within a scale is often termed internal consistency, while temporal stability is termed test-retest reliability (measured via correlation over time). Typically, the former is determined by looking at Cronbach's alpha, although other coefficients (e.g. Armor's theta or Guttman's lambda) are applicable but less often utilised. Furthermore, Cronbach's alpha is influenced by different features of the response structure (e.g. ordinal versus Likert), as well

as by the number of items in the scale, repetition and the level of endorsement of the items across the group (Kline, 1993).

Internal consistency examines the homogeneity of the items within a scale and is typically described by the Cronbach's alpha coefficient, which has a value ranging from 0 to 1, with higher alpha values indicating greater internal consistency. A value of 0.70 is considered adequate; however, when alpha values exceed 0.90 it is important to consider whether the scale is truly perfect or whether other factors may be influencing the reliability. For example, items that are overly repetitious can lead to a high level of specificity, known as 'bloated specifics' (Cattell, 1973), which inflates the reliability coefficient. If the Cronbach's alpha is below 0.70, it means the items within the measure are not correlated with one other, and the items may not be measuring the same concept (Tavakol & Dennick, 2011).

Within PSYCONES, all the items within each subscale should be closely related. Traditionally, this would mean that items are homogeneous in the conceptual sense, and thus that they all contribute equally to the score. However, within the PSYCONES many scales are merely lists of obligations or violations, which may or may not be conceptually related even if they are all described as violations. In other words, endorsement of some items may or may not be associated with the endorsement of other items in the same way that items on a personality scale, for example, relate to each other.

All studies that have used PSYCONES (see Table 2) have reported overall alpha values in a range of 0.80 – 0.94. Specifically, across the studies, the reported alpha values were: 0.82 for the employee and employer obligations subscale; 0.84 for emotions concerning the psychological contract (i.e., psychological contract violation); 0.78 for the level of fairness; and 0.80 for the level of trust. While alpha values have been reported for the employee and employer obligations fulfilment subscale, these items are measured with a dichotomous response; therefore, the appropriate measure of reliability would be the Kuder-

Richardson 20 (K-R 20) (Kline, 1993; Streiner, Norman, & Cairney, 2015), even if they are computationally equivalent. De Cuyper, Van der Heijden and De Witte (2011) did use K-R 20 and reported the reliability of the dichotomous items as 0.90, which is very high and is perhaps due to a high level of endorsement, and thus co-occurrences.

Another way of assessing reliability is through test-retest correlations, which assess consistency in the performance of a scale by testing a similar measure at two different times on a similar sample (Mokkink et al., 2010). However, this is only appropriate when assessing stable traits, and it would not be suitable for a measure such as PSYCONES because fulfilment and violation of promises/obligations are expected to change over time.

Construct validity

Construct validity refers to whether a scale measures what it is supposed to measure. It is established through the continuing process of 'learning, understanding and testing' a construct (McDowell 2006; Streiner & Normann, 2008; Terwee et al., 2007). Construct validity is an all-encompassing notion that incorporates some other forms of validity, which contribute to our understanding of the validity of a test. As such, it incorporates convergent, divergent and, in some cases predictive, or discriminant, validity. Researchers have assessed the discriminative validity of the PSYCONES measure through the relation of PSYCONES scores to specific outcome measures (e.g. De Cuyper, Van der Heijden, & De Witte, 2011; De Jong & Schal, 2009; Scheel et al., 2013; Van de Heuvel & Schalk, 2009). These researchers have clearly formulated hypotheses regarding the correlations, which have been borne out since the outcome measures from PSYCONES are significantly correlated with outcomes (e.g. job and life satisfaction, intention to quit, resistance to change (De Cuyper, Van der Heijden & De Witte, 2011; Van de Heuvel & Schalk, 2009)), thereby providing evidence for meeting this criterion.

Criterion-related validity

Criterion-related validity refers to an association of the measure to another 'gold standard' measure in the same field (McDowell, 2006; Streiner & Norman, 2008). No evidence for criterion-related validity was found for the PSYCONES measure, in part due to its development from the extant measures available.

Normative data

Norms for the PSYCONES measure are impressive because the results are based on a sample of more than 5,000 European and Israel employees from 200 organisations. A large sample size such as this can be statistically reliable even if it is not fully representative (Kline, 1993).

Parametric assumptions are important when considering what statistical approaches can be applied to the data, because they are more stringent and powerful than non-parametric tests (Lunsford & Lunsford, 1996). Generally, this means the scales have adequate distributions, but this varies across samples. Skewness and kurtosis values have been provided for each subscale. Skewness values are: -0.26 for employer obligations content; -0.73 for employer obligations fulfilment; -0.97 for employee obligations fulfilment; 0.64 for psychological contract violation; and -0.29 for level of trust and fairness. Kurtosis values are: -1.05 for employer obligations content; 0.45 for employer obligations fulfilment; 2.07 for employee obligations fulfilment; 0.13 for psychological contract violation; and 0.52 for level of trust and fairness. These values indicate that the distribution is negatively skewed but still within the range of absolute value 2 (Hahs-Vaugh & Lomax, 2013).

It is important to note that, unlike most psychological tests (i.e., psychometrics), PSYCONES has been developed within a robust theoretical paradigm, but it may not have followed the typical path of classical test theory construction in the development of the scales. Items have not been factor analysed to confirm the structures within the test and thereby

support the validity. Instead, it represents a set of statements that respondents can agree or disagree with and which are organised into a 'valid' set of themes. Many of the scales are subsequently based on very few items, which limits the measurement power and bandwidth of the test. Furthermore, the content domain of the measure (i.e., perceived employee and employer obligations) interprets the promises that have been made as well as the breadth of the made promises. However, given the intangible nature of the psychological contract (Guest et al., 2010), there is presumably some debate as to whether any actual promises are made in the first place.

The main difficulty with the content measure scoring format is the use of an ordinal scale to assess a range of nominal responses, which could arguably be viewed as requiring a simpler "yes" or "no" response. The only way to evaluate this would be through some form of item response model, which examines how the responses operate across the sample. A significant general issue with Likert scales (response category to measure the violation of psychological contract) is that disagreement and agreement are scaled on the same continuum, and even if a respondent disagrees with all the items, the respondent still receives a score on the measured continuum and can achieve a higher score if they respond in the neutral category. Finally, the response category to measure the state of psychological contract raises a question as to whether respondents can discern the subtle differences in partial fulfilment between 1 and 5. Although this does produce a parametric score, it can lead to misleading results and inflate the reliability, since all items will correlate to a lesser or greater extent.

Moreover, as there is no 'gold standard' for what is acceptable regarding the psychological contract, there is no normative set of responses against which scores could be compared; instead, there is only the relative scoring across organisations and countries.

Conclusion

This chapter has critically reviewed the PSYCONES measure and its psychometric properties. The number of journal articles on this measure is minimal; however, the tool has been applied in many large studies and is widely used in the food and retail sectors, educational settings, and other organisational contexts. There is limited empirical evidence for the use of this questionnaire for measuring the psychological contract construct with different samples. Nevertheless, overall the PSYCONES measure seems to be an adequate assessment tool: many of the essential reliability and validity criteria have been fulfilled for psychological measurements, such as internal consistency, normative data, construct validity, and content validity. Further validation of the measure would be greatly beneficial both to explore the structure of the test and the domains, and to explore any potential cumulative properties or response biases through item response theory. This tool has clear benefits for assessing breach and fulfilment of employee–employer obligations, the levels of fairness and trust within the organisation, and the emotions experienced concerning the contract. Further research is needed to ascertain whether this measure is a useful, reliable and valid measure in other sectors, such as the emergency services (e.g. firefighters, police officers, paramedics) and the healthcare sector, where the psychological contract is likely to be a highly pertinent factor in determining employment relationships and employee well-being.

PART II

EMPIRICAL STUDIES

CHAPTER 3

An interview study of the experiences of police officers in regard to psychological contract, stressors and well-being

Part II of this thesis consists of four empirical studies conducted to address gaps in the PC literature. In the review of the literature (Chapters 1 and 2), it was identified that there were few measures that met the full definition of PC in that they failed to measure an individual's perceptions of *mutual* obligations (employee *and* employer obligations). Furthermore, there is a lack of studies that analyse the experiences of police officers' PCs to improve their well-being. Therefore, the aim of this chapter was to explore the impact of PC on police officers stress and well-being through semi-structured interviews. From the interviews it was apparent that some officers are experiencing PC breach and that this was having a negative impact on their well-being. These findings are considered and avenues for improving the situation are discussed.

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Chapter 3: An interview study of the experiences of police officers in regard to psychological contract, stressors and well-being

Over the past decade, policing has been widely discussed as a stressful occupation as compared to other professions in the literature (Campbell & Nobel, 2009; Vuorensyrja & Malkia, 2011). By its nature, it has been identified as one of the most demanding and stressful occupations worldwide because of the officers' exposure to a variety of acute and chronic stressful events at work (Liberman et al., 2002; Magnavita & Garbarino, 2013; Paton et al., 2009). Consequently, police officers are at greater risk of physical and mental ill-health, e.g., impaired psychosocial well-being and physical ill-health (Garbarino, Cuomo, Chiorri, & Magnavita, 2013; Lucas, Weidner, & Janisse, 2012), self-harm and poor functioning (Violanti et al., 2016).

Policing in the UK is facing even greater challenges at present with the current organisational climate of budget cuts due to austerity measures. The current number of full-time police officers is 124,066 and their number has decreased by 2.2% (2,752 officers) compared to the previous year. In addition, there has been a 22% increase in the number of officers on long-term sick leave due to psychological reasons over the last five years, i.e., from 19,825 in 2011 to 22,547 in 2015 (Allen, 2017). According to the Police Federation, the causes of this are unprecedented cuts to police numbers and a change in shift patterns, besides officers facing increasing job demands (BBC, 2016; Guingand, 2015). It is therefore timely to investigate how austerity measures might directly or indirectly act as a stressor for police officers in the UK and the impact on their well-being. The current study therefore aimed to explore the experiences of police officers working in the UK, the stressors they experience and their strategies to manage stress, and the impact of psychological contract on their stress and well-being.

The success of a law enforcement organisation depends upon a good understanding of the stressors operating within the organisation and managing their impact on performance and well-being (Kuo, 2014). Generally, there are two accepted sources of stress in policing namely job content (operational stressors) and job context (organisational stressors) (Houdmont et al., 2012; McCreary & Thompson, 2006; Shane, 2010). Operational stressors for policing, such as exposure to violence and death, pressure to perform efficiently, making critical decisions and life–threatening situations (McCraty & Atkinson, 2012; Violanti & Aron, 1993; Waters & Ussery, 2007), have been linked to psychosomatic symptoms and psychological distress (Burke & Mikkelsen, 2005; Dowler & Arai, 2008; Setti & Argentero, 2013; Violanti et al., 2006). In addition, organisational stressors, such as shift work, overtime demands, feelings of being always on the job, problems with co-workers, inadequate training, weekend duty, poor relationships with supervisors and colleagues, and a lack of administrative support (Ellison, 2004; McCreary et al., 2006; Shane, 2010; Violanti et al., 1993), have been associated with depression and anxiety (Nelson & Smith, 2016), suicide (Spence & Millott, 2016), burnout (Burke & Mikkelsen, 2005), marital or family problems (Alexander & Walker, 1996), poor performance (LeBlanc, Regher, Jelley, & Barath, 2008), emotional exhaustion, cynicism, absenteeism, early retirement, alcoholism, and post-traumatic stress disorder (Brough, 2004; Dowler et al., 2008; Martinussen, Richardsen, & Burke, 2007; Setti et al., 2013; Toch, 2002; Violanti et al., 2006).

Previous studies have identified that police officers use problem-focused coping (e.g., actively addressing the source of stress) and emotion-focused coping (e.g., acceptance, distraction) to manage their stressors (Evans, Coman, Stanley, & Burrows, 1993; Folkman, 2008; Gomes & Afonso, 2016; Nelson et al., 2016). Seeking social support from supervisors at work, family and co-workers has been reported as a coping strategy (Gutshall et al., 2017) to ameliorate the consequences of stressors (Patterson, 2003; Thompson, Kirk, & Brown,

2005). In addition, getting good quality sleep was reported as a strategy to manage stress (Gutshall et al., 2017). The type of coping used appears to affect well-being; officers using problem-focused coping reported greater job satisfaction, whereas those using emotion-focused coping reported more psychological distress, smoking and alcohol consumption (Pasillas et al., 2006; Pastwa-Wojciechowska & Piotrowski, 2016; Violanti et al., 2016). In this paper, we explore what factors police officers report mediating the effects of stress.

A key construct that has been discussed in the literature in the context of employee and employer relationships and work stressors is 'psychological contract' (PC) (Noblet et al., 2009; Stansfeld & Candy, 2006). This construct is based on the assumptions of social exchange and refers to "an individual belief shaped by the organisation, regarding terms of an exchange agreement between individuals and their organisation" (Rousseau, 1989, p.123). Essentially, it refers to mutual beliefs between an individual and another party such as their employer. Employees' feelings that their obligations are met are known as psychological contract fulfilment (PCF). PCF has been associated with job satisfaction, low work-related anxiety and depression, and high levels of trust and fairness between employees and employers (Conway & Briner, 2009; Guest et al., 2010). However, if employees feel that their obligations are unmet it results in perceived psychological contract breach (PCB) (Conway et al., 2009; Rousseau, 1995), which has been found to predict imbalance in the employment relationship promoting psychosocial stressors in the work environment (Robbins, Ford, & Tetrick, 2012). Psychological contract theory therefore provides a useful lens for the examination of what is experienced as a stressor in the workplace and why. For example, some organisational stressors might be accepted by employees as being "part of the job" because they are part of their psychological contract with their employer. In contrast, other stressors may not be accepted by the employee because they represent a breach in the psychological contract of employer to employee, or because they impose conditions, which

prevent the employee fulfilling their perceived obligations to their employer. Differences in psychological contract can therefore shed light on individual differences in the experience of stress in the workplace and reactions to it. Moreover, according to the conservation of resource (COR) theory, employees strive to protect their required resources such as time, money, and health. Perceived or actual loss of such resources can lead to withdrawal behaviour (Halbesleben & Bowler, 2007; Hobfoll, 1998). Therefore, in this paper, we examine whether officers' perceived unmet obligations or broken promises (psychological contract breach) relate to stress and well-being.

Despite there being an extensive literature on the importance of psychological contract with employees and employers from the commercial, educational and retail sectors, few studies have examined this construct with police officers (Castaing, 2006; Chen & Kao, 2012; Dick, 2006; Gaston & Alexander, 2001; Noblet et al., 2009; Rodwell et al., 2011). Atkinson, Barrow and Connors (2003) investigated psychological contract within the police force and models of career advancement. They identified psychological contract as a key factor for improving retention of probationer police officers ($n = 163$). Likewise, Dick (2009) championed the importance of studying experiences of psychological contract breach or violation to identify the effects of idiosyncratic contracts in the police service.

Noblet et al. (2009) and Rodwell et al. (2011) investigated psychological contract with 582 and 128 Australian police officers, respectively. They found that PCF was not a significant predictor of well-being, psychological distress, job satisfaction and affective commitment. Similarly, Castaing (2006) investigated PCF and motivation, as antecedents to organisational commitment with 754 civil servants in France, of whom 179 were police officers. Psychological contract explained 11.8% of the variance in affective commitment. However, teachers represented the majority of the sample ($n = 550$) as compared to police

officers and therefore it cannot be determined to what extent the results apply to police officers, specifically.

In the UK, Gaston and Alexander (2001) conducted a survey with 1,226 volunteer police officers from the 43 police forces to explore the organisational and managerial implications of the employment of special constables in the police service. They identified that an unrealistic expectation of what the role involved and poor quality working relationships were key factors influencing the decision to resign. Chen and Kao (2012) investigated the importance of psychological contract as a mediator between work values and service-oriented organisational behaviour with 435 Taiwanese police officers. PCF mediated the relationship between work values and organisational citizenship behaviour (an employee's commitment in the organisation, which is not part of a contract). They subsequently argued that PCF could be a key variable for improving organisational behaviour.

Dick (2006) adopted a qualitative approach to explore how managers and part-time officers within the UK police dealt with the transition from full-time to part-time working. He found that officers' beliefs about the transition from full-time to part-time work were influenced by individual inferences from organisational practices, namely industrial tribunals, actions by the human resource department, the government sector responsible for policing, and the views of their co-workers who had made the transition.

In summary, there are only a limited number of studies that have examined psychological contract with a police sample. The findings have been mixed in terms of the role of psychological contract in explaining employee well-being and organisational behaviour. Only one of these studies has taken a qualitative approach to understanding the role of psychological contract and it had a very narrow focus (i.e., on the transitions from full-time to part-time work). Although, previous studies have studied the psychological contract qualitatively with other professionals, due to the nature of the job, it is expected that

police officers would have different obligations and reactions to breach than other occupational groups. Therefore, in the austerity climate, it is timely to extend this work using a qualitative approach to gain a rich and in-depth understanding of the police officers' psychological contract and how this relates to their stress and well-being. In addition, this paper extends Conway and Briner's (2009) suggestion that psychological contracts might be affected by social context and this could only be explored qualitatively.

Conducting such a study has the additional advantage of being able to consider how well existing themes, or content, from extant quantitative measures of psychological contract generalise from the commercial, educational and retail sectors, on which they were developed, to the emergency services. At present, it is not known how suitable they are and this may, in part, explain the mixed findings of quantitative studies to date. Thus, this study would help address this gap in the literature by giving some indication of their suitability. The aim of the current study was therefore to examine UK full-time police officers' perceptions of psychological contract and its impact on their stress and well-being.

Method

Participants and recruitment. Participants were recruited from within one English county via advertisement of the study on the intranet system of the police force. In total, 18 full-time, active, frontline police officers participated. The ethnic background of all the respondents was white, and 13 were males and five were female police officers[1]. Three were divorced, one was separated, two were single and 11 were married or in a relationship. Their length of operational service ranged from 9 to 30 years. They described themselves as detective constables ($n = 4$), firearms officers ($n = 2$), police officers ($n = 5$), police constables ($n = 6$) and a chief inspector ($n = 1$).

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[1]The majority of police officers in the 43 forces in England and Wales were White, where 6% of were Black and Minority Ethnics (BME) and 29% of officers were female (Hargreaves, Husband, & Linehan, 2017).

Materials. A semi-structured interview was conducted with each participant on an individual basis. The interview schedule consisted of open-ended questions that defined areas to be explored and allowed flexibility to discuss emerging issues. During the interview, demographic information was collected from the interviewee namely gender, ethnicity, marital status, job title, number of years worked in the police force, and number of hours worked per week. Following this, the questions focused on their reasons for joining the force (to gain insights into their initial expectations of the employer and the job), the police officer's current perceptions of employee and employer obligations, stressors and strategies to manage stressors, and the impact of job on their well-being (positive or negative).

Procedure. Ethical approval for the study was obtained from Science, Technology and Mathematics (STEM) Research Ethics Committee at the university and consent for conducting the study was obtained from the police force. Telephone interviews were requested by the officers due to the nature of their work. Interviews were scheduled by the first author, and the participant information sheet and consent forms were emailed to the participants a week before the interview was conducted. Before the interview commenced, consent was obtained for the interview to be audio recorded. The mean interview length was 52.82 minutes (range: 49 – 68mins). After the interview was completed, each participant was sent an email containing a debriefing sheet. Within the sheet, the contact detail of their support services at work was provided so that they could seek help, if required. The interviewees were given two weeks' post-interview to withdraw from the study. After the two weeks passed, the audio files were transcribed verbatim (replacing names with pseudonyms) and deleted from the audio recorder.

Data analysis strategy. The transcripts were analysed using framework analysis. QSR Nvivo11 was used to manage the data, while ensuring the analyst could review the original material. Each interviewee was allocated a row and the sub-headings were placed in a

separate column. Each transcript was analysed by coding base units of meaning. These units were further categorised into logical low-order themes. The generated low-order themes for each participant were integrated across participants to further categorise into high-order themes capturing shared experiences of the participants. Lastly, the relationships and interactions between the themes in the matrix were examined by the authors, to ensure they captured the beliefs and experiences of the sampled police officers as expressed in their interviews (Ritchie & Lewis, 2003).

Results

Six main themes were identified that were labelled *'Motivation', 'Mutual obligations', 'Stressors', 'Negative consequences', 'Mediators',* and *'Positive impact of the job'* (see Table 1).

Table 1.

Key Themes and their Definitions (n = 18)

Key themes	Definitions
Motivation	Interviewees' different reasons for joining the Police force.
Mutual obligations	The perceived mutual obligations between the active police officers and the police force.
Stressors	A variety of stressors mentioned by the interviewees were categorised into personal, operational and organisational stressors.
Negative consequences	The negative consequences resulting from PCB and stressors
Mediators	A number of strategies used to manage stressors.
Positive impact of the job	The aspects of the job that have influenced their life.

Each of these themes served as an umbrella theme for high-order categories. These high-order categories consisted of low-order categories and base units of meaning (see Table 2).

Table 2.

High-order, Low-order Categories and Base Units of Meaning by Participants (n = 18).

High-order categories	Low-order categories	Base units of meaning
Motivation		Life time aspiration Looking for a better career Preference for job diversity.
Employer obligations	Fairness	Equal opportunities Opportunities for promotion Amount of work given
	Value	We want our needs to be looked after; look after your troops' well-being; value the people that work for you
	Flexibility	If mistakes happen, we should be considered human; Flexible in terms of deadlines
	Support	Provide support if something goes wrong More support from higher ranked officers Provide emotional support
Employee obligations	Task achievement	Unrealistic obligations Realistic obligations Sometimes realistic
	Loyalty (guarding the org. reputation)	Be ethical, moral, fair Maintain competencies Help people
Change in obligations	Internal social context (relation with supervisors)	Work politics Trust and support from colleagues
	External social context (marital status)	Family responsibilities Work-life balance
Breach of the obligations	Feelings of being neglected	Lack of trust No support from employers when required Not well supported when sick Not valuing staff Management more worried about who is going to replace us.
Source of stressors	Personal stressors	Work–life balance Divorce Menopause Family pressures to be part-time
	Operational stressors	Dealing with an armed suspect Seeing the bad side of people Dealing with traumatic incidents Making critical decisions Not able to help person in need
	Organisational stressors	Amount of work/work load Shift pattern Few human resources

		Untrustworthy and unsupportive colleagues Work politics Overtime requirement Employer having unrealistic obligations No "head space" / overwhelmed
Negative consequences	Intentions to leave	Wants to leave job
	Sleep problems	Nightmares Lack of sleep Disturbed sleep Sleepless nights
	Fatigue	Constantly tired Exhausted No rest
	Psychological effects	Irritable; impatient; mentally exhausted; depressed; anxious
	Job dissatisfaction	Not wholly satisfied; satisfied; not as satisfied as I should be
	Overtaxed	More passive More exhausted Difficult to relax Unconsciously always alert
Mediators	No work–life balance	Miss social occasions
	Formal support / internal support	Communicate with my seniors and colleagues Flexible shift patterns Good occupational health unit
	Informal support /external support	Talk to my family and friends Support from GP
	Life outside work	Play video games Go fishing Go for walk
	Previous learning	Learning from previous experience Have become skilful at coping with stressors
Positive job impact	Personal growth	Have hardened up Got to mature quickly More responsible Confident and respectful More aware of diverse culture More protective, not paranoid

Theme 1: Motivation

This theme refers to officers' motivations for joining the police force. Primarily, the police

officers had three reasons for joining the force. For approximately 70% ($n = 13$) of the participants, their reasons for joining the police force were it being a 'life time aspiration' and 'looking for a better career':

> *I started my career as an [job title], but did not enjoy the work. I had aspirations to be a police officer (Male, Police officer 8).*

> *I wanted a better career and also some sort of job satisfaction (Female, Police officer 2).*

> *I was always passionate about having a career in the police force (Male, Police officer 7).*

A few police officers ($n = 3$) joined because they thought they would enjoy the 'diverse nature of the job', namely meeting new people and learning about diverse cultures. Others stated that they wanted to make a difference by helping people, and they enjoyed the physicality of the job ($n = 12$).

> *I enjoy helping people; I prefer the physical aspect of the job (Male, Police officer 11).*

This suggests that, alike other emergency services (Brunsden, Hill, & Maguire, 2014), police officers enjoy the special status of helping people in need. With 70% of participants ($n = 13$) joining for better career opportunities, in the current climate of austerity measures, the employers may face difficulties meeting such perceptions.

Theme 2: Mutual obligations

This theme encapsulated police officers' perceived unwritten obligations from their employers ('employer obligations'), and in return their obligations to the employer ('employee obligations') (Conway et al., 2009; Guest et al., 2010; Rousseau, 1990). Five categories of employer obligations towards their employees, i.e., 'fairness', 'appropriate equipment', 'value', 'flexibility' and 'support', and two categories of employee obligations, i.e., 'loyalty' and 'task achievement', were discovered (see Table 2).

Employer obligations

Approximately, two-thirds ($n = 12$) of the officers cited 'fairness' as an important obligation in terms of promotion opportunities (i.e., no favouritism) and amount of work. This obligation has been captured within existing PSYCONES (2005) measure. The female officers ($n = 2$) stressed equal opportunities and wanting to be treated fairly like male officers. Previous research has associated interpersonal fairness with psychological well-being among police officers (Noblet et al., 2009).

> *I want to be treated fairly like other police officers and no discrimination has to be done in terms of being a female police officer (Female, Police officer 17).*

Half of the interviewees ($n = 9$) spoke about having 'appropriate equipment' as a perceived obligation from their employer. Their safety is put at risk if they attend an incident without appropriate equipment. This suggests that having the appropriate equipment to perform their job well and look after their own safety is a key obligation among police officers. In addition, Walker (2010) measure consists of this obligation.

> *We are dealing with public, so safety is at risk, so having right equipment is very important (Male, Police officer 5).*

It was further identified that some of the police officers ($n = 12$) believe that their employers should provide them with 'flexibility' (Herriot, Manning, & Kidd, 1997) in terms of deadlines and to understand if these are missed. Herriot, Manning and Kidd (1997) measure has mentioned flexibility as one of the obligations. This suggests that due to the nature of the job and cuts in the work force numbers; officers are struggling with their workload and expect their employer to recognise this difficulty and accommodate it.

She is not flexible at all. She gets at my door and tells what she needs from me. She

actually wants me to work as hard as she does. I have my own priorities and decide

according to it (Female, Police officer 15).

We failed to attend a follow-up because we were asked to attend another incident

(Male, Police officer 4).

Three-quarters of the interviewees (*n* = 14) cited 'valuing your staff' as an obligation from their employer. This obligation has been captured within existing PSYCONES (2005) and (Scheel & Mohr, 2013) measures. The officers expect to be valued by higher management/their employer and this related to their job satisfaction and well-being. Similarly, Robinson, Perryman and Hayday (2004) identified that within NHS employees the fundamental factor for employee engagement was a 'sense of feeling valued and involved'. The quotes in our interviews also indicated that this expectation had been breached in more recent times.

You say you value your staff but we are not sure any more (Male, Police officer 10).

'Support' is an obligation that has been mentioned in previous measures (Rousseau, 1990; PSYCONES, 2005). The interviewees perceived themselves to be supported by their employer when they had made a mistake. This implies their reputation and job security when something goes wrong is important to them. In addition, the female officers mentioned wanting emotional support from their employers. This finding resonates with Noblet et al. (2009), who found that support inside and outside the work as a significant predictor of psychological distress and organisational citizenship behaviour. For some interviewees (*n* = 9), their quotes implied that this obligation wasn't always being met.

I feel [I need] to be supported emotionally (Female, Police officer16).

If something goes wrong, happens, they never support. I would perceive more support

from the higher ranks (Male, Police officer 9).

Employee obligations

In exchange, all the employees perceived that the employers wanted them to be 'loyal' towards the organisation by guarding its reputation and protecting its core values. Loyalty is an obligation reflected in several existing measures of PC (Bunderson, 2001; Herriot, Manning, & Kidd, 1997; PSYCONES, 2005; Rousseau, 2000). In terms of protecting the core values, the employer (the police service) were cited as wanting them to be ethical, moral, and maintain their competencies. In addition, our interviewees believed that their employer wanted them to be fair while dealing with or helping people.

> *My employer wants me to portray them with dignity. I deal with people with justice and fairness (Male, Police officer 11).*

> *We take oaths and have to do various things within the ethical codes. We promise to do at the best of our abilities (Male, Police officer 7).*

A recent study of police officers in Australia similarly noted that a strong focus of police organisational culture was promoting a positive image of the service to the public and that officers reporting being expected to comply with standardised procedures and codes of conduct (Brough, Chataway, & Biggs, 2016). Of the previously published PC measures, only Bunderson's (2001) measure captures the obligation of 'achievement of assigned duties or tasks'. There were mixed obligations in regard to the achievement of assigned duties or tasks' among the interviewees. Approximately one-quarter of employees ($n = 4$) mentioned that the employer has realistic obligations of them, but 20% of officers ($n = 4$) stated that the employers *sometimes* have realistic obligations. For example, having a belief that employees would protect the core values of the police force was seen to be a realistic obligation. However, around 58% of the employees perceived that their employers were unrealistic in terms of asking them to perform multiple tasks at the same time with few officers. Further,

they believed that their employers were not sympathetic and just gave orders, not understanding that the actual problem was a shortage of staff.

Half of the time the stuff they desire us to do is not achievable. They want us to perform for each and every person. We want to, but we are so short of staff. By the time we have done one job, we have another job to do (Male, Police officer 9).

It's quite easy for them as they sit at the desk and give orders. It's hard for them to understand (Male, Police officer 11).

From the obligations cited by the interviewees, it appears that the perceived obligations to the employer were relatively uniform, whereas the perceived obligations of the employee to the employer were more variable. The obligations cited in the interviews would reflect a relational type of psychological contract, except for appropriate equipment, which is more indicative of a transactional contract. A relational contract is implicit and highly subjective with no clear time frame (Conway & Briner, 2009; Rousseau, 1990) and it is the type of contract that one would expect to find with these participants since all are full-time active police officers. Previous research has shown that employees on casual contracts tend to have more transactional contracts and employees on permanent contracts tend to have more relational types of psychological contract (Conway et al., 2009; Guest, 2002).

Further, the sort of employer and employee obligations cited by the interviewees overlap with obligations cited for other sectors. For example, having the appropriate equipment, valuing your staff, flexibility, fairness, trust, loyalty and support are all factors within measures of psychological contract developed with employees from educational, retail and commercial sectors. As a result, it could be suggested that psychological contract measures such as those developed by Rousseau (1990, 2000), PSYCONES (2005), Walker (2010), Bunderson (2001) and Herriot, Manning and Kidd (1997) would be appropriate for

use with samples of police officers to measure psychological contract, at least based on this sample.

Change in obligations

The police officers also spoke about change in their obligations over time due to a variety of factors. The majority of them ($n = 16$) mentioned that their obligations have changed on the basis of their relationships with their colleagues and supervisor. For example: quotes indicated that they expect colleagues to be trustworthy, supportive and not underhand, yet some quotes suggested a change in relationships in the workplace.

There is more politics in the department than it was before (Female, Police officer 17). Those who were married, in a relationship or single parents mentioned that their obligations have changed due to having more family responsibilities, and maintaining a work–life balance had become more important to them. They felt their employer should be flexible in terms of shift patterns and having realistic obligations.

Now, I am more concerned about the work–life balance than before (Male, Police officer 12).

Breach of the obligations

The responses in the interviews did indeed confirm that there were breaches to the officers' psychological contract. More than half of the officers ($n = 11$) reported 'feelings of being neglected' by the police force. They spoke about management not valuing them and being more concerned about recruitment policies.

I don't think really the management worry about the individuals; they are more worried about or bothered about who is going to replace us (Male, Police officer 5).

Feeling undervalued was a theme that also emerged in Brough et al.'s (2016) study of Australian police officers.

A few of the officers ($n = 5$) mentioned that they were not well supported in terms of illness.

> *On a number of occasions, I was sick and not well supported (Female, Police officer 15).*

> *I have to say no support from employers (Male, Police officer 3)*

Another perceived breach in obligation from their employer was concerned with trust. Approximately 50% of the interviewees ($n = 9$) mentioned that they were unable to trust their employers or colleagues. For example, one of the employees mentioned issues of mistrust within the organisation with regard to occupational health department not maintaining confidentiality. Again, a similar theme was reported by the Australian police officers sampled by Brough et al. (2016). As a result, the officers in our sample reported withdrawing from others.

> *I have basically turned inward; I mean you have secrets and cannot trust anyone (Male, Police officer 11).*

> *I don't think any support is provided because I don't trust them anymore (Male, Police officer 3).*

In terms of previous literature, Robinson (1996) reported employees' trust to be negatively related to psychological contract breach. Thus, building trust with employees is one way in which the employer could try to address psychological contract breach.

Theme 3: Stressors

There were three common sources of stress identified in the interviews, namely personal (stressors outside the work), operational (incident-related stressors) and organisational stressors (workplace-related stressors) (Houdmont et al., 2012; Shane, 2010). These stressors were also reported to have a negative impact on the physical and psychological well-being of the police officers interviewed (see Table 2). The interviewees specifically referred to the

following operational stressors: dealing with traumatic incidents, being unable to help a person with a problem, and seeing the bad or evil side of people. Further, they quoted that it was distressing to be making critical decisions at an incident where the suspect is armed.

> *Dealing with anyone who is armed, you don't know what they are going to do (Male, Police officer 9).*

The stressors cited by our interviewees were alike those reported by McCraty et al. (2012), Violanti et al. (1993), and Waters et al. (2007).

Further, around 80% of the officers ($n = 14$) spoke about 'personal stressors', particularly work–life balance. They reported difficulty in maintaining a good balance between work and home life. This seemed more relevant to the interviewees who were in a relationship or who were single parents. Work-family conflict has previously been identified as a significant predictor of turnover intentions in police officers (Yun, Hwang & Lynch, 2015) and job dissatisfaction (Kinman, McDowall, & Cropley, 2012). In addition, female officers reported family pressure to become part-time officers to maintain a balance between work and home. One of them spoke about going through divorce and menopause at the same time.

> *It is difficult for me to manage my family life and work life (Female, Police officer 17)*
>
> *It is difficult to manage my work and life (Male, Police officer 11).*

The interviewees mentioned a number of 'organisational stressors', consistent with previous studies (Campbell et al., 2009; Shane, 2010), such as shift pattern, work politics, and poor trust and support among colleagues. The most common stressor faced by 70% of officers ($n = 13$) was workload due to insufficient staffing. Collins and Gibbs (2003) and Sen (2015) also found workload to be an important factor in the level of stress experienced by police officers, with females being at greater risk of psychological distress.

Actually, the amount of workload we face with few police officers is the cause of stress (Male, Police officer 9).

It seems that within the current climate of financial cuts, the police officers are facing a high pressure of workload because of the decrease in the number of police officers. Therefore, the employers are reportedly expecting current staff to do overtime and their beliefs are perceived to be unrealistic:

The job has changed, as there is more work with less people (Male, Police officer 18).

People don't realise how difficult a police officer's job is in today's financial crisis, how challenging it is as we have more work than people (Male, Police officer 9).

Theme 4: Negative consequences

In terms of the consequences of these stressors and PC breach the officers reported experiencing 'sleep problems', namely disturbed sleep, lack of sleep and sleepless nights due to shift pattern, no flexibility and nightmares. Sleep problems and sleep disorders have been associated with poor health and performance (Rajaratnam et al., 2011).

The shift pattern and amount of work reportedly had a number of negative effects on the police officers' 'psychological' well-being (Campbell et al., 2009). Some of the officers ($n = 8$) were 'fatigued', that is constantly tired and exhausted. Most of them ($n = 15$) mentioned they were mentally exhausted, irritable and impatient due to the amount of work they have to do and the shift pattern. They also reported feeling 'overtaxed' in terms of always being unconsciously alert in gatherings and finding it difficult to relax at home. A few of them ($n = 5$) found the nature of the job itself depressing, however, the work pattern and disrupted sleep were also directly associated with feeling depressed. Officers who are fatigued on-duty could be at greater risk of poor performance, workplace injury, and be a safety risk for the public (Fekedulegn et al., 2016; Waggonner, 2012).

I was suffering from depression for a couple of years and the shift pattern and more work was the cause of it (Male, Police officer 10).

Working nights is very exhausting and tiring (Female, Police officer 17).

Disrupted sleep problems in this job are the cause of stressful job and depression (Male, Police officer 11).

Further, two of the officers had 'intentions to leave the job' because of the workload and the perceived unrealistic obligations of their employer. This may be because the high workloads are preventing them from spending enough time with their families and causing them to miss family time and social occasions. Similar findings were reported by Yoo and Matsui (2012). This indicates that psychological contract breach is linked with stressors that are associated with turnover intentions.

I would leave the job tomorrow if I could; the workload is increasing not decreasing (Male, Police officer 3).

The shift pattern didn't work with my family time. I frequently missed dinners and social occasions (Male, Police officer 5).

The analysis further revealed that 55% of officers ($n = 10$) were not satisfied with their job. Potentially, this could be linked to organisational stressors because of the workload, and employer–employee obligations that were perceived to be unrealistic (related to task achievement, inflexible working conditions, and understaffing).

I have more job satisfaction than an average person but I'm not wholly satisfied (Female, Police officer 1).

I am not as satisfied with this job as I expect to be (Male, Police officer 3).

In summary, the interviewees named a number of stressors and identified a link between PC, stressors and their well-being, attributing mental and physical health problems to working conditions, including workload, which is likely more of a problem now than ever it was.

Theme 5: Mediators

A number of mediators were used by the police officers to ameliorate the effects of stressors and PC breach. Social support was perceived as an effective method for dealing with stressors. This was further divided into 'internal support' (support within the organisation) and 'external support' (support outside the organisation). In terms of internal support, most of the officers reported communicating with their seniors and colleagues when they were facing a stressful event. A few of them ($n = 3$) mentioned speaking to the occupational health department within the police force. Three officers appreciated the support they received in terms of being afforded a flexible shift pattern to help manage work and home life. This indicated that the employers were accommodating the employees with something that could otherwise result in PC breach and have negative consequences for their well-being.

> *I have flexible hours and I am able to give time to my family … that is a great balance for me along with doing my job that I always wanted to do (Female, Police officer 15).*

Around two-thirds of the officers ($n = 12$) mentioned that the external support received from family members and friends was preferable to that provided by colleagues. However, some ($n = 5$) felt that they could not talk about their job with their family, because this would result in their family being stressed or worried about them too. They did, however, have alternative sources of social support. For example,

> *I rarely talk to family, most of the time I talk to friends (Male, Police officer 2).*

Some interviewees ($n = 7$) said they preferred to seek help from their general practitioner instead of seeking help from the occupational health department. The reason for this was that they mistrusted their colleagues and the organisation, as reported above.

Beyond social support, the officers quoted additional strategies related to life outside of work to handle stressors. These included playing video games, going for a walk and

fishing. They also mentioned drawing on their 'previous learning', namely learning from previous experiences and becoming skilful at coping with stress.

In accordance with previous findings, the interviewees used problem-focused coping to manage their stressors (Folkman, 2008; Gomnes & Afonso, 2016); namely social support from work, family and friends (Gutshall et al., 2017; Thompson et al., 2005; Patterson, 2003). The interviewees also mentioned that the strategies they chose varied depending on the situation.

Theme 6: Positive impact of the job

There were a number of aspects to the job that were affecting the personal lives of our interviewees but in a positive way. The interviewees reported experiencing 'personal growth' with time, such as becoming more responsible, confident, respectful and mature. Moreover, they reported becoming aware of diverse cultures, and becoming more protective rather than paranoid when they were off-duty. They also enjoyed helping people and developing close friendships with their colleagues.

> *I got mature quickly (Male, Police officer 11).*

> *We, the police, have the best job to help people ((Male, Police officer 7; Female, Police officer 15).*

Besides reporting facing a range of stressors and a breach of psychological contract, this theme illustrated that the officers interviewed still enjoy the experience of being a police officer.

Discussion

The aim of this study was to explore the concept of psychological contract with a sample of police officers to better understand their obligations to their job and employer, and their perceptions of their employer's obligations to them. Further, we aimed to better

understand the relationship between psychological contract and the stress and well-being of active police officers in the UK, particularly during a time of austerity.

The responses from our interviewees suggested that, like other occupations, psychological contract was a relevant construct in understanding employee and employer relationships and psychological well-being and why some factors were experienced as stressors. There was overlap between the content of previously developed measures and issues expressed by these interviewees. Therefore, the findings support the validity of previously developed psychological contract measures, such as Rousseau (1990, 2000), PSYCONES (2005), Walker (2010), Bunderson (2001) and Herriot, Manning and Kidd (1997), with this occupation.

Similar to Dick's findings (2006), it was apparent that the psychological contract of a police officer is not just influenced by their immediate employer, but as a public servant, by the organisational practices of the Government, e.g., implementing budget cuts. Therefore, consideration needs to be given as to whether it would be appropriate to clarify what is meant by 'organisation' or 'employer' in quantitative measures of psychological contract when used with public servants. The reason is the officers consider multiple individuals to be their employers (i.e., they talk about their immediate supervisor, their line manager and senior management). It is possible that breaches are occurring at one or multiple levels and thus steps to improve psychological contract would need to take account of this. Thus, it would be useful to study the psychological contract from multiple perspectives to understand and improve the employee and employer relationship (Conway et al., 2009; Tetrick, 2004).

Previous studies (Abdollahi, 2002; Brough et al., 2016; Burke & Mikkelsen, 2005; Kuma & Kamalanabhan, 2014; Loftus, 2010) have described how public scrutiny and negative media coverage can be a source of stress. Interestingly, none of our officers commented on either of these as a source of stress for them, personally. This might be

different for more senior police officers in the organisation or those in different roles. Further, such stressors might be more potent in other countries.

In the present economic climate, our findings were consistent with evidence (Conway, Kiefer, Hartley, & Briner, 2014) that organisational change due to austerity cuts is related to psychological contract breach, which in turn can be associated with lower contributions from the employees to the organisation. In addition, the employees are in a position where even if they wanted to fulfil their employers' obligations, they could not manage it because of a shortage of staff (Guingand, 2015). Thus, as a result of unmet obligations, such as a lack of trust, unsupportive employers, no flexibility and unrealistic obligations of conducting multiple tasks with fewer staff, there is the very likely prospect of psychological contract breaches. Unrealistic obligations between employees and employers have been found to be a key factor in decisions to resign (Gaston & Alexander, 2001). Further, Sparrow (1996) found unfulfilled psychological contract to be related to withdrawal behaviours. Therefore, it is suggested that psychological contract fulfilment could be used as a mediator for improving organisational behaviour (Atkinson et al., 2003; Chen & Kao, 2012).

Contrary to Noblet et al (2009) and Rodwell et al. (2011), the interviews did provide some evidence that psychological contract breach was affecting the officers' mental and physical well-being, and their job satisfaction, with some suggestion of negative outcomes for the organisation (i.e., intention to resign). This notion would be strongly supported by the COR theory suggesting that when employees stay within their organisation despite perceiving breach they may engage in withdrawal behaviours to protect the resources they already have (Kiazad, Seibert, & Kraimer, 2014; Westman, Hobfoll, Chen, Davidson, & Laski, 2004).

From the interviews, it was evident that some officers experienced breaches to their psychological contract. Their perceived obligations of their employer to them included being valued and supported, to be afforded flexibility, and to have a trusting relationship. However,

in interview, some reported these obligations were not being met and feeling neglected. Interviewees reported not having the required resources to do their job (i.e., equipment) and that their employer had unrealistic expectations of what could be achieved in the time available. This finding was identical to Gaston et al., (2001) who subsequently found unrealistic employer obligations to be related to decisions to resign. If an employee continues to work besides being aware of unmet obligations, it is likely that the nature of the contract will become more transactional (Atkinson, 2007) with the employee experiencing negative emotions, such as anger (Zhao et al., 2007).

The interviewees' accounts further describe how associations between psychological contract, well-being and stress are influenced by their social context, e.g., their relationships with colleagues and superiors, and their external social context (marital status, family responsibilities). Officers drew on social support available within the organisation by communicating with their seniors and colleagues, and from outside the organisation through talking to family and friends to mediate the effects of PC breach.

Although not all officers explicitly mentioned the effects of austerity measures, it was clear from their quotes that fewer human resources were being linked with an increase in workload, which was also reported to be negatively affecting their well-being and resulting in them being unable to meet their perceived obligations to their employer. As alluded to above, working conditions such as these can result in resignations and sick leave which further reduces the available workforce. In addition, they may hamper the recruitment of new staff. However, there may be other difficulties experienced in recruiting new officers that are not related to austerity cuts, for example, recruiting BME officers (Sutton, Perry, John-Baptiste, & Williams, 2006).

Limitations of the study

There were some limitations with the current study that need to be acknowledged. The study design was qualitative and therefore the sample size was relatively small; female and BME police officers were underrepresented in our sample. Therefore, the views expressed in the interviews may not generalise to all police officers in the UK nor to those in other countries. It is, therefore, important to conduct similar research, sampling a more representative sample of officers, from across the UK, and from other countries. Moreover, the interviewees were self-selected, which might introduce bias in the responses. It is also important to note that the full range of ranks was not represented in our sample. In the future, it would be of interest to compare the findings between different ranks of officer and those in different roles and track any changes over time. Finally, the views reported in this paper solely focused on the employees' perspectives. This study did not interview employers to understand their perspective of psychological contract. Ongoing work by the authors is, however, planned to engage with the employers to seek their feedback on the findings.

Implications of the study

In terms of what actions an organisation or employer can take to promote psychological contract fulfilment and thereby improve the well-being of the workforce, organisational behaviour and outcomes (Chen & Kao, 2012), the current austerity cuts place limits on what is achievable. However, there are some suggestions from the existing literature. Guest (2002) found that organisational communication could help control and manage psychological contract breach. Specifically, job-related (day-to-day work) and recruitment-based (initial entry) communication had an impact on the employees' psychological contract. One strategy, therefore, would be to encourage peer cohesion and improve lines of communication between

employees and employer (Johnson, 2012; Miller, Mire, & Kim, 2009; Nadin & Williams, 2012; Robinson & Morrison, 2000).

From the interviews with the police officers, it was clear that work–life imbalance was a major source of stress. This can be tackled by enabling flexible working and removing pressure to do overtime. A further consideration would be training in mindfulness. Recent studies have indicated its benefits in reducing stress and anger for law enforcement employees (e.g., Bergman, Christopher, & Bowen, 2016).

Conclusion

The current study addressed a gap in the literature on the psychological contract, exploring its relevance to the police officers' profession and its reported impact on their well-being and stress. The themes identified from the interviews reflect core constructs captured by existing quantitative measures of psychological contract. In the current climate of austerity measures, the officers reported facing considerable workload with fewer staff, which was affecting their work–life balance and well-being. Austerity cuts are therefore making it challenging for the immediate employer to fulfil the employees' expectations resulting in PC breach. Such cuts are beyond the control of the organisation; however, PC theory indicates several areas that could be addressed to reduce the breaches, which were indicated in the interviews conducted.

CHAPTER 4

THE RELATIONSHIPS BETWEEN PSYCHOLOGICAL CONTRACT VIOLATION, OCCUPATIONAL STRESS AND WELL-BEING IN POLICE OFFICERS

From the previous findings, it is apparent that psychological contract breach is a source of stress for police officers and influences their well-being (Chapter 3). Therefore, this chapter explores the impact of feelings of perceived violation on the employees' occupational stress and well-being using the measures of psychological contract violation (PCV), occupational stress and job-related well-being. The proposition that fairness and self-efficacy would mediate the relationship between PCV, work-related stress and well-being was tested using structural equation modelling and supported by our findings. There is limited empirical evidence for the use of the PSYCONES questionnaire for measuring PCV with different samples. Hence, in this chapter the PSYCONES measure seems to be an adequate assessment tool. Furthermore, many of the essential criteria have been fulfilled for psychological measurement regarding reliability and validity such as internal consistency, normative data, construct validity, and content validity (Chapter 2). Future research avenues and practical implications for employers will be discussed in this chapter.

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Chapter 4: The Relationships between Psychological Contract Violation, Occupational Stress and Well-Being in Police Officers

In recent years, there has been growing interest in applying the psychological contract framework to the study of exchange relationships. While psychological contract fulfilment is linked to many positive outcomes for organisations and their employees (e.g., Conway & Briner, 2009; Freese & Schalk, 2008; Guest, Isaksson, & De Witte, 2010), psychological contract breach (PCB) and the feeling of contract violation that comes from this has been associated with negative outcomes, such as organisational distrust, increased turnover intentions, depressive mood state, destructive behavioural reactions, and job dissatisfaction (Priesemuth & Taylor, 2016; Wayne et al., 2007; Zhao, Wayne, Glibkowski, & Bravo, 2007). Numerous studies (e.g., Cascar, Sandra, & Buttigieg, 2015; Erkutlu & Chafra, 2016; Guest & Conway, 2004; Guest et al., 2010; Litchfield, Cooper, Hancock, & Watt, 2016; Van de Vaart, Linde, & Marike, 2013; Van de Vaart, Linde, Beer, & Cockeran, 2015) have examined the psychological contract with employees in a variety of public and commercial sectors, including business, industry, education and retail. However, there are few studies of psychological contract with the police. Currently, public services employment relationships are undergoing fundamental changes due to amendments in government regulations, economic fluctuations and changing social environments (Roehling, Cavanaugh, Moynihan, & Boswell, 1998). Whenever organisations undergo such changes, it is important to ensure a healthy and progressive employment relationship (Rousseau, 2012). Therefore, it is an opportune moment to study the relationship of psychological contract violation (PCV), occupational stress, and well-being with a police sample and, in so doing, to fill a gap in the current literature. Furthermore, we advance this theory by

exploring how these relationships are influenced by fairness and self-efficacy because past studies have failed to consider these as potential mediators that might explain the mechanisms underlying the associations.

Earlier work (Zhao et al., 2007) has called for studies on an emerging line of research in psychological contract known as perceived feelings of violation. In addition, Rousseau (1989) proposes that PCV, rather than PCB, is the main mechanism for associating psychological contract with negative outcomes. Therefore, this study is an extension of previous work (Duran, Woodhams, & Bishopp, 2018) and attempts to explore whether the feelings of violation, rather than the perception of broken promises or obligations, influence behavioural outcomes.

Psychological contract, breach and violation

A construct that has gained prominence in examining the consequences (such as turnover, absenteeism, trust, fairness and well-being) for employees within the workplace is the 'psychological contract'. In the 1960s, this construct emerged in the literature of organisational behaviour, but it was primarily developed in the work of Rousseau (1989, as cited in Conway & Briner, 2009). The psychological contract construct refers to an individual's beliefs about mutual obligations between him/herself as the employee and the employer (Rousseau, 1989). This construct has been widely used by practitioners and academics to analyse employment relationships, employees' perceptions or beliefs about what their organisation is obligated to provide them, and the extent to which these obligations are fulfilled (Priesemuth & Taylor, 2016; Rousseau, 1989; Rousseau & McLean Parks, 1993). Employers or organisations that fulfil these obligations sustain effective employment relationships with positive outcomes (Freese & Schalk, 2008; Guest, 2004). Conversely, when employees perceive

that there is PCB (which is cognitive in nature) – that is to say, a perception that their employers are not fulfilling their obligations – it invokes intense negative emotions, known as PCV (which is affective in nature), that ultimately result in negative behavioural reactions and workplace attitudes (Morrison & Robinson, 1997; Zhao et al., 2007). Crucial to this model, therefore, is that it is the feelings of violation, rather than the perception of breach itself, that influence behavioural outcomes (Griep, Vantilborgh, Baillien, & Pepermans, 2016). In their meta-analysis, Zhao et al. (2007) summarised the studies that link PCB to PCV, and their findings supported the affective event theory (Weiss & Cropanzano, 1996), stating that work-related events are the proximal causes of affective reactions; that is, the negative emotions and reactions are the consequences of the perceived breaches (for a similar conclusion, see Bordia, Restubog, & Tang, 2008). It is, therefore, proposed that when employees feel that their employer is not delivering its promises, strong negative affective reactions are invoked (the PCV), which results in negative behavioural outcomes.

Beyond mere disappointment, PCV can have negative consequences for the employee, such as feelings of emotional exhaustion, depression, distrust, cynicism, anger or revenge, lower job satisfaction and organisational commitment, and disengagement from work and worsening performance (Bordia et al., 2008; John & O'Leary-Kelly, 2003; Pugh, Skarlicki, & Passell, 2003; Raja et al., 2004; Restubog, Zagenczyk, Bordia, & Chapman, 2015; Robinson, 1996). There are also negative consequences for employers: high turnover (Bocchino, Hartman, & Foley, 2003; Knights & Kennedy, 2005; Robinson & Rousseau, 1994; Stoner & Gallagher, 2010; Zaidman & Elisha, 2016), and employee resignations (Morrison & Robinson, 1997; Suazo, Turnley, & Mai, 2005; Turnley & Feldman, 1999).

Regarding the police specifically, there is little research on psychological contract in the police and the findings regarding its association with well-being are mixed. A qualitative study identified that psychological contracts of police officers and managers are influenced by organisational practices, namely government, industrial tribunals, human resource departments and the views of co-workers while making transitions from full-time to part-time work (Dick, 2006). Similarly, another qualitative study (Duran et al., 2018) with UK police officers found that a major source of stress was perceived broken promises (such as inadequate equipment to perform duties). However, two studies (Noblet, Rodwell & Allisey, 2009; Rodwell, Noblet, & Allisey, 2011) conducted with police samples did not find a relationship between psychological contract fulfilment and police officers' well-being, psychological distress, affective commitment, and job satisfaction. However, both of these studies measured psychological contract fulfilment using a PCB measure (Robinson & Morrison, 2000), whereas Rousseau (1989) had found that PCV was the main factor for associating psychological contract with negative outcomes. Had a PCV measure been used instead, associations might have been found. The current study, therefore, addresses this limitation in previous research, adopting a measure of PCV rather than a measure of breach.

Psychological contract violation (PCV), occupational stress, job-related depression and anxiety

Continuous exposure to organisational stress can negatively impact on both employees and employers, resulting in absenteeism, poor performance, and low job satisfaction (Ellison, 2004; Shane, 2010; Sparks, Faragher & Cooper, 2001; Violanti & Aron, 1993). Policing, by its nature, is a demanding occupation characterised by exposure to a variety

of stressful events (Campbell & Nobel, 2009; Liberman et al., 2002; Paton et al., 2009). There is an extensive literature on the different types of stress police officers are exposed to, which comprise operational and organisational stress (e.g., poor relations with co-workers and supervisors, inadequate training) (Shane, 2010), and the effects these have on psychological well-being (Nelson & Smith, 2016; Toch, 2002; Violanti et al., 2016). However, an area that has received less attention in the literature on police stress and well-being are their relationships with the psychological contract.

Conservation of resource theory (COR; Hobfoll, 1989, 2002) proposes that an individual strives to protect their valued personal and environmental resources. When the resources that an individual requires to maintain appropriate behaviour at work are unmet, employees experience stress (Hobfoll & Shirom, 1993), anxiety and depression (Byrne et al., 2013). Studies have identified that work-related anxiety is closely linked to work stress and depression, which adversely affect work performance and well-being (Bricheno, Brown, & Lubansky, 2009; Dhurup, Keyser, & Surujlal, 2015; Newbury-Birch & Kamali, 2001). Consistent with this theory, research has found that a PCV presents a resource loss to employees that could lead to poor well-being (Kiazad, Seibert, & Kraimer, 2014; Lapointe et al., 2013). In line with this argument and COR theory, we argue that a loss of resources (a violation of one's psychological contract) would be positively related to work-related stress, depression and anxiety. Building on the findings described above and COR theory, we hypothesised the following:

Hypothesis 1: PCV would be positively related to occupational stress, depression and anxiety.

Mediating role of fairness and self-efficacy

Fairness is described as an individual's perception of justice in an organisation (Greenberg, 1988), and examining fairness as a mediator might offer valuable insights into the mechanism of sources of stress, job-related anxiety and depression experienced by law enforcement officers (Noblet et al., 2009). This is because an employee perceives that unfulfilled psychological contract causing feelings of violation will contribute to the evaluation of his/her own work, and hence will perceive unfairness; this, in turn, will lead to work stress, depression and anxiety. Previous studies have found perceived unfairness to be associated with psychological distress and stress-related outcomes (Adebayo et al., 2008; Kop et al., 1999; Noblet et al., 2009; Restubog, Kiazad, & Kiewitz, 2015).

There is some evidence that fairness acts as a mediator between psychological contract fulfilment and breach, and intention to quit, turnover intentions and commitment (Clinton & Guest, 2004, 2014; Guest, 2004). Equity theory (Adams, 1965) further supports this since it proposes that employees compare their situations to those of their co-workers who give similar inputs and receive similar outcomes, and that this influences employees' reactions and behaviours. For example, an employee might expect the same rewards as those received by other co-workers on successful accomplishment of a task. This expectation hinges on fairness, a crucial element in equity theory. Therefore, employees' perception of fairness, together with their feeling of violation, might influence their stress, anxiety and depression.

Self-efficacy refers to an individual's belief in their own capabilities to accomplish a certain task or tasks (Bandura, 1997). Previous studies have illustrated the mediating role of self-efficacy on negatives outcomes, such as low job satisfaction, poor task performance, burnout, general health and subjective well-being (Aloe, Amo, & Sanan, 2014; De Souza, Torres, Barbosa,

De Lima, & Souza, 2014; Grau, Salanova, & Peiro, 2001; Pratu, Pietrantoni, & Cicognani, 2010).

Similarly, Bandura (1997) proposed that individuals or employees who are self-efficacious are at reduced risk of stress, anxiety and depression (e.g., Kwasky & Groh, 2014; Regher, Hill, & Glancy, 2000; Regher, Hill, Knott, & Sault, 2003). Therefore, taking into account the importance of self-efficacy in maintaining health behaviours, it is expected that self-efficacy would play a mediating role between PCV on the one hand, and stress, depression and anxiety on the other. In particular, in the context of perceived feelings of violation, those individuals with low self-efficacy will assess their lives as getting worse, thus having a negative influence on their mental health.

As described above, PCV is an antecedent to emotional distress that could cause a range of adverse work-related outcomes (Pugh et al., 2003). Therefore, there is a possibility that this perception of violation might be explained through positive actions, namely via fairness and self-efficacy. To date, fairness and self-efficacy have yet to be considered as potential mediators of the effects of PCV on job-related depression, anxiety and stress. Based on this overview, therefore, the following hypothesis was formulated:

Hypothesis 2: Fairness and self-efficacy will mediate the relationships between occupational stress, depression, and anxiety.

Methods

Participants and procedure. Ethical approval was obtained from the Science, Technology, Engineering and Mathematics (STEM) Ethics Committee of the University of Birmingham and approval for the research was granted by the English Police Force to conduct an online survey of its police officers. G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was used to estimate

the minimum required sample size, which was 103 police officers (F-test in multiple regression, a priori analysis). A purposive sampling technique was utilised whereby any active police officer from the force could be recruited regardless of their length of service. The study was advertised on the police force's intranet system. Each respondent was made aware that they would have two weeks after the completion of the survey to withdraw from the survey if they wished.

The survey was responded to and completed by 183 officers. However, for 57 participants the survey data were incomplete, resulting in a final sample of 126 police officers (Men = 59.5%, Women = 40.5%). All the participants described themselves as being of white ethnicity with an age range of 26 years to 54 years ($M = 39.72$, $SD = 7.3$). The officers' job titles were police constable (43.7%) and police inspector (56.3%), and their length of operational service ranged from 3 to 29 years ($M = 15.14$, $SD = 6.65$).

Measures

Fairness was measured by four items from the PSYCONES (Isaksson et al., 2005) assessment tool rated on a 5-point Likert scale ranging from '1 (strongly disagree)' to '5 (strongly agree)'. Cronbach's alpha was calculated for the four fairness items and was 0.73, which is acceptable (Kline, 1999).

Occupational stress was measured using 14 items from the sources of occupational stressors (SOOS-14; Kimbrel et al., 2011) measure. The participants answered on a 10-point scale (10 = extremely bothered, 5 = somewhat bothered, and 0 = not bothered at all). The total score reflected the overall level of occupational stress experienced by

the police officer, with a higher score being indicative of greater occupational stress. Cronbach's alpha was calculated and was 0.74, which is adequate (Kline, 1999).

Self-efficacy was measured using 20 items adapted from the firefighter coping self-efficacy scale (Lambert, Benight, Harrison, & Cieslak, 2012). Each item was rated on a 7-point scale from '1 (not capable)' to '7 (very capable)'. High scores represented officers feeling self-efficacious in coping with their job demands. Cronbach's alpha for the measure was calculated and was 0.89, which is better (Kline, 1999).

Job-related anxiety and depression were measured using three items from the job-related well-being scale (Makikangas et al., 2007; Sevastos, Smith, & Cordery, 1992). Each item was rated on a 6-point scale ranging from '1 (never)' to '6 (all of the time)'. Respondents were asked to give responses relating to how their job had made them feel in the past few weeks. The Cronbach's alpha was 0.84 for job-related depression and 0.71 for job-related anxiety, both of which are acceptable scores (Kline, 1999).

Psychological contract violation (PCV) was measured from the six items of the PSYCONES measure (Isaksson et al., 2005) relating to positive and negative feelings resulting from the breach of psychological contract. Each was rated on a 5-point scale ranging from '1 (strongly disagree)' to '5 (strongly agree)'. The Cronbach's alpha for this measure was 0.81, which is adequate (Kline, 1999).

Analytical approach

All the analyses were conducted using AMOS 22.0 (Analysis of Moment Structures), a complementary application within IBM SPSS 22. Structural equation models (SEM) refer to a family of techniques, which are generally considered as a combination of factor analysis and regression (Byrne, 2016). They allow data to be explored in terms of identifying latent traits, confirming factorial structures, or examining 'causal' relationships between variables (see Bentler & Chou, 1987; Kline 1999). Here, the structural relationships between the causal variable of PCV and the health outcome variables were explored via a mediation analysis. The data were examined for normality, and multicollinearity, as described below.

With a sample size of 126, six variables and an alpha value of 0.05, G*Power software (Faul et al., 2009) confirmed that the analyses had adequate statistical power (0.92) (Cohen, 1988). While it is preferable to have larger sample sizes, the smaller number of variables used provided a variables-to-case ratio of 1:20, which is acceptable (Kline, 1999).

Before constructing the SEM, SPSS was used to compute the descriptive statistics for each of the scales – namely PCV, fairness, occupational stress, anxiety, depression and self-efficacy – and the descriptive and correlation results were inspected for normality and co-linear relationships. Although slightly skewed, none of the variables exceeded acceptable levels of skewness, i.e. ±1.96.

The examined model consisted of PCV as an independent variable, fairness and self-efficacy as mediators, and occupational stress, job-related anxiety and job-related depression as dependent variables. The demographic variables of age, gender, job title and length of operational service were controlled for when testing the hypotheses because previous studies

have suggested that they might impact on employee attitudinal and behavioural responses (Freese et al., 2008; Robinson, 1996; Rousseau, 1995).

The model represented a serial multiple mediation with three dependent variables. The indirect effect between the independent variable and dependent variables through its mediators was tested using a bootstrap method to increase the sample size to population equivalence ($n = 1000$). This generated estimates for bias correction to establish 95% confidence intervals (*CI*) for total, specific and net indirect effects. Mediation can be determined when the 95% *CI* does not include zero (Preacher & Hayes, 2008; Taylor, Mackinnon, & Tein, 2007). In testing the hypotheses, Baron and Kenny's (1986) and Sobel's (1982) multistep approach were not used because both approaches assume a normal sampling distribution of indirect effects, which is often not appropriate. Instead, the maximum likelihood estimation bootstrapping method was used because it does not make any assumption about the shape of sampling distribution of indirect effect (Hayes, 2009; William & MacKinnon, 2008).

Results

The fundamental objective of this study was to investigate how PCV was associated with occupational stress and job-related well-being among police officers as measured by job-related anxiety and depression. The correlation matrix (see Table 1) shows that PCV negatively correlated with fairness ($r = -.65$, $p < .01$) and self-efficacy ($r = -.25$, $p < .01$), and positively correlated with depression ($r = .50$, $p < .01$), anxiety ($r = .37$, $p < .01$) and occupational stress ($r = .35$, $p < .01$). Furthermore, fairness and self-efficacy were negatively related to anxiety (fairness: $r = -.38$ $p < .01$; self-efficacy: $r = -.37$, $p < .01$), depression (fairness: $r = -.38$ $p < .01$; self-efficacy: $r = -.33$, $p < .01$), and occupational stress (fairness: $r = -.44$ p

< .01; self-efficacy: $r = -.16$, $p < .05$). While these relationships were evident, all the constructs

can be viewed as conceptually distinct and, therefore, independent. These findings provide

support for Hypothesis 1.

Table 1.

Descriptive Statistics and the Correlation Matrix for Study Variables

	Mean	SD	1	2	3	4	5	6
(1) PCV	3.04	.88	(0.81)					
(2) Fairness	2.47	.81	-.65**	(0.73)				
(3) Self-efficacy	5.27	.87	-.25**	.20*	(0.89)			
(4) Stress	3.99	1.68	.35**	-.44**	-.16	(0.74)		
(5) Depression	3.73	.88	.50**	-.38**	-.33**	.26**	(0.71)	
(6) Anxiety	3.94	.75	.37**	-.38**	-.37**	.48**	.53**	(0.84)

*$p < 0.05$; **$p < 0.01$.

Hypothesis 1 stated that PCV would have significant effects on occupational stress,

depression and anxiety. The unmediated effect showed that PCV was a significant predictor of

occupational stress ($B = .68$, $p < .001$); depression ($B = .50$, $p < .001$); and anxiety ($B = .32$, $p <$

.001). These findings provide support for Hypothesis 1.
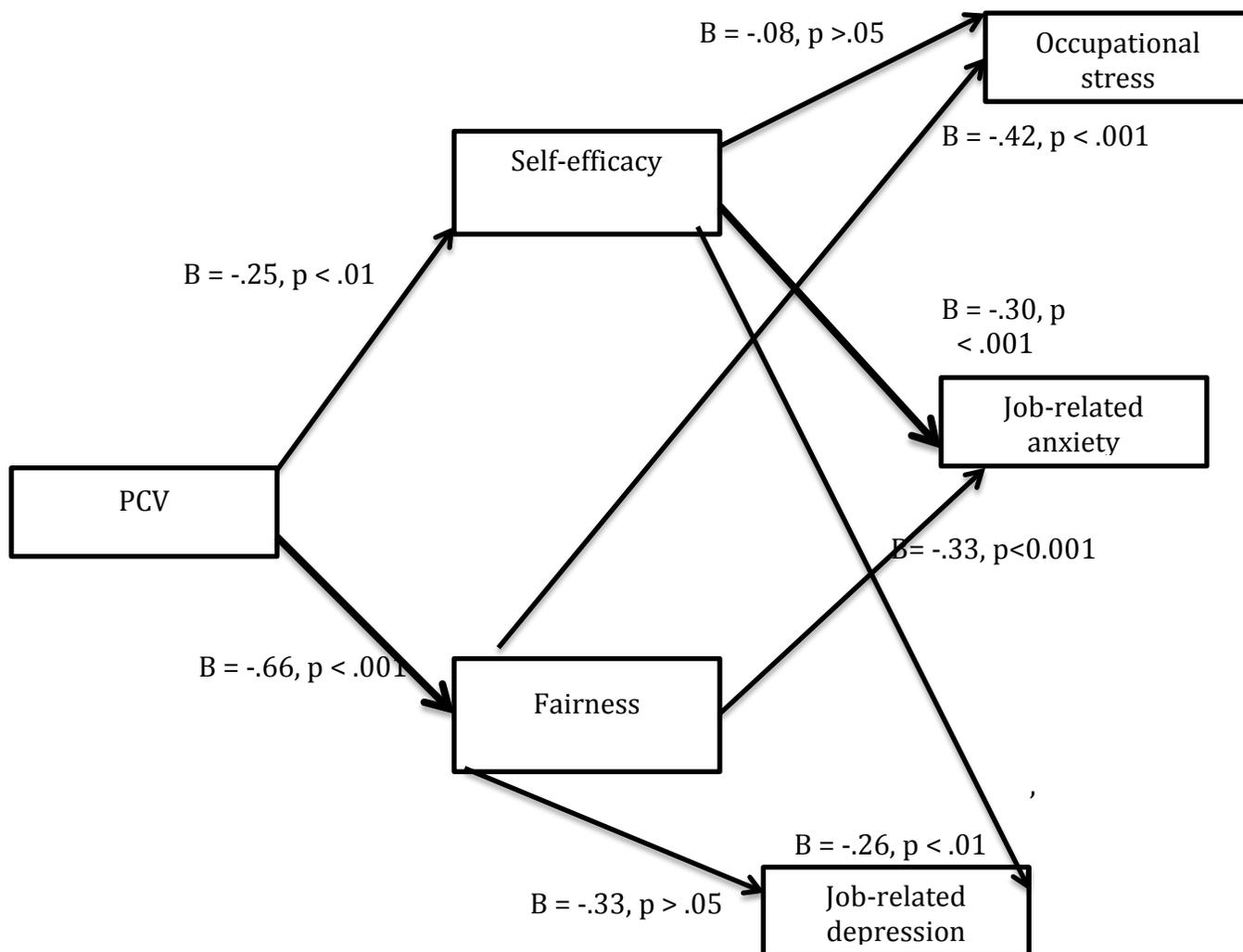
Figure 1. A model showing standardised regression weights between the variables ($n = 126$)

Hypothesis 2 states that fairness and self-efficacy would mediate the relationship between PCV, occupational stress, depression and anxiety. The model indicated a good fit to the data ($\chi^2(1)$ = .17, p = .68; GFI = .99; AGFI = .99; CFI = 1; RMSEA = .0001; NFI = .99). A significant total indirect effect was observed for occupational stress, depression and anxiety (see Figure 1 for β-values without bootstrapping) because the 95% CIs did not contain a zero. Each indirect effect was broken down into three unique effects via fairness and self-efficacy both independently and in serial (see Table 2). Fairness mediated (indirect effect) the relationship between PCV, occupational stress and anxiety (β = -.73; β = -.23; p < .01), but not the relationship between PCV and depression (β = -.10; p = .54). On the other hand, self-efficacy mediated the relationship between PCV, anxiety and depression (β = -.32; B = -.33; p < .01), but it did not mediate the effects of PCV on occupational stress (β = -.31; p = .07). Both fairness and self-efficacy mediated the effects of PCV on occupational stress and anxiety (p < .01). However, the net indirect effect of fairness and self-efficacy did not suppress the effects of PCV on depression (p = .20). Furthermore, each indirect effect was found to differ from the other in size. Fairness was the largest mediator for the relationship between PCV and occupational stress and anxiety (p < .001), whereas self-efficacy was the largest mediator for the relationship between PCV and depression. Once the mediators were included in the model, no significant direct effects remained between PCV, occupational stress (β = .21, p >.05), and anxiety (β = 0.12, p >.05). Therefore, it can be concluded that the relationships between PCV, anxiety and occupational stress were fully mediated.

Table 2.

Indirect effects based on n = 1000 Bias-corrected Bootstrapped Samples

	Standardised effect	BootLLCI	BootULCI
Total indirect effect: PCV-stress	.358	.163	.508
Indirect effect via fairness	.234	.085	.385
Indirect effect via self-efficacy	.040	-.003	.115
Indirect effect via both	.248	.10	.390
Total indirect effect: PCV-depression	.503	.344	.623
Indirect effect via fairness	.061	-.108	.242
Indirect effect via self-efficacy	.082	.021	.173
Indirect effect via both	.108	-.051	.280
Total indirect effect: PCV-anxiety	.369	.191	.518
Indirect effect via fairness	.164	.021	.334

Indirect effect via self-efficacy	.092	.020	.195
Indirect effect via both	.227	.090	.390

Note. PCV = psychological contract violation; both = fairness and self-efficacy; LL = lower limit; UL = upper limit; CI = confidence interval

Discussion

This study aimed to investigate how PCV was associated with occupational stress and job-related anxiety and depression among police officers. Furthermore, we sought to identify how these relationships were mediated by fairness and self-efficacy, both individually and jointly, because each individual is different and may perceive, or react to, PCV in slightly different ways and/or have different approaches to overcoming PCV (Priesemuth et al., 2016; Robinson & Morrison, 2000; Zhao et al., 2007).

Our findings provided full support for our first hypothesis and showed that PCV was positively related to occupational stressors, job-related depression and anxiety in our police sample. This is in contrast to two previous studies with police officers (Noblet et al., 2009; Rodwell et al., 2011). However, this difference in findings can be explained by the earlier studies measuring PCF and not PCV, as explained in the Introduction. Hence, our results suggest that employees who experience feelings of PCV by their employer are at greater risk of occupational stress, job-related anxiety and depression. These findings align with earlier work, which sampled participants from commercial, educational, governmental and industrial sectors (Bordia et al., 2008; Knights et al., 2005; Raja et al., 2005; Suazo et al., 2005). Further, building on the findings of Duran et al. (2018), Restubog et al. (2013) and COR theory (Hobfoll, 2002), feelings of violations are considered as a drain on resources that constitutes a threat to or loss of valued resources, causing work-related stress, anxiety and depression.

Fairness and self-efficacy were found to fully mediate the relationship between PCV, occupational stress and anxiety, but not their relationship with depression. They explain the underlying mechanism of the relationship between PCV and job-related anxiety and occupational stress, but not that between PCV and depression. The results explicitly show that the officers

feeling violation in their contract might perceive unfairness within the organisation and have low self-efficacy, leading to stress and anxiety.

Fairness was the largest mediator for occupational stress and job-related anxiety. These results are in line with equity theory (Adams, 1965), which proposes that unmet expectations of rewards following inputs (e.g., length of stay with the police force and effort) might aggravate negative emotional reactions (such as feelings of anxiety and distress) among police officers. Furthermore, the findings are consistent with empirical studies that have found fairness to be a mediator in overcoming psychological distress and stress-related outcomes (Adebayo et al., 2008; Clinton & Guest, 2004, 2014; Guest, 2004; Kop et al., 1999; Noblet et al., 2009). More specifically, the present study confirms our hypothesis that perceived feelings of violation resulting from perceptions of unfulfilled obligations are predictive of stress and anxiety that could be mediated by workplace fairness.

Fairness was not a significant mediator between PCV and depression; however, self-efficacy was. Self-efficacy also mediated the relationship between job-related anxiety and PCV, and it was the strongest mediator for depression. This is consistent with Bandura's (1997) social cognitive theory: first, the officers experiencing negative outcomes might believe that they cannot meet the standards and expectations of their employers (e.g., carrying out more or equivalent duties with fewer resources). Second, anxiety and depression might be heightened if officers have low self-efficacy regarding their ability to regulate negative emotions, such as feelings of violation. Previous studies with employees from educational and emergency sectors (Murris, 2002; Regher et al., 2000; Regher et al., 2003; Souza et al., 2014) have found similar evidence of self-efficacy influencing depression and anxiety. Therefore, our findings suggest that

self-efficacy plays a unique role in the understanding of negative affective states such as work-related anxiety and depression.

Overall, our findings add to the emerging literature on psychological contract by examining the violation of the perceived reciprocal exchange between employees and employers. Although earlier studies demonstrated that PCB could produce strong negative emotions and psychological distress (Kessler et al., 1988; Priesemuth et al., 2016; Zhao et al., 2007), no work had explicitly examined fairness and self-efficacy as potential mediators. Moreover, our findings identified that the feeling of violation, rather than the perception of the breach itself, influences behavioural outcomes. Consequently, we have enriched the literature by explaining different reactions to PCV (job-related well-being and the experience of occupational stress).

Limitations, future research and practical implications

There are some limitations to our study that must be noted. First, the use of self-report measures via an online survey means that response bias cannot be ruled out. However, we minimised the risk of social desirability by guaranteeing confidentiality and relying on discretionary participation. Second, the design of the study was cross-sectional; that is, all the variables were assessed at a single point in time, thereby limiting any causal inference. To address this limitation, future research needs to adopt a longitudinal design. Third, the data were collected from one police force in the England, thereby restricting the generalisability of findings to other police forces and other occupational groups. We recommend, therefore, that future research tests this model with other police officer samples to confirm the deleterious effects of PCV and the impact of mediating variables.

Despite these limitations, the findings of this study have practical implications for the management of work-related stress and well-being specifically for UK police. This work has highlighted some factors that, if fostered in the workplace, could combat the adverse effects of PCV and improve the well-being of police officers. Earlier work has shown that providing an honest explanation and communicating it with respect to employees can reduce the negative effects of contract violation resulting from a breach of obligations (Bies, 2013; Petersitzke, 2009). PCV might be lessened if the employer and human resource management offer an explanation to employees when the organisation fails to fulfil one or more obligations (Rousseau, 1995). Moreover, managers can foster realistic expectations of a job at the recruitment stage to lessen the likelihood of perceived unmet obligations that might partially be related to unrealistic expectations of the job (Fisk, 2010).

These findings are based on a sample of police officers whose perception of violations of their psychological contract, albeit it is implicit, undoubtedly affect the employer–employee relationship (Joshy & Srilatha, 2011). Given the roles that police officers undertake and the stress that comes with the job, it is presumably even more important that senior managers should facilitate a working environment that minimises any potential breaches of the 'contract' arising from failure to meet obligations or violation of perceived obligations. For example, given these results, it would be important to foster officers' feelings of self-efficacy through an environment more conducive to workload and work activities being evenly distributed and through ensuring that employees take annual leave and do not work too many hours. Filling vacant posts as quickly as possible would also help. Furthermore, employees could be instructed in self-regulatory mechanisms that foster a greater sense of self-efficacy. For example, exposure to positive experiences of success, verbal persuasion and social influences that reinforce

appropriate behaviour can be fostered to strengthen the officer's self-efficacy (Bandura, 1997; Shakespeare-Finch, Rees, & Armstrong, 2015; Souza et al., 2014).

Furthermore, from the findings it was evident that perception of unfairness with PCV is a source of stress. Organisations such as the police service can promote fairness by ensuring that the allocation of internal resources is fair (e.g., posting and promotion) (Adebayo et al., 2008), by explaining decision-making and by taking a balanced approach when resolving disputes. Moreover, fairness in an organisation would also promote the self-worth and empowerment of employees (Gakovic & Tetrick, 2003).

Conclusion

This chapter has contributed to the psychological contract literature by identifying the associations between PCV, stress and well-being. We found that employees' feelings of perceived violation were associated with work-related stress, anxiety and depression. Furthermore, fairness and self-efficacy were mediators of these negative relationships, and so they could be used as explanatory mechanisms.

CHAPTER 5

AN INTERVIEW STUDY OF THE EXPERIENCES OF FIREFIGHTERS IN REGARD TO PSYCHOLOGICAL CONTRACT AND STRESSORS

Previous empirical studies (Chapters 3 and 4), confirmed that like other occupations PC theory plays a significant role for understanding the employment relationship and improving the well-being of police officers. As the first qualitative study of its kind, this chapter explored firefighters' beliefs and experiences about the psychological contract between themselves as employees and their employer, workplace stress, stress-management strategies, and their well-being. The findings have implications for human resource departments within UK Fire and Rescue Services (UKFRS) trying to manage the impact of funding cuts and they highlight the potential value of the PC as a construct around which such issues can be explored.

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Chapter 5: An interview study of the experiences of firefighters in regard to psychological contract and stressors

Firefighting is one of the most stressful occupations with firefighters being exposed to a range of demands, which can impact upon their somatic and mental well-being (Beaton, Murphy, Pike, & Corneil, 1997; Norwood & Rascati, 2015). The stress they experience is a relevant concern for the many countries around the world that employ them and has been a topic of academic study in several countries, including Japan, the UK, Malaysia, the USA and Canada (Malek, Mearns, & Flin, 2010; Murphy, Bond, Beaton, Murphy, & Johnson, 2002; Saijo, Ueno, & Hashimoto, 2008; Sommerfeld, Wagner, Harder, & Schmidt, 2017).

In the UK in particular, industrial relations are a pressing matter within the organisational climate of UK firefighting (Brunsden & Hill, 2009). Since 2010, UK Fire and Rescue Services (UKFRSs) are facing budget cuts as a result of austerity measures. In the last few years, the UK Government has reduced the funding received by the UKFRSs by 30% (CFOA, 2012). At present, the austerity cuts facing UKFRSs have yet to be fully implemented, however, already there has been a reduction in the number of full-time retained and control firefighters. Specifically in England, the total number of firefighters has decreased by 3.2% in 2015 and by 14.7% between 2005-2015 (Bega, 2010; Gaught, 2016). Greenwood (2016) has estimated that the UKFRSs could lose up to 10,000 more firefighters by 2020. This may, in part, be due to the overall downtrend in the number of fires that are attended to on an annual basis as shown in Figure 1, produced from the national statistics (Home Office, 2014).
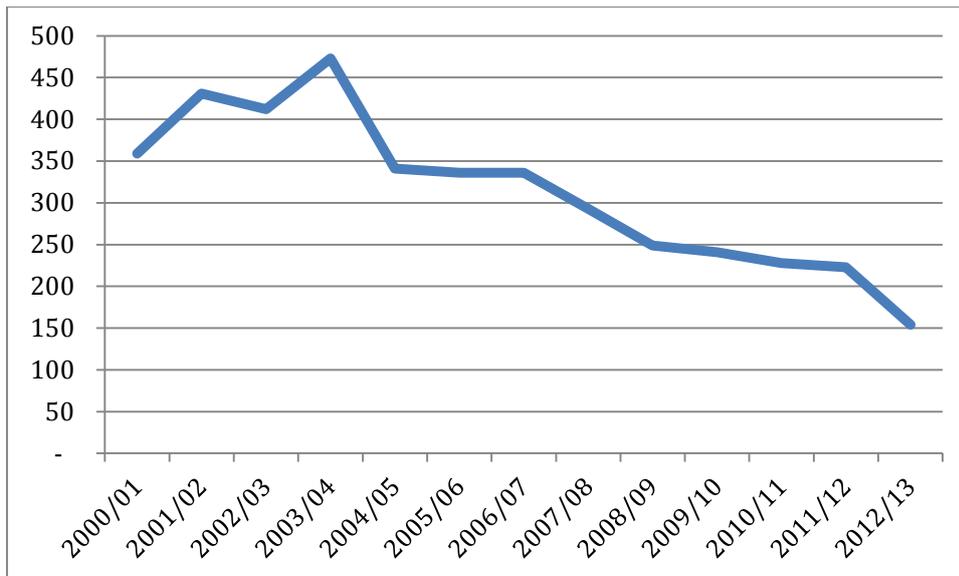
Figure 1: The downward trend in fires occurring in UKFRS between 2000 and 2013 based on statistics reported in national statistics (2014).

Regardless of the trend in the reduction of fires, the UKFRS remains critical to public safety and it is timely to study how actions by the Government, and the implementation of these by the employer, might act as a stressor affecting the well-being of UK firefighters. A reduction in the number of firefighters isn't a concern limited to the UK. In the US, the total number of volunteer firefighters now exceeds the number of career firefighters and even the number of volunteers per 1000 of the population is decreasing (Haynes & Stein, 2016). The present study therefore aimed to understand the experiences of firefighters working in the UK and to explore their psychological contract (PC) in the austerity climate and its impact on their stress and well-being.

There are number of incident-related stressors faced by fire service personnel that can affect their mental and physical health including time pressure, lack of sleep, fatigue, high stakes decision-making, risk of injury to self or death, and exposure to other people's trauma (Bos, Mol, Visser, & Frings-Dresen, 2004; Murphy et al., 2002). The National Institute for Occupational Safety and Health (2014) has attributed an increase in deaths of firefighters to

cardiac arrest and high blood pressure (Kales, Tsismenakis, Zhang, & Soteriades, 2009), and they are noted to suffer from weakened immune systems, musculoskeletal difficulties, and fatigue (Cohen & Herbert, 1996). A common reason for leaving the fire service for retirement or early retirement is ill-health (Gaught, 2016). Moreover, Stanley, Hom, Hagan and Joiner (2015) have found a high risk of suicide among firefighters.

In addition to incident-related stressors, there are a host of organisational stressors that firefighters can be exposed to, which include shift patterns, overtime, excessive workload, departmental politics, harassment, poor organisational climate, poor communication, lack of training, and conflicts with co-workers and supervisors (Brough, 2004; Brunsden, Woodward, & Regel, 2003; Saijo, Uero, & Hashimoto, 2008). These stressors can have long-term psychophysical and behavioural effects on the health of firefighters, for example, anxiety and depression (Brough, 2004); burnout (Prati, Pietrantoni, & Cicognani, 2011; Vaulerin, D' Arripe-Longueville, Emile, & Colson, 2016); emotional exhaustion (Smith, Folkard, & Fuller, 1999); depersonalisation (Alexander & Klein, 2001); and post-traumatic stress disorder (McFarlane & Bryant, 2007).

While there is evidence for a relationship between workplace stressors and poor psychological health with samples of firefighters (Brunsden et al., 2003; Prati et al., 2011; Saijo et al., 2008; Vaulerin et al., 2016), there is also the potential that such a relationship can be mediated by other positive factors. Factors such as social support, self-efficacy, coping strategies, maintaining a work/family and/or work/leisure balance, mindfulness training and resilience have all been identified as potential mediators of chronic and complex stressors in the workplace (Carpenter et al., 2015; Cowman, Ferrari & Troth, 2004; Halbesleben, 2009; Khoury et al., 2013; Lambert, Benight, Harrison, & Cieslak, 2012; Lee, Ahn, Jeong, Chae, & Choi, 2014; Regehr, Hill, Knot, & Sault, 2003; Wong, Lin, Liu & Wan, 2014). The current study therefore sought to understand what incident-related and organisational stressors were

being experienced by UK firefighters, as well as improve our understanding of what factors might help them buffer or manage the effects of workplace stress on their well-being.

As well as potentially having a negative impact on the employee, organisational stressors are also associated with negative outcomes for the organisation itself, e.g., poor job satisfaction and subsequent staff turnover and absenteeism (Brough, 2004). A comprehensive understanding of employee-employer relationships within firefighting organisations can help determine ways to tackle such organisational stressors. An area that has received less attention to date is the social exchange construct of 'psychological contract' (PC). It refers to "a person's beliefs regarding the terms and conditions of the reciprocal exchange agreement between themselves and their organisation" (Rousseau, 1989, p. 123). Rousseau (1990, 1995) categorised the perceived obligations into transactional and relational obligations. Transactional refers to obligations that are extrinsic, that occur in a close-ended time frame, that are static and observable (e.g., pay and reward). In contrast, relational obligations are more open-ended, intrinsic, dynamic and subjective (e.g., job security) (Conway & Briner, 2009; Rousseau & McLean Parks, 1993). PC therefore covers a range of issues like trust, fairness, promotion, training, development and decision-making (Conway & Briner, 2005; Turnley & Feldman, 2000). Studies of work-related stress have argued that breaches and violations of PC can make a significant contribution to the stress experienced by employees (Noblet, Rodwell, & Allisey, 2009). PC fulfilment has been found to predict job and life satisfaction (De Cuyper, Van der Heijden, & De Witte, 2011), resistance to change (Van de Heuvel & Schalk, 2009); and the level of trust and fairness between employees and employers (Van de Vaart, Linde, Beer, & Cockeran, 2015; Van de Vaart, Linde, & Marike, 2013). Organisations that fulfill employees' PC have low work-related anxiety and depression, and job insecurity (Guest, Isaksoon & De Witte, 2010). The employer's fulfilment of obligations affects the employee's intentions regarding whether to resign or stay

with an organisation (De Cuyper & De Witte, 2006; Flood, Turner, Ramamaoorthy, & Pearson, 2001). In contrast, when employees' perceived obligations are broken it results in negative organisational outcomes such as increased turn over intentions, organisational distrust, and job dissatisfaction (Wayne et al., 2007).

Previous literature has linked PC breach to social exchange theory (Blau, 1964), which states that employees try to achieve a balance in the exchange between themselves and their employer, for example, employees work hard and in return expect to be recognised for their efforts. When the employees perceive imbalance in the fulfillment of perceived obligations, there are negative consequences. Similarly, PC breach could be linked to stress and well-being from a conservation of resources theory (COR) perspective. This theory states that an individual protects his/her required resources (money, health, etc.) and that perception or actual loss of such resources can trigger negative consequences (Halbesleben & Bowler, 2007; Hobfoll, 1989, 2001). Consistent with this theory, we argue that unmet obligations perceived as a loss of valued resources (Restubog, Zagencztk, Bordia, & Tang, 2013) could be linked to stress and well-being. In high-stress jobs such as firefighting, a fulfilled PC might be one way to ameliorate the stress experienced by employees.

While there is a substantial literature on PC with employees and employers from the educational, retail, and commercial sectors, the authors could only identify three studies, which had examined this construct with firefighters (Coyle-Shapiro, 2002; Coyle-Shapiro & Kessler, 2003; Liao-Troth, 2005). Liao-Troth sampled 85 volunteer firefighters in the US and investigated the relationship between PC formation and individual motives (such as career, values, and protection) that would imply loyalty for a longer period within the organisation. No association was found between the PC type and motives, perhaps because volunteer rather than full-time, career firefighters were sampled.

In the UK, Coyle-Shapiro (2002) and Coyle-Shapiro and Kessler (2003) applied the

PC construct to two samples of public sector employees of 480 and 5709, respectively, to study the effects of perceived PC fulfilment on their attitude and behaviour. PC fulfilment was found to be a predictor of public sector employees' organisational commitment and organisational citizenship behaviour. However, only 40 and 211 of the participants were firefighters, which equates to 4% and 8% of each sample, respectively. Therefore, it is difficult to know to what extent the findings apply to firefighters, specifically.

Each of these existing studies with firefighters has used quantitative methods to measure PC. To the authors' knowledge, no previous study has utilised qualitative methods to explore how PC and the consequences of broken obligations or promises are experienced by firefighters. Therefore, the potential contribution of this study is its qualitative design and the unique sample of firefighters: this could add more detail to the otherwise dominant stream of quantitative studies among more common segments of the labour market. In the current climate of budget cuts, the outcome of the study would assist the management of UKFRS because they play an essential role in managing the PC of their firefighters. A qualitative study provides greater detail in terms of whether firefighters have different reactions to PC breach or are alike other professions. It is also important to conduct such a study because tests devised to measure PC (e.g., PSYCONES, 2005; Rousseau, 1990; 2000) have been developed with employees from the commercial, educational and retail sectors and have yet to be validated with employees from the emergency services. Therefore, the current study took a qualitative approach to address this gap in the literature.

The current study aimed to fill a gap in the literature by examining UK full-time firefighters' beliefs about mutual obligations stemming from social-cultural context. It is an uncertain time in the UK for firefighters, where taking positive actions to improve their experiences could be important. We also aimed to examine the stressors experienced by UK firefighters; this was because most studies of emergency personnel focus on the causes and

effects of stress among police officers and paramedics, rather than firefighters (Larsson, Berglund & Ohlsson, 2016; Malek et al., 2010). They are, therefore, a relatively neglected group.

Method

Participants and recruitment. Participants were recruited from 11 different fire stations from within one English county. The recruitment process utilised a variety of methods including electronic and face-to-face meetings with watch commanders and firefighters. In addition, the Fire and Rescue Service Human Resource Department circulated an electronic recruitment letter to different fire stations across the county. The participants also aided recruitment by snowballing information about the study to colleagues through social networking.

In total, 11 full-time, active, frontline firefighters participated. The ethnicity of all interviewees was white, and all except one were male. Four were single and seven were married or in a relationship. Their length of operational service ranged from 1.5 years to 12.5 years. They were watch commanders ($n = 2$) and firefighters ($n = 9$).

Materials. A semi-structured interview was conducted with each participant on an individual basis. At the start of the interview, demographic information was collected from the interviewee regarding their gender, ethnicity, marital status, job title, number of years worked in the Fire and Rescue Service, and number of hours worked per week. The remainder of the interview schedule consisted of open-ended questions, which defined areas to be explored, but which also allowed for flexibility to discuss emerging issues. With regard to PC, the interview schedule included questions about firefighters' expectations regarding their job and employer with prompts and further questions (in some cases) related to obligations

commonly mentioned in the PC literature such as development and training opportunities, and sources of support. These questions were open-ended allowing the interviewees to cover relational and/or transactional obligations. In recognition of the reciprocal nature of PC, we asked about perceived obligations of the employee as well as of the employer, whether these were being met and, if not, why not. The flexibility of a semi-structured interview enabled us to ask follow-up questions about obligations raised by the interviewee, which did not feature in the interview schedule. In light of the association between PC fulfillment and positive outcomes as well as PC breach and violation with negative outcomes, we also asked interviewees about the positive and negative impact of their job and explored the stressors they experienced and what strategies and resources were available to them to tackle these (see Table 1).

Table 1.

PC Dimensions and Relevant Interview Questions

PC Dimensions	Interview Questions
Reciprocal exchange between themselves and their employer	What are/were your perceived obligations when you joined the fire service? Have these changed in any way? Do you feel that your employer has any perceived obligations from you? Are these expectations/obligations realistic?
PC Fulfilment/Breach/Violation	Do you feel that your employer has fulfilled their obligations to you? In what way? Does your employer help you in managing the stressors you mention?* Does your employer provide you with support? If yes, what sort of support? If no, why do you think this is?* How happy/satisfied are you with your work in the fire service? Are their particular aspects that are more/less satisfying than others?**

*Relevant to PC Fulfilment if "support" was referred to as a perceived obligation.
**Identified areas of PC fulfilment/breach

Procedure. Ethical approval for the study was obtained from the Science, Technology, Engineering and Mathematics (STEM) Research Ethics Committee. Before the commencement of the interview, the participant information sheet and consent form was provided to the participants. Their consent was obtained for the interview being audio recorded. Interviews were conducted either at the firefighter's workplace ($n = 6$) or over the telephone ($n = 5$). The mean interview length was 51 minutes (range: 42 - 56). There were no differences between the face-to-face and telephone interviews in relation to length of interview. Participants were given a £20 Love-to-Shop voucher on completion of the interview. Due to the topic of the interview, each participant was given the contact details of their occupational psychologist at work so that they could seek help, if needed. Participants were given two weeks post-interview to withdraw from the study. Once this time had passed the audio files were transcribed verbatim (replacing names with pseudonyms) and deleted.

Data analysis strategy. Framework analysis (Gale, Heath, Cameron, Rashid & Redwood, 2013; Ritchie & Lewis, 2003; Ritchie & Spencer, 1994) was chosen as the method of analysis since it is a systematic approach to analysis but also allows for changes to be made to the coding framework during the analytical process. Further, themes can be constructed at multiple levels. Themes are developed from the data and not a priori. QSR Nvivo10 was used to manage the data while ensuring the analyst could still view the original material. Each respondent was allocated a row while sub-headings were organised into separate columns. Each transcript was analysed by coding the data into base units of meaning and creating free codes. These free codes were further categorised into logical themes. The generated themes for each participant were incorporated across participants to produce a list of high-order categorised themes capturing shared experiences of the participants. The authors scrutinised the relationships and interactions between the themes in the chart to explain the beliefs and

experiences of the firefighters sampled (Ritchie & Lewis, 2003; Ritchie, Lewis, Nicholls, & Ormston, 2013).

Results and discussion

Five main themes were identified and were labelled 'Motives', 'Mutual obligations', 'Stressors and their effects', 'Moderators', 'Retention factors' (see Table 2). Each of these themes served as an umbrella theme for high-order categories.

Table 2.

Key Themes and their Definitions (n = 11)

Key themes	Definition
Motives	The different reasons given by interviewees for joining the fire service.
Mutual obligations	The perceived obligations that firefighters have of their employers and their perceptions of their employer's obligations of them.
Stressors and their effects	Different types of stressors referred to by the interviewees, namely organisational, personal/family, incident-related and government stressors. The reported effects of these stressors on the interviewees' well-being.
Moderators	External and internal support used to buffer the effects of stressors. Different coping strategies implemented by each individual.
Retention factors	The aspects of the job and changes over time that assist in the retention of employees.

Further, these high-order themes consisted of lower-order categories and then base units of meaning. How these levels were arranged can be seen in Table 3. Moreover, how often each lower-order category and each base unit was referred to in the interviews and by interviewee is included in Table 3.

Table 3.

High-order, Low-order Categories and Base Units of Meaning by participants (N = 11)

High-order categories	Low-order categories	Base units of meaning
Motives (*n* = 11; 21)		Life time aspiration (*n* = 1; 5)
		Not a 9-5 job (*n* = 2; 3)
		Not everyone can be a firefighter (*n* = 2; 2)
		Better career opportunities (*n* = 7; 7)
		Good pension schemes (*n* = 7; 3)
		Family tradition *(n* = 1; 1)
Employer obligations	Transactional obligations (*n* = 8; 31)	Financial rewards (*n* = 2; 5)
		Safe working environment (*n* = 8; 11)
		Appropriate equipment (*n* = 8; 15)
	Relational obligations (*n* = 11; 41)	Job security (*n* = 6; 6)
		Respect (*n* = 4; 7)
		Treated fairly (*n* = 3; 5)
		Provide assistance if I am struggling (*n* = 3; 4)
		Training and development /advance and growth (*n* = 3; 19)
Employee obligations	Loyalty (*n* = 11; 47)	Being punctual and professional (*n* = 9; 9)
		To perform duties with trust and fairness (*n* = 11; 11)
		Good teamwork (*n* = 10; 15)
		Maintain competencies (*n* = 9; 12)
	Look after the property (*n* = 11; 11)	To keep station clean and tidy (*n* = 11; 11)
PC breach (*n* = 9; 71)		Do more (*n* = 9; 15)
		Financial strain (*n* = 8; 10)
		Under resourced (*n* = 9; 15)
		Changes to pension scheme (*n* = 7; 14)
		Government a major cause of problem (*n* = 9; 17)
		Meeting set targets (*n* = 2; 4)
Types of stressors	Organisational stressors (*n* = 11; 27)	Amount of paper work (*n* = 5; 6)
		Shift pattern (*n* = 4; 5)
		Reduction in firefighter numbers (*n* = 8; 8)
		Time management at work (*n* = 1; 2)
		Dealing with people in station (*n* = 2; 2)
	Government stressors (*n* = 11; 33)	Change in pension scheme (*n* = 9; 14)
		Financial budget cuts (*n* = 8; 11)
		Massive strikes (*n* = 7; 8)

	Personal/family stressors (*n* = 7; 18)	No sufficient time for family (*n* = 7; 9) No leisure time for one's own self (*n* = 1; 2) Having balance between work and life (*n* = 7; 7)
	Incident-related stressors (*n* = 5; 30)	Buildings on fire (*n* = 2; 6) Unable to help people in incidents (*n* = 2; 9) Serious incidents (*n* = 5; 6) Dealing with public on scene (*n* = 3; 4) Distracted by people's interference (*n* = 2; 2) False alarms (*n* = 2; 3)
Its affects	Psychological distress (*n* = 5; 19)	Mild anxiety (*n* = 3; 6) No 'me' time (*n* = 3; 3) More depressed (*n* = 5; 6) Unable to manage social, work and home life (*n* = 2; 4)
	Physical distress (*n* = 6; 14)	Sore and tired muscles (*n* = 1; 2) Remain sick a lot (*n* = 2; 2) Lots of injuries (*n* = 1; 3) Lack of sleep (*n* = 6; 7)
Moderators	Social support (*n* = 11; 57)	Talk to friends, family (*n* = 7; 16) Talk to partner (*n* = 7; 8) Occupational Health Department (*n* = 11; 11) Watch colleagues and commander (*n* = 11; 18) Union (*n* = 3; 4)
	Avoidance (*n* = 3; 6)	Go to movies (*n* = 3; 4) Denying the injury and focusing on the situation (*n* = 2; 2)
	Mindfulness (*n* = 3; 8)	Don't get stressed (*n* = 3; 3) Stressors are part of job (*n* = 2; 5)
Retention factors (*n* = 11; 32)		Job diversity (*n* = 10; 10) Colleagues becoming part of their social network (*n* = 11; 22)
	Personal development (*n* = 3; 17)	Responsible (*n* = 3; 3) Confident (*n* = 3; 4) Competent (*n* = 3; 6) Mature (*n* = 3; 4)
	Self-awareness (*n* = 4; 5)	Better understanding of safety work (*n* = 1; 1) Dealing with emergency situation (*n* = 4; 4)
	Balance between work and life (*n* = 3; 12)	Experience leads to better work-home balance (*n* = 3; 6) Now can switch off from work at home (*n* = 2; 2)

(n=) = the number of interviewees citing the theme/base unit and this is followed by the number of times the theme or base unit was cited overall.

Theme 1: Motives

This theme encapsulated each of the participants' reasons for joining the Fire and Rescue Service. Within it, there were six sub-themes. 'Life time aspiration' accounted for more than two-thirds of all responses.

> *It was my passion to join the fire service from my childhood because it is an exciting job. I never thought of any other job really (Female, Firefighter 1).*

The other reasons for joining the fire service included firefighting not being a typical job with typical hours (i.e., 'not a 9-5 job') and it having 'better career opportunities' than other jobs.

> *I wanted to do something that was different from the routine. By routine I mean 9 – 5 jobs and there would be not a single day that is the same. (Male, Firefighter 7).*

> *I opted for the fire service really; when I wanted a change...This profession provides a better career in comparison to other job structures (Male, Watch Commander 10).*

Further, approximately half of the interviewees referred to the UKFRS having a generous pension scheme in comparison to other professions as a reason of joining. These officers would have joined UKFRSs prior to the implementation of financial cuts.

> *I chose to be a firefighter because I want to have a better living standard when I retire (Male, Watch Commander 10).*

Interviewees also commented that a reason for joining was that 'not everyone can be a firefighter', which suggests the job has a special status associated with it, which gives them a feeling of pride and achievement.

> *I always wanted to purse this job, as it is very difficult to get into this job. (Male, Firefighter 3).*

> *...because not everyone can get into this job easily, just like the army (Male, Watch Commander, 10).*

Moreover, there was one participant who joined because of 'family tradition' i.e., his

relatives were part of the Fire and Rescue Service and he grew up hearing firefighting stories.

> *My uncle was a firefighter and hearing his stories developed my interest to join this profession. It took me quite a long time to get into this job, as I wanted to join the fire service when I was 15 years old (Male, Watch Commander 8).*

From the above, it was clear that motives for joining the Fire and Rescue Service would likely be associated with PC breach because some of the employees had joined with the perceived obligations of having better pension schemes, as compared to other professions. However, in the current climate of austerity cuts in the UK, and with the Government having brought in changes to firefighters' pension schemes in 2011 (CFOA, 2012), it is likely that such perceptions are difficult for the Fire and Rescue Service, as the employer, to satisfy. Therefore, the cuts act as an external force triggering PC breach by the Fire and Rescue Service meaning the organisation can no longer fulfil its perceived obligations (Thompson & Bunderson, 2001).

Theme 2: Mutual obligations

This theme captured firefighters' perceptions of what the perceived obligations were of their employers ('employer obligations') and their beliefs of what their employers would expect of them ('employee obligations') (see Table 2). There were eight employer obligations that could be further categorised into relational and transactional obligations (Bunderson, 2001; Rousseau, 1990; 2000), and five employee obligations towards their employer, which were further categorised into the obligations of 'loyalty', and 'looking after property'.

Employer obligations

In terms of transactional obligations, more than half of the firefighters perceived to be provided with a safe working environment by the employer, which was related to the employer providing appropriate and sufficient equipment. In addition, they spoke about the

need for the employer to provide the right equipment to allow them to perform their duties with professionalism. Moreover, two of the participants spoke about financial rewards. Specifically, they talked about their belief that they would receive their pay on time and that they would be provided with a good pension scheme.

> *We want to be paid at the end of the day, as we need money for our living. We need a good pension scheme as well (Male, Watch Commander 10)*

In addition, firefighters spoke about relational obligations (Rousseau, 1990; 2000): three of the interviewees expected there to be parity in how themselves and their colleagues were treated. They talked about the stress, demands and responsibility associated with the job and that they accepted these providing they received financial security now and in the future. Cuts in the budgets of the fire service meant that the frontline firefighters we sampled were concerned about their job security.

> *I want to be treated fairly by my employer as the rest of the employees are treated. My bosses and supervisors should keep a check on whether we are treated fairly... (Male, Firefighter 4).*

> *I expect to have a secure job when we are facing budget cuts. I want quite a secure job in terms of how long I will be protected from redundancy (Male, Firefighter 8).*

Four of them referred to beliefs that their employer respect them and understand their position, as they were once at a similar stage of career.

> *They should realise that once they were also a firefighter. They [seniors] should respect us (Male, Firefighter 6).*

Further, three firefighters expected that their employer would provide them with opportunities for advancement and growth, or training to develop into a competent firefighter, so that they are up-to-date in their job role. It was felt that this would enable them to tackle difficult situations in a professional manner.

I want to have good training in order to deal with serious incidents... So, to develop into a competent firefighter, I need more training. This will assist me to grow in my role by being a fully competent firefighter (Male, Firefighter 5).

Three of them mentioned that they want to be provided with assistance when they are struggling with a task.

Sometimes, I want them to help me, when I am struggling with something. By something' I mean anything that is related to performing the duty with excellence (Male, Firefighter 11).

Three-quarters of the interviewees perceived that, most of the time, employers met their perceived obligations by, for example, providing training. They also mentioned that they were treated the same way as other employees within the organisation. A point they were concerned about, however, was the skills of higher management within their organisation.

I am unhappy with the selection of our senior leaders. The reason is you [high ranking officials] are selecting the people on the basis of practical skills no matter how goofy their management skills are (Male, Firefighter 3).

Employee obligations

In terms of 'employee obligations', 90% of the interviewees felt that they fulfilled their employer's perceived promises by being 'loyal' (Bunderson, 2001; Herriot, Manning, & Kidd, 1997) to the organisation, i.e., protecting the core values of the Fire and Rescue Service (being punctual, maintaining competencies, being a good team player, and performing duties with loyalty to the fire service). Moreover, the employers were perceived to have an expectation of their employees that equipment would be cared for (Herriot et al., 1997) and that the station would be kept clean and tidy.

My employers just want me to promote and preserve the core values of the fire service. These core values are definitely to perform well when a certain task is given. All the

firefighters have to keep the stations clean and tidy and maintain unity within our

team (Male, Firefighter 11).

One-third of the firefighters perceived their employers' obligations of them to have changed from the time they started in the job. This is consistent with previous literature (Conway & Briner, 2009; De Muse, Bergmann, & Lester, 2001; Robinson et al., 1994), which suggests that the PC changes with time. However, the firefighters interviewed seemed to suggest that this wasn't a positive change and that they were now overwhelmed by the different duties required of them.

The way we do the job has changed a lot these days. It's much like we not only have

to attend the incidents but also educate children. There is so much to do rather than

dealing with the fire calls (Male, Watch Commander, 10).

PCs can be classified as relational or transactional (Rousseau, 1998, 2000). As noted above, employer obligations reported by our participants represent both transactional and relational elements because they refer to monetary and non-monetary exchanges within an open-ended agreement (Rousseau, 1990). However, the obligations referred to by the majority of interviewees are relational because they are implicit and subjective with no clear time frame (Conway & Briner, 2009). This is most likely because the firefighters sampled were all full-time (career) firefighters as opposed to part-time or volunteers, whose PCs are more transactional in nature. Furthermore, a few interviewees perceived a decrease in the relational component of their PC with their employer over time, in terms of reduced levels of respect, and a reduced commitment to the organisation (much alike De Muse et al., 2001).

In terms of how the experiences of our interviewees mapped onto aspects of PC measured by existing tests, the obligations mentioned by the firefighters, such as receiving a good rate of pay, having job security, being treated fairly by the employers, and being provided with opportunities for advancement and personal growth, are similar to how

employer obligations are measured in PSYCONES (2005) and Bunderson's (2001) measure of PC. These measures were developed with employees from the commercial, retail, educational and health care sectors, therefore these findings suggest that firefighters perceive similar obligations from their employers as employees in other sectors.

PC breach

PC breach refers to when employees perceived their obligations to be unfulfilled. Within the interviews, there was some evidence that firefighters perceived a breach to their PC with their employer (Morrison & Robinson, 1997). However, rather than the firefighters referring to the Fire and Rescue Service having breached the contract, their actual employer, they instead referred to the Government as the cause of the breach. So, while the employees were largely happy with their employer (the Fire and Rescue Service), three-quarters of the interviewees were unhappy with the Government, who they perceived to be the cause of the current industrial action.

> *...Firefighters might be happy with their employers but they are not happy and satisfied with the Government. This is leading to massive strikes.... (Male, Firefighter 7).*

Within the interviews, having to "do more" was often spoken about alongside comments regarding the "financial strains" being experienced by the Fire and Rescue Service. This suggests that the increased number of tasks facing the firefighters might also stem from the reduction in their numbers (i.e., fewer personnel having to do more with less). Other quotes from the interviewees implied a general sense of feeling under-resourced with the implication being that numbers could reduce further as people left the service. This seemed to implicate a breach in the PC from the employees' perspective:

> *In previous years, the number of firefighters is going down. There are fewer fire engines... we have a lot of financial strains these days. If these continue, we are*

further going to go down in numbers (Male, Watch Commander 10).

As noted above, several of the firefighters referred to the "good pension scheme" as a reason for joining the service and that receiving a good pension was an obligation they perceived their employer to fulfil. However, approximately 80% of the firefighters referred in negative terms to the UK Government making changes to the pension scheme within the fire service during their interviews:

The Government is not right by bringing change in the pension scheme (Male, Firefighter 6).

Further suggestions of breaches to their PCs lay in comments which implied they did not feel recompensed sufficiently for the challenging job they undertook, and that they were not being given sufficient resource to perform their job adequately (i.e., insufficient staffing and inadequate equipment).

It's because we work hard, giving our best, therefore we should be paid for it (Male, Watch Commander 8).

They (the Government) want to save money by having cuts in our budget...hmmm because of this; we have lots of financial strains and few firefighters, today. There are also fewer fire engines (Male, Firefighter 6).

The public needs to be aware of what the Government is doing with the firefighters (Male, Watch Commander 8).

As a public service, the fire service extends the traditional model of a PC between employer-employees since, while firefighters have an immediate employer (the fire service), they are also employed by the Government (Dick, 2006). Further, while they have obligations to their employer, these extend to providing a service to the public. The public can have their own expectations of firefighters and the fire service, which may or may not be met. The quotes from the firefighters we sampled imply that firefighters are aware of this and so wish

the public to be aware of the difficult circumstances in which they are operating should they not be meeting the public's expectations.

Theme 3: Stressors and their effects

There were a number of stressors cited by the firefighters we interviewed; family/personal, organisational (circumstances within the organisation that cause stress, such as high workload, etc.), incident-related (stressors resulting from attending an incident at work), and government stressors. These stressors were identified as having a negative impact on the physical and psychological well-being of the firefighters in the current organisational climate of UKFRSs (see Table 3). The primary source of stress as perceived by the firefighters was referred to as 'the Government':

> *They (the Government) are causing stress by messing with our finances, messing with*
>
> *our pensions, messing with our retirement wages (Male, Watch Commander 8).*

Another type of stressor faced by the interviewees was a personal stressor related to 'family problems'. More than half of the employees reported having insufficient time for family, holidays and festivals. One interviewee spoke about being unable to find any leisure time for him/herself ('personal stressor') and several talked about the difficulties of maintaining a good balance between work, home and social life. This seemed particularly relevant to participants who were in a relationship or had a family. In contrast, the employees who were not in a relationship or who were single were more satisfied in terms of their work-life balance. These findings resonate with Conway and Briner (2009) and Millward (2006) who found that events such as marriage and parenthood influence or change an employee's perceived obligations from their employer.

> *I am unable to make up for holidays and festivals due to my job commitments. I have*
>
> *no time for a social life, honestly. At times, it gets difficult for me to have a balance*

between my work and home (Male, Firefighter 9).

One-quarter of the firefighters reported 'incident-related' stressors such as dealing with fires, false alarms, dealing with members of the public on the scene, and being distracted from their work by members of the public's interference. Furthermore, it was distressing for these employees when, at times, they were unable to help people involved in the incident. It seemed that incident-related stressors were not linked to PC breach.

It gets really difficult to deal with the public as they come up with their cameras and make videos. Even though, when they are asked to move back politely, they never listen to you. They think it's like we are not doing anything serious or it's not a serious job, but it is really distracting and disturbing (Male, Firefighter 5).

Sometimes you deal with nasty incidents and nasty people so it gets stressful (Male, Firefighter 4).

The firefighters interviewed reported facing 'organisational stressors', namely large amounts of paperwork, team conflicts, shift patterns (four days on and four days off), and difficulties with time management. An additional organisational stressor reported by the interviewees was a reduction in numbers of firefighters - too few firefighters puts pressure on the remaining staff to fulfil the duties required of them. This is consistent with existing literature (Gaught, 2016) with one implication being that in future there might be further reductions in the number of firefighters.

The industrial action will make terms and conditions more difficult. Already we are dropping in numbers and our job is important in order to protect the community. I find this stressful... (Male, Firefighter, 11).

It was evident from the quotations that, unlike incident-related stressors, personal, government and organisational stressors were linked to PC breach that might subsequently have a negative impact on the firefighters' well-being.

Effects of stressors

As a consequence of these incident-related, organisational and personal stressors, the employees reported experiencing 'physical distress' including being tired and run down. Lack of sleep/poor sleep was a common consequence of organisational stressors (i.e., shift patterns).

When I come from the night shift it gets difficult for me to get rest (Male, Firefighter, 4).

Sometimes, I am a bit tired when I am unable to manage work life and social life and shift pattern. I run down to a point that I do not have rest and this affects my sleeping pattern as well. I don't get enough sleep. (Male, Watch Commander 10).

The shift pattern being a stressor is consistent with some previous research where it was attributed to causing physical distress (Bos et al., 2004; Murphy et al., 2002). In contrast, Litchfield and Hinckley (2016) didn't find such a relationship but found that a different shift pattern (of two days and two nights on and four days off) was associated with a better work–life balance among firefighters.

Incident-related stressors were more often associated with muscular discomfort and pain, injuries and falling sick. A few of the interviewees reported experiencing 'psychological distress', namely mild anxiety and depression, due to personal/family stressors, in particular having no time for themselves or family. For two interviewees, their intimate relationship with a partner had also ended because they were unable to balance work and home life. Firefighters also mentioned emotional or physical exhaustion resulting from the demands of the job. In addition, Halbesleben (2009) found that emotional exhaustion could result from work-family conflict.

I found myself exhausted by push and pull. In this environment, I was suffering from

mild anxiety and stress affecting my sleep, life, and mood. I was unable to manage work life and home life. I was unable to give time when my kids wanted me (Male, Firefighter 4).

Our findings accord with previous conclusions about firefighters facing organisational stressors, family stressors (Brunsden, Hill & Maguire, 2014), and incident-related stressors (Brown, Mulhern, & Joseph, 2002). In addition, our sample referred to stressors attributed to the Government. This was considered as an external stressor acting on the fire service as an employer preventing fulfillment of employees' perceived obligations, such as having a good pension, and sufficient workforce and resources.

Theme 4: Moderators

Several factors were cited by the interviewees as being utilised to manage stress in the job. These were grouped under 'moderators' (alike Dean et al., 2003; Regher et al., 2003). 'Social support' was quoted by all the firefighters as the best method to buffer the effects of stress. This accords with previous literature that has cited social support as a buffer for high stress levels (Haslam & Mallon, 2003; Young, Partington, Wetherell, Gibson, & Partington, 2014). Interviewees reported that there were sufficient resources within the organisation to offer social support when needed (i.e., 'organisational support'). These sources included the occupational health department, their watch colleagues, the Watch Commander and the Union. Our findings suggested that all the employees felt they had adequate social support irrespective of their length of the experience, whereas Regher et al. (2003) found newly recruited firefighters received more support than experienced firefighters. Moreover, alike Young et al.'s (2014) findings, the interviewees that had less experience particularly mentioned seeking social support from more experienced members of the watch as a way of managing distress.

There is also an occupational health department, who deal with our stressors. Everyone supports each other at watch level. I also belong to the union and my union supports me in case of dealing with stress (Male, Firefighter 11).

Mixed reports were given of drawing on external sources of social support, such as from families, friends and relatives, to buffer the effects of stress. A few interviewees mentioned that they would prefer not to talk to their family because of the distressing nature of incidents they work with and to avoid their families worrying about them at work. Similar findings were reported by Menendez, Molloy and Magaldi (2006) and Yoo and Matsui (2012).

I have got enough support from my family and friends, but I can't share with them everything as they can be taken aback with this role, I don't want them feel bad and concerned about me when I am at work (Male, Firefighter 11).

However, there were a few firefighters who did seek support from friends and family, although they again seemed to indicate a preference for talking with work colleagues, perhaps due to their immediate availability after an incident, as alluded to below:

I talk to my partner and friends and I also talk to my colleagues. They are the people we interact with immediately after the incident (Male, Watch Commander 10).

Similarly, Brunsden, Hill and Maguire (2014) found that firefighters prefer to seek support from colleagues because they spend most of their time at the fire stations and their colleagues are, therefore, the people they encounter after attending a fire incident. In addition, family members who were part of the firefighting family provided an extension of such support:

I think I am quite lucky that I have family and friends who support me. I come from a firefighter family... (Male, Firefighter 3).

A range of approaches were used to manage stressors, beyond drawing on social support. A minority of interviewees reported using 'avoidance' strategies such as diverting

attention from a source of stress by engaging in another activity (e.g., going to the cinema), or focusing on resolving the issue while at the incident itself. One interviewee spoke about the use of alcohol by colleagues to cope. Brown, Mulhern and Joseph (2002) investigated the coping strategies of Irish firefighters and found that they resorted to avoidance strategies during period of distress.

A few of the interviewees seemed to use 'mindfulness' (Walach et al., 2007) as a coping strategy: they reported not becoming easily stressed or they reported accepting that stressors were part of the job. Mindfulness has been reported to be a beneficial strategy in overcoming anxiety and depression, and for improving relationships (Khoury et al., 2013). Other studies have reported the beneficial effects of mindfulness techniques for coping with stress with US military service personnel (Jha, Morrison, Parker, & Stanley, 2017), and emergency room nurses (Westphal et al., 2015).

Theme 5: Retention factors

Besides interviewees finding being a firefighter a challenging job for the range of reasons outlined above and some of them reporting a breach to their PC, the employees enjoyed being part of the fire service. The 'retention factors' that had meant they had not left the fire service were; job diversity, helping people involved in incidents, educating children, and colleagues becoming part of their social network. Moreover, employees experienced positive 'personal changes' within themselves. They reported that they had developed more awareness of their surroundings with time, in terms of being more aware of the causes of fires and other incidents and therefore they take steps to protect themselves and their families. They have become more accomplished at dealing with emergency situations potentially due to their coping strategies having changed over time. Moreover, one of them mentioned becoming more vigilant. Whether this is a positive change is unclear since being hypervigilant can

inhibit relaxation (Sommerfeld, Wagner, Harder, & Schmidt, 2017).

> *When I am in public surroundings, I always keep myself aware of any emergency incident that might take place. I think what actions I need to take and how I need to deal with the situation, hmmm... how to save people (Female, Firefighter 1).*

Four firefighters felt they had developed personally to become more confident, competent, mature and responsible. They described how they had learned to control their nerves and that they had become stronger emotionally.

> *I have built up my confidence. By confidence I mean my social skills are improved a lot when I am within a social gathering (Male, Firefighter 11).*

> *I consider I am more responsible person. I think I probably know how to deal if something goes wrong (Male, Firefighter 5).*

A few of the interviewees reported that they had now learned how to balance work–life demands and that that had come with experience.

> *It is very convenient for me to balance between family and work life now after these many years. I do not have any family issues. I know how to draw a line between work and home (Male, Watch Commander 8).*

General discussion

The present study aimed to understand the experiences of firefighters working in the UK, and explores their PC in a climate of austerity and its impact on their stress and well-being. When asked about their expectations of their employer and the obligations that their employer should meet, evidence of both transactional and relational obligations was forthcoming (Rousseau, 1990, 1995). The sorts of obligations cited by our participants overlapped with those cited by employees in other sectors that have formed the basis for the development of measures of PC (e.g., Bunderson, 2001; Herriot, Manning & Kidd, 1997;

PSYCONES, 2005; Rousseau, 1990, 2000), for example, receiving a good rate of pay, having job security, being treated fairly by the employers, and being provided with opportunities for advancement and personal growth (Guest et al., 2010). This suggests that quantitative measures of PC, such as these listed, should be applicable for use with firefighters.

The climate of austerity cuts in the UK and its impact on the UKFRS was thought to make this a particularly relevant time at which to consider the importance of the PC with firefighters due to its theoretical links with stress, mental well-being and workforce behaviour (e.g., retention). From the interviews, it was apparent that firefighters were experiencing breaches to their PC regarding being suitably recompensed for the difficult job they do, and having insufficient resources (physical and human) to conduct their role to the best of their ability. Reactions to perceived breaches of PC differ depending on the type of PC (Robinson et al., 1994). Employees with a relational contract are at greater risk of severe PC breach (Grimmer & Oddy, 2007). Moreover, if an employee continues to work within the organisation after a perceived breach of PC has occurred, the contract is likely to become more transactional in nature (Atkinson, 2007; Pate et al., 2003). Therefore, in the current scenario, where the UKFRS is facing austerity cuts, and as a result of these cuts the employers are unable to fulfil the perceived obligations of their employees (e.g., providing a good pension schemes), it is likely that firefighters will develop a more transactional PC (short-term and focused on monetary exchanges) (Lester, Kickul, & Belgmann, 2007). As per Blau's (1964) Social Exchange Theory, employees try to achieve a balance in the exchange between themselves and their employer, for example, expecting suitable recompense (current and future) for the demanding and dangerous job they do. When there is an imbalance, which looks unlikely to be redressed, negative consequences such as resignation can result. Other reactions to broken promises or obligations can include employees taking action that breaches their obligations to their employer (Zhao, Wayne, Glibkowski, & Bravo 2007), such as

participating in industrial action. It was evident that PC breach was associated with stressors and psychological distress. This is in line with COR theory (Hobfoll, 1989) suggesting that PC breach results in stress and impacts well-being when the employees' valuable resources (i.e., perceived employer obligations) are not sustained.

The findings from this study suggest that the PC of an employee is not just shaped by their employer or organisation, but also by the Government, media, and public. Further, the perceived obligations of the employer can change depending on the broader context of the employee, such as becoming a parent or getting married.

The firefighters sampled in this paper varied in terms of their length of service and this provided the opportunity to compare themes that emerged in the interviews of experienced firefighters compared to newer recruits. Length of service appeared to be associated with the type of obligations cited by the firefighters as well as their responses to other areas of the interview. In terms of PC, the obligation cited by firefighters with less than three years' experience related to advancement and growth, as compared to those with more years of service who focused more on training and development, and relational obligations. This difference could be explained by new recruits being more focused on becoming a 'competent firefighter'. With regards to stressors, newer recruits discussed incident-related stressors more than experienced firefighters (e.g., difficulties dealing with the public on the scene and being distracted by public interference). Also, it was these interviewees who reported the distress experienced when they were unable to help someone at an incident. Their focus on becoming a competent firefighter might be in response to experiencing the stress associated with such situations which they assume will pass with growing experience and competence. These findings coupled with the newer recruits explaining how they have developed over time indicate the value of a future study that investigates changes in the PC, stressors and coping over time with participants from the Fire and Rescue Service.

Limitations

There were some limitations in this study that need to be acknowledged. The sample cannot be considered representative of all UK firefighters because the sample size was small and limited to one geographical area of the UK. Further, the study focused on the employees' perspectives only (a unilateral approach to PC) therefore a future study should also examine the perspective of the employer and/or the occupational health department.

Implications

This paper makes a theoretical contribution to the literature by providing support for the theory of PC with an understudied population, suggesting that existing measures of PC should be suitable for use with firefighters. It also highlights how, within some sectors, the notion of one employer is too simplistic with employees perceiving themselves as having obligations to others beyond their immediate employer (i.e., to the public), and others beyond their immediate employer having obligations to them (e.g., the Government).

Austerity cuts are not something that the firefighters' direct employer (the UKFRS) has control over, therefore, it's important to consider what the employer could still do to address breaches in PC. The employer could, for example, foster closeness between employees and ensure opportunities for career development and recognition (Ebadan & Winstanley, 1997; Nadin & Williams, 2012; Robinson & Morrison, 2000). Watch Commanders could hold confidential one-to-one meetings with individual firefighters to provide a "safe" environment in which perceived breaches can be discussed (Lester et al., 2007). Moreover, senior management should avoid creating any further distance between themselves and their employees because this would give the impression that the employer is less inclined about the relationship with their employees (Coyle-Shapiro & Prazefall, 2008). It is positive that so many of the interviewees viewed their direct employer (the UKFRS) in a

positive light. Further, some organisational stressors could be ameliorated by acting to minimise role overload and improving employees' perceptions of career progression (Gakovic & Tetrick, 2003; Xavier & Jaspen, 2014).

From our interviews, it is clear that the firefighters experienced a range of stressors within and outside of work, which negatively impact on their physical and mental well-being. Therefore, strategies should be implemented by the UKFRS to resolve the issues that cause negative outcomes. For example, for incident-related stressors, the UKFRSs can ensure there are sufficient debriefing opportunities following a difficult incident, especially with newer recruits. Another important consideration is what, if any, action can be taken to assist firefighters in creating a better work-home life balance. This might include exploring different shift patterns that could be adopted. Since some stressors are intrinsic to the job, training in mindfulness, which appears to be having success in associated professions (Jha et al., 2017; Westphal et al., 2015), is another intervention that could be trialed and evaluated.

Conclusion

The aim of the current study was to address a gap in the literature on PC theory by adopting qualitative methods to explore its relevance to the firefighting profession. PC was found to be a valid construct in understanding firefighters' obligations as their responses reflected multiple facets of PC theory. The current climate of austerity measures in the UK appears to be negatively impacting on firefighters in terms of reducing numbers and placing even higher task demands on those employees remaining. This makes it very difficult for the UKFRS to meet the perceived obligations of their employees providing evidence of PC breach. A range of coping strategies were reported by the firefighters interviewed. The findings have implications for human resource departments within UKFRS trying to manage the impact of funding cuts and they highlight the potential value of the PC as a construct around which

such issues can be explored.

CHAPTER 6

THE RELATIONSHIPS BETWEEN PSYCHOLOGICAL CONTRACT VIOLATION, STRESSORS AND WELL-BEING IN THE FIREFIGHTERS

The interviews with firefighters identified broken promises or obligations as a source of stress influencing the firefighters' well-being (Chapter 5). This chapter focuses on another element of psychological contract (PC): PC violation, the term for the negative emotions resulting from broken promises by the organisation or employers. The aim of this study is to investigate the relationships between PC violation, work-related stressors and well-being. Overall, the PSYCONES measure seems to be an adequate assessment tool (Chapter 2). Further research is needed to ascertain whether this measure is as useful, reliable and valid measure in other sectors, such as those of firefighters and police officers, where the PC is likely to be a highly pertinent factor in determining employment relationships and well-being. Structural equation modelling was used to examine the mediation model using fairness and self-efficacy as mediators. The results partially supported the hypotheses. Practical implications for the employers are discussed.

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CHAPTER 6: The Relationships between Psychological Contract Violation, Stressors and Well-being in Firefighters

Psychological contract (PC) research proposes that employees are driven by a perceived exchange agreement between themselves and their employer in an organisation (Rousseau, 1989; Rousseau & McLean Parks, 1993). Specifically, when employees feel that their perceived obligations are fulfilled, it gives rise to positive emotions and work-related outcomes (Zhao et al., 2007). On the contrary, when employees perceive unfulfilled obligations, breaches in contract result, giving rise to strong negative emotions that damage both occupational productivity and personal well-being (Freese & Schalk, 2008; Guest & Conway, 2002; Morrison & Robinson, 1997; Priesemuth & Taylor, 2016).

Currently, there are organisational changes in the public sector due to the implementation of financial cuts in the UK's fire and rescue services (Gaught, 2016). When organisations undergo such changes, a healthy and progressive employment relationship is required (Rousseau, 2012). Therefore, it is necessary to investigate, using a firefighter sample, the associations of PC violation, occupational stressors and well-being. Furthermore, we advance this theory by examining the underlying mechanism of associations through fairness and self-efficacy.

This study is an extension of previous work (Duran, Woodhams, & Bishopp, 2018) where it has been identified that firefighters in the current climate of austerity are experiencing breach of their PC. In this paper, we attempt to explore whether the perceived feelings of violation, rather than the broken promises, influence behavioural outcomes. This is because Rousseau (1989) proposed that violation of feelings is the main mechanism for associating PC with adverse outcomes. Furthermore, Zhao et al. (2007) have called for exploration of perceptions of contract violation to be an emerging line of research.

Psychological contract violation

PC is proposed as a useful tool for understanding employment relationships and workplace behaviour (Conway & Briner, 2005, 2009; Guest, 2004; Rousseau, 1995). It explores how mutual promises oblige employees to do things for their employer (Coyle-Shapiro & Kessler, 2000; Rousseau, 1989, 1990) and helps to assess the adverse reactions when they are broken (Robinson, 1996; Robinson & Rousseau, 1994). Employees' cognitive awareness that employers have failed to fulfil their perceived promises is termed as PC breach, while negative emotional reactions resulting from breach is termed as PC violation (Morrison & Robinson, 1997; Rousseau, 1989).

Regarding firefighters specifically, the authors were able to identify four studies that had investigated the PC construct with firefighters (Coyle-Shapiro, 2002; Coyle-Shapiro & Kessler, 2003; Duran et al., 2018; Liao-Troth, 2005). In the US, Liao-Troth sampled 85 volunteer firefighters to examine the association between PC type and individual motives, such as values, protection, and career that might influence loyalty within the organisation. They found no relationship between the two. Hypothetically, it could be that the authors recruited volunteer rather than full-time career firefighters and that, among them, the PC content (e.g., working conditions, benefits, development) rather than the PC type might be more influential.

Coyle-Shapiro (2002) and Coyle-Shapiro and Kessler (2003) sampled two groups of public sector employees (480 teachers and firefighters in the former study, and 5,709 teachers and firefighters in the latter study) from the UK to explore the effects of perceived PC fulfilment on their attitude and behaviour. They found PC fulfilment a predictor of organisational commitment and organisational citizenship behaviour, but in each sample only 40 (4%) and 211 (8%) respondents respectively were firefighters. Hence, it was difficult to determine the specific influences within this group.

Duran et al. (2018) adopted a qualitative approach to explore how the PC is related to stressors and well-being. They found that the firefighters experienced PC breach due to employers expecting unrealistic obligations from the employees and because the employees are in a position that, even if they want to fulfil their employer's obligations, they are unable to do so due to a shortage of staff. Hence, building on PC breach as an influence on stress and well-being, we hypothesise that PC violation would be significantly related to adverse outcomes.

All the studies described above focused on PC fulfilment, PC breach and PC type. The focus here, however, is on the aspect of PC violation, because broken promises cause negative consequences for both the employee and employer (Tomprou et al., 2015). Previous literature suggests that the PC construct is beneficial in identifying factors that have an adverse impact on the employees' well-being (such as Conway & Briner, 2005; Guest et al., 2010; Middlemiss, 2011). However, little is known about those employees, who remain with their employers despite perceiving broken promises that might lead to negative feelings or emotions (Tomprou et al., 2015; Zhao et al., 2007). Hence, the main aim of this study is to examine the relationship between firefighters' PC violation and work-related stress and well-being. Given the consequences of PC violation work outcomes (Pugh et al., 2003), researchers are striving to better understand it through mediators.

PC violation, work-related stress and well-being

Earlier researchers have found that there are individuals who feel strong negative emotions or reactions, such as anger or dissatisfaction, that have been elicited by a broken obligation or set of obligations, such as a failure to receive an increase in pay (Morrison & Robinson, 1997; Robinson & Morrison, 2000; Robinson & Rousseau, 1994; Rousseau, 1989, 1995). These negative emotions could result in adverse employee behaviour and neglect of job-role

responsibilities (Bordia, Restubog, & Tang, 2008; Restubog, Zagenczyk, Bordia, & Chapman, 2015), emotional exhaustion (Johnson & O'Leary-Kelly, 2003), depressed mood, lower job satisfaction and performance, and a lower organisational commitment (Bocchino, Hartman, & Foley, 2003; Knights & Kennedy, 2005; Robinson & Rousseau, 1994; Stoner & Gallagher, 2010; Zaidman & Elisha, 2016). In addition, these negative emotions could cause complications for the organisations when there is an increase in turnover of staff (Bocchino et al., 2003), or workers quitting or terminating the contract (Morrison & Robinson, 1997; Suazo, Turnley, & Mail, 2005; Turnley & Feldman, 1999).

According to the conservation of resources theory (COR; Hobfoll, 1989), the workforce experiences stress, anxiety and depression when managers do not provide appropriate resources to sustain appropriate behaviour at work (Byrne et al., 2013; Hobfoll & Shirom, 1993). Earlier work (Kiazad, Seibert, & Kraimer, 2014; Lapointe et al., 2013) emphasised that PC violation presents a resource loss to employees that could influence well-being. Drawing on COR theory (Hobfoll, 1989), we propose that violation of one's contract would be positively correlated with occupational stress, anxiety and depression. This leads us to formulate the following hypothesis:

Hypothesis 1: PC violation is positively related to job-related stress, depression and anxiety.

Mediating role of fairness and self-efficacy

Fairness refers to how an individual perceives justice within an organisation (Greenberg, 1988). When an employee perceives broken promises leading to feelings of negative emotions, this might be further influenced by perceived unfairness within the organisation that impacts occupational stress and well-being. Earlier studies have found fairness as a mediator between PC fulfilment and breach on the one hand, and intentions to quit, turnover intentions and commitment on the other (Guest, 2004; Clinton & Guest, 2014). There is

evidence that lack of perceived fairness is associated with mental distress and stress-related outcomes (e.g., Adebayo et al., 2008; Kop et al., 1999; Noblet et al., 2009). Similarly, equity theory (Adams, 1965) proposes that fairness is a key element when employees compare their outcomes to those of co-workers who provide similar inputs. Hence, we expect fairness would be a useful mediator to explain the underlying mechanisms:

Hypothesis 2(a): Fairness will be a significant mediator between PC violation, job-related stress and well-being.

Self-efficacy refers to one's capabilities to accomplish a specific task or series of tasks (Bandura, 1997). Bandura proposed that efficacious workers or individuals are less at risk of depression and stress; the studies by Regher, Hill and Glancy (2000), Regher, Hill, Knot and Sault (2003) reached similar findings. Earlier work has determined the role of self-efficacy as a mediator to manage negative work-related outcomes, such as burnout, poor general health and well-being, and poor job satisfaction and task performance (Aloe, Amo, & Sanam, 2014; De Souza, Torres, Barbosa, DeLima, & Souza, 2014; Luszczynska, Gutierrez-Dona, & Schwarzer, 2005; Pratu, Pietrantoni, & Cicognani, 2010; Shead, Scott, & Rose, 2016). In addition, Hastings and Brown (2002) found that people with low self-efficacy have more negative emotional reactions to challenging behaviours. Similarly, we expect that perceived feelings of violation and less inner ability to overcome problems might influence employees' levels of stress, anxiety and depression. Therefore, the authors assume the following:

Hypothesis 2(b): Self-efficacy will mediate the relationship between PC violation, job-related stress and well-being.

Hypothesis 2(c): Fairness and self-efficacy will mediate the relationship between PC violation, job-related stress and well-being.

Methods

Participants and procedure. Ethical permission was obtained from the university and the English fire service to conduct the study. Participants were approached through a variety of methods: the fire service human resources department circulated an e-recruitment letter to different stations across the county, visits were made to 24 fire stations within the county, and snowballing technique was used. Respondents were given two weeks after completion to withdraw from the study if they wanted. Our goal was to administer questionnaires to 300 firefighters via an online survey (LimeSurvey). However, the response rate was 103 firefighters, out of which 97 respondents' data (Men = 84.5%, Women = 15.5%) was useable, with an age range from 23 to 56 years ($M = 38.52$, $SD = 7.1$). There were 70.1% firefighters and 29.9% watch commanders, with the length of service ranging from 6 months to 29 years ($M = 13.38$, $SD = 6.63$).

Measures

The following measures were used to measure a variety of outcomes:

Psychological contract violation (PCV) measure consisted of six items measuring positive and negative feelings that result from perceived PC breach. The responses were given on a 5-point Likert scale from '1 (strongly disagree)' to '5 (strongly agree)' (PSYCONES; Isaksson et al., 2005). The Cronbach's alpha was 0.81, which is acceptable.

Fairness measure consisted of four items on a 5-point Likert scale ranging from '1 (strongly disagree)' to '5 (strongly agree)', with Cronbach's alpha of 0.74 (PSYCONES; Isaksson et al., 2005).

Self-efficacy measure consisted of 20 items from the firefighter coping self-efficacy scale (FCSES; Lambert, Benight, Harrison, & Cieslak, 2012) on a 7-point scale ranging from '1 (not capable)' to '7 (very capable)', with Cronbach's alpha of 0.79. High scores indicated efficacious feeling in coping with job demands.

Occupational stress consisted of 14 items from the sources of occupational stressors (SOOS-14) with Cronbach's alpha of 0.81 (Kimbrel et al., 2011). The responses were given on a 10-point scale from '10 (extremely bothered)' to '0 (not bothered at all)'. A higher score indicates a higher level of occupational stress.

Job-related anxiety and depression consisted of two subscales with three items on each from the job-related well-being scale (Makikangas et al., 2007; Sevastos, Smith, & Cordery, 1992) on a 6-point scale ranging from '1 (never)' to '6 (all the time)'. Participants were asked to give responses to the question: 'how had their job made them feel in the past few weeks?'. The Cronbach's alpha was 0.72 for the job-related anxiety and 0.88 for the job-related depression scale.

Analytical approach

The data was examined using AMOS 24.00. Prior to this analysis, the data was examined for normality and co-linear relationships to ensure the requirements for the model were met. The statistical empirical power of the model was tested via the G*Power software package (Faul, Erdfelder, Buchner, & Lang, 2009); with the sample size of 97, the resultant power was 0.79. The observed model consisted of PCV as an independent variable, fairness and self-efficacy as mediators, and occupational stress and job-related well-being as dependent variables. The overall score for each variable was continuous, and there was no multicollinearity between

the variables. While testing the hypotheses, demographic information specifically relating to age, gender, job title and length of operational services was controlled, as earlier studies have suggested that they might impact on employee attitudes and behaviours (Freese et al., 2008; Robinson, 1996; Rousseau, 1995).

The examined model represented multiple serial mediations with three dependent variables (occupational stressors, work-related depression and anxiety), and mediation was determined when the 95% confidence intervals (*CI*) did not include zero. The indirect effects were tested using a bootstrap method to increase the sample size to population equivalence (*n* = 1000). This generated estimates for bias correction to determine 95% *CI* for the total, specific and net indirect effects (Preacher & Hayes, 2008; Taylor, Mackinnon, & Tein, 2007).

Results

The main aim of this study was to examine the effects of PC violation on the work-related stress and well-being of active frontline firefighters. Mean, standard deviations, and correlations among the variables are presented in Table 1. The correlations were all in the expected directions. PC violation positively correlated with anxiety *(r = .33, p < 0.01)*, depression (*r = .39, p < 0.01*), and stress (*r = .39, p < 0.01*), and negatively correlated with self-efficacy (*r = -.40, p < 0.01*) and fairness (*r = -.51, p < 0.01*). The two mediators of fairness and self-efficacy were negatively associated with anxiety (*r = -.23, p < 0.05*), depression (*r = -.32, p < 0.01*), and stress (*r = -.28, p < 0.01*).

Table 1.

Descriptive and Correlation Matrix among the Variables

	Mean	SD	2	3	4	5	6	
1. PC violation	2.46	.77	-.51**	-.40**	.40**	.33**	.39**	(0.80)
2. Fairness	3.13	.11		.32**	-.29**	-.23*	-.32**	(0.74)
3. Self-efficacy	5.55	.87			-.33	-.32**	-.32**	(0.79)
4. Stress	3.15	1.68			-	.37**	.38**	(0.81)
5. Anxiety	2.28	.75					.79**	(0.88)
6. Depression	1.94	.88						(0.72)

*$p < .05$; **$p < 0.01$

The hypothesised model had an adequate fit to the data ($\chi^2 = 2.09$, $df = 1$, $p = 0.15$; GFI = .98; AGFI = .89). The unmediated effects confirmed that feelings of violation significantly predicted work-related anxiety ($\beta = .22$, $p = .05$), depression ($\beta = .25$, $p = .02$), and stress ($\beta = .27$, $p = .01$). In the model, each indirect effect was split into three elements, via fairness, self-efficacy and the two combined (see Table 2). The indirect effects for fairness did not significantly mediate the relationship between violation, stress ($\beta = -.08$, $p < .05$), depression ($\beta = -.14$, $p < .05$), and anxiety ($\beta = -.05$, $p < .05$). Similarly, the effects of perceived feelings of violation on stress ($\beta = -.29$, $p = .051$), anxiety ($\beta = -.22$, $p = .059$), and depression ($\beta = -.18$, $p = .052$) were not significantly mediated by self-efficacy. Therefore, Hypotheses 2(a) and 2(b) were not supported. Even though each mediator did not mediate the effects of violation, self-efficacy was found to be a relatively better mediator as compared to fairness, with and alpha value ranging from 0.051 to 0.059.

Together, perceived fairness and self-efficacy were significant mediators of PC violation and depression ($p = .01$); however, in combination these mediators did not significantly mediate the relation between violation, stress and anxiety ($p > .05$). Furthermore,

there were direct effects between violations and stress ($\beta = .27$, $p = .01$), anxiety ($\beta = .22$, $p = .05$) and depression ($\beta = .25$, $p = .02$) after the mediators were included in the model. Therefore, Hypothesis 2(c) was not fully supported.

Table 2.

Indirect effects based on 1000 Bias-corrected Bootstrapped Samples

	Standardised effect	BootLLCI	BootULCI
Total indirect effect PCV – stress	.396	.191	.558
Indirect effect via fairness	.058	-.068	.195
Indirect effect via self-efficacy	.080	-.002	.182
Indirect effect via both	.119	-.031	.261
Total indirect effect PCV – anxiety	.333	.151	.481
Indirect effect via fairness	.042	-.055	.170
Indirect effect via self-efficacy	.090	-.004	.197
Indirect effect via both	.112	-.004	.245
Total indirect effect PCV - depression	.396	.205	.529
Indirect effect via fairness	.084	-.014	.217
Indirect effect via self-efficacy	.078	-.001	.176
Indirect effect via both	.141	.028	.260

Note. PCV = PC violation; both = fairness and self-efficacy

Discussion

The aim of this study is to contribute to the literature on PC by examining the relationships between PC violations, work-related stressors and well-being. First, our findings fully

supported previous outcomes (Bordia et al., 2008; Knights et al., 2005; Suazo et al., 2005) that PC violations have negative ramifications for employees. Our results suggest that firefighters perceiving feelings of violation were more at risk of facing adverse outcomes in terms of job-related stress, anxiety and depression. This evidence was strongly supported by COR theory (Hobfoll, 1989, 2001) illustrating that employees' feelings of violation can lead to stress, anxiety and depression. Therefore, our results confirm that PC violation is associated with job-related well-being and is a source of stress, thereby adding further evidence to this area of research.

Second, this study has sought to determine whether protective factors such as self-efficacy and fairness mediate the relationship between PC violation, work-related well-being and stress. Individually, neither fairness nor self-efficacy influenced the effects of violation on anxiety, depression and stress. These findings contradict previous work (Bandura, 1997; Clinton & Guest, 2004, 2014; Kop et al., 1999; Noblet et al., 2009) concerning the roles of self-efficacy and fairness as mediators. Theoretically, this could be because self-efficacy is the sense of perceived internal ability to overcome problems or attain goals. However, in this sample, the job roles operate within a strict hierarchy such that their own self-efficacy operates within the confines of the organisational power structures. Therefore, in a regimented hierarchical structure, the inherent power relations mitigate the sense of self-efficacy. Hence, there could be another mediator or mediators that might influence the relationship between the variables.

Together, fairness and self-efficacy mediated the effects of PC violation on job-related depression. This suggests that there is a complex association of self-efficacy with the outcomes, rather than the simpler associations made in the wider literature on other groups. This finding was consistent with previous work (Meier, Semmer, & Hupfeld, 2009; Regher et al., 2000; Regher et al., 2003) that fairness and self-efficacy lower the risks of depression.

Thus, the firefighters' balance of internal sense of control and perceived fairness could mediate work-related depression. In addition, neither mediator had any significant influence on PC violation, stress and anxiety. This finding runs counter to previous work that found that low self-efficacy is related to high anxiety (Tahmassian and Moghadam, 2011). In the context of firefighting, there might be sufficient levels of perceived fairness and internal ability to influence work-related stress and anxiety. Therefore, it might be of less importance in this context.

From the findings, it was evident that perceived feelings of violation resulting from unmet obligations do influence firefighters' job-related well-being and are a source of stress. Thus, the fire service employers and management should consider strategies to improve the well-being and lower the adverse outcomes resulting from PC violation.

Limitations and practical implications

There were a few limitations to this study. The sample size was relatively small because the data was collected from the firefighters when industrial action was taking place. However, efforts were made to collect the data through different recruiting methods, including the snowballing method. There could be some form of response biases as the study utilised self-reports, and the design was cross-sectional, therefore limiting causal inferences. In addition, the data was collected from one fire service and further research, with a longitudinal design, across multiple fire services would make the study more representative. Another limitation was that self-efficacy could already be high in groups such as firefighters, and this might have nothing to do with perceived violations as they operate independently in hierarchical organisations. Furthermore, how PC violation differs across the profession from frontline staff to the large number of commanders may have altered the results because the two groups potentially measure quite differently on the measures. No other moderators and mediators

were used to identify the influence of perceived feelings of violation. For example, the authors could use PC fulfilment as a moderator to suppress the effects of PC violation on adverse outcomes (Zagenczyk, Restubog, Kiewtiz, & Kiazad, 2011). Hence, researchers might build upon the similar model with firefighters from all over the UK or with employees from another sector to better understand the PC violation and its relationship with adverse work-related outcomes.

This paper identified that PC violation has a negative influence on firefighters' mental well-being. By studying firefighters' PC, the fire service should implement strategies to resolve issues that cause perceived feelings of violation resulting from PC breach. For example, Guest (2004) suggested that employers or managers could improve communication among the employees and employers to form a new PC. Duran et al. (2018) suggested that both internal and external social support could be provided to firefighters to manage negative influences resulting from perceived broken promises. Recently, training in mindfulness has appeared to have great success with firefighters in the US to overcome job-related stress (Jha et al., 2017; Westphal et al., 2015). Therefore, employers could trial and evaluate this strategy to improve the firefighters' well-being.

Conclusion

This chapter has aimed to examine the relationships between PC violation, job-related well-being and stress. The authors found that firefighters' perceived feelings of violation resulting from broken obligations cause job-related stress, anxiety and depression. Both fairness and self-efficacy mediated the relationship between PC violation and depression. The fire service management could perhaps focus on re-establishing the PC to resolve the issues responsible for PC violation and that might have a negative influence on firefighters' mental well-being.

PART III

CONCLUSION

CHAPTER 7

THESIS CONCLUSION

The original aims of this thesis were (1) to explore the experiences of firefighters in relation to psychological contract (PC), occupational stress and well-being, (2) to assess how these relationships change over time, and (3) to investigate whether and how the effects of PC violation on stress and well-being are mediated. It was envisaged that aim (2) would be achieved using a longitudinal research design; however, the timing of the thesis coincided with large-scale industrial action by firefighters, which prevented the use of a longitudinal design. Instead, a cross-sectional design was adopted.

Considerable effort was put into collecting as large and representative a sample as possible: online recruitment methods (email recruitment via human resources departments) were combined with recruitment in person (involving the researcher visiting different fire stations in person and advertising the studies through posters). However, the sample size was still relatively small. In light of the change in design and the challenge of recruiting participants, consideration was given to the study of another group of first responders: frontline police officers. It was decided that this would allow the investigation of several pertinent questions in the area of PC. For example, while police officers and firefighters are both emergency services personnel and first responders, and they often encounter situations of danger and stress, there are key differences between their roles. Such differences were outlined in Chapters 3 and 5. Therefore, within this thesis, the two groups were studied separately, but comparisons between the findings for the two groups have been made where possible. Consequently, the revised research questions of the thesis were:

1. What are the experiences of police officers and firefighters in regard to psychological contract and its relationship with organisational stress and well-being?

2. Are psychological contract breach and violation associated with work-related stress and well-being?

3. How are the effects of psychological contract violation on work-related stress and well-being mediated?

The theoretical framework adopted was based on work stress models, namely the Conservation of Resources Model (COR; Hobfoll, 1989, 2001) and the Job Demand-Resources model (JD-R; Bakker & Demerouti, 2007). The COR theory states that an individual strives to sustain, protect and build resources, and the threat of loss or actual loss of resources (as might happen in organisations undertaking austerity measures) could lead to stress and influence well-being, job dissatisfaction, anxiety and thoughts about resigning (Byrne et al., 2014; Hobfoll & Shirom, 1993). In line with this theory, we argue that unmet obligations perceived as a loss of valued resources (Restubog, Zagencztk, Bordia, & Tang, 2013) could be linked to stress and well-being.

The JD-R model proposes that job strain develops with higher job demands and less resources irrespective of the occupation (Bakker et al., 2007). It consists of two processes: first, high job demands lead to health problems; second, the job resources have a motivational potential that buffers the impact of job demands on stress reactions. Firefighters and police officers have pressured roles, and job demands are expected to be high. At a time of austerity cuts and a reduction in the workforce (Barry, 2012; Reeves et al., 2013), the JD-R theory maintains that insufficient resources would negatively impact employee well-being. While both public services were undergoing austerity cuts at the time of the thesis (as explained above), their roles differ and the resource implications of cuts to the workforce could have different ramifications. It was of interest, therefore, to be able to compare and contrast their experiences at this time. With regard to Chapters 4 and 6, these theories were drawn upon to construct the hypotheses for the study of mediation. First, employees might perceive PC

violation resulting from breach due to a loss of resource arising from austerity cuts, and this would be associated with stress and poor well-being. Second, these relationships might be mediated through job resources, namely workplace resources (e.g., fairness, trust) and/or personal resources (self-efficacy).

COR and JD-R were, therefore, the theoretical models adopted to explore the relationship of PC to stress and well-being. Although it was necessary to abandon the original plan for a longitudinal study, this thesis was still able to apply PC theory to better understand the experiences of firefighters and police officers working in the UK. The implementation of austerity cuts to public services in the UK (OBR, 2012; Reeves et al., 2013), which included the Police and the Fire and Rescue Service, further allowed for the study of PC with these groups at a pertinent time, given the hypothesised impact of such cuts on PC, stress and well-being (as outlined in Chapters 3 and 5). Existing research with workers from other sectors had linked PC with stress and well-being (e.g., Cassar et al., 2015; Erkutlu & Chafra, 2016; Guest et al., 2010; Litchfield et al., 2016; Van de Vaart et al., 2013; Van de Vaart et al., 2015). Given the nature of public sector work and people's motivations for a career in the public sector, PC was thought to be a relevant lens through which to examine stress and well-being in the workplace of first responders, particularly at a time of budget cuts.

This thesis set out to extend the PC literature and to address several theoretical and empirical issues: the applicability of PC theory to the public services sector, and specifically to first responders at a time of austerity cuts; how police officers and firefighters perceive their PC and how it might be associated with well-being and stress; the appropriateness of existing PC measures for use with samples for which they had not been designed; and factors that might mediate PC breach and violation to better understand their underlying mechanisms of association with stress and well-being. For example, on the basis of previous literature and theories, we have advanced the PC theory by exploring fairness and self-efficacy as potential

mediators, something that past studies have not considered. Furthermore, employees in the public sector can have obligations to more than one 'employer'. For example, an employee could have both a supervisor and a line manager, and each of these 'employers' could have different expectations of their employees (Conway & Briner, 2005; Freese & Schalk, 2008). As a public service, firefighters and police officers also have obligations to the public. PC theory refers to mutual beliefs between an individual and another party, such as an employee and their employer (Rousseau, 1989). The use of the term 'employer' in PC theory is potentially ambiguous; therefore, studying public sector employees provides the opportunity to consider to whom they perceive they have obligations and vice versa.

Measures of PC have been developed with employees from the business, education, healthcare and industrial sectors, but not with the emergency services. A large number of measures of PC exist, and this thesis has sought to determine whether these measures of PC are suitable for use with the emergency services. The first stage in this process was to survey the literature to identify measures of PC and consider their coverage of PC theory (i.e., their content) and their properties (see Chapter 1). On the basis of this work, one measure was chosen for use in the thesis and testing with emergency services' personnel (Chapters 4 and 6). Qualitative interviews in Chapters 3 and 5 also allowed the study of participants' views of PC (among other things), thereby providing data to help determine if their responses reflected theoretical constructs of PC and how these are represented in measures of PC.

Given the variety of PC measures, it seemed prudent to conduct a systematic review of these so as to compare their relative strengths and weakness. The review (Chapter 1) identified 28 measures used in research studies. Of these, eight (Bunderson, 2001; De Muse et al., 2001; Flood et al., 2001; Guzzo et al., 1994; Kickul et al., 2001; Kickul et al., 2002; Porter et al., 1998; Thomas et al., 1998) did not assess the core aspect of PC, namely perceived mutual employee–employer obligations. In contrast, Rousseau (1990, 2000) and

PSYCONES (2005) do measure this core construct and have a manifold usage that measures employee and employer obligations, PC fulfilment, breach and violation. Robinson and Morrison (2000) and Robinson (1996) were the most commonly used breach and violation measures. The review of the PC measures was a key stage in the thesis, since it was necessary to decide which measure was most suitable for use with police officer and firefighter samples. The review concluded that while Rousseau's (1990, 2000) measures were the most frequently used in existing studies, the PSYCONES measure offered a more comprehensive set of scales, having been developed in response to previous work in this area. While it might be the most comprehensive measure, it was also necessary that the selected measure be psychometrically sound, so a critical review of the PSYCONES measure was conducted to assess its psychometric properties (Chapter 2). From the findings, it was evident that it had good reliability and validity within the food and retail sectors, educational settings, and other organisational contexts. Further research was needed, however, to ascertain whether this measure was a useful, reliable and valid measure in other sectors, such as the emergency services. This was the focus of Chapters 3 and 5

Based on the reviews, it was intended that a pilot study would be conducted using the PSYCONES measure, since this was the first time it was being used with emergency services personnel. However, due to time constraints and issues with recruitment, there was insufficient time to pilot the PSYCONES measure with both groups. Instead, qualitative studies were conducted to check that the aspects of PC key to measuring employee and employer obligations were present in interviewees' accounts, which would suggest that the PSYCONES measure (and other measures of PC) were suitable with this population group. In the interviews, the firefighters and police officers referred to the following obligations: respecting and valuing your staff; being treated fairly; being loyal to the organisation; and the employer looking after employee safety. The findings from Chapters 3 and 5 therefore

supported the validity of previously developed PC measures, namely Rousseau (1990, 2000), PSYCONES (2005), Bunderson (2001), Herriot, Manning and Kidd (1997), and Walker (2010).

This thesis has also contributed to PC theory in relation to what is meant by 'employer'. Within most commercial organisations or businesses there is a clear leadership structure comprising a management team and a supervisor or chief executive officer. In contrast, the emergency services have multiple layers of management, both internally and externally. While they are intrinsically hierarchical, they are also overseen externally through political and legal systems, and they are ultimately paid for by the taxpayer, with the result that they are expected to be accountable to the public (Clark, 2015; Mawby & Wright, 2005; Wright, 2002). These added complexities about whom emergency services' employees perceive to be their employer were borne out in the interviews. Employees referred to their supervisors and to the Government as their employers. Additionally, when they were asked about employer obligations, they mentioned having responsibilities towards the public. Hence, a public sector employee might have multiple 'employers' (e.g., line managers, supervisors) in an organisation, so recognition of whom they consider to be their employer and what their perceived obligations are from each employer would assist in identifying where possible breaches are occurring and what steps could be taken to resolve them. This thesis has confirmed that first responders perceive themselves to have multiple 'employers' and hence existing measures of PC may need to accommodate this. Future research investigating PC with emergency services' personnel (or other public sector employees) will need to be mindful of the term 'employer' within measures.

It was apparent from the interviews with both groups of emergency service employees that the climate of austerity was affecting their perceptions of their PC as well as the stressors they were experiencing and thus their well-being. Both groups reported experiencing

breaches to their PC due to increased workload and insufficient physical and human resources to perform their job to their best ability. To 'their best ability' related to what they perceived to be an obligation to their employer, namely that their employer expected them to perform to their best ability but that austerity cuts were preventing not only their employer from meeting their perceived obligations (i.e., to be adequately resourced) but also the employees from meeting their employer's expectations (Guingand, 2015). They perceived their employers' expectation that they could continue performing to the best of their ability in a climate of austerity to be unrealistic or difficult to achieve, and they felt that their employers were more concerned with who would replace them than with supporting them in their role and thus retaining them. In this type of scenario, it is likely that employees will develop a more transactional (rather than relational) contract type. Employees might negatively react to these broken promises or obligations, for example, by taking part in industrial action (relevant to firefighters only) or by having intentions to resign from their jobs and leave the organisation.

As noted above, while police officers and firefighters share similarities in their roles and responsibilities there are also differences. This research allowed for comparison between the two groups: they shared similar reasons for joining their organisations, which were (1) for the fulfilment of a lifetime aspiration, (2) for a good career, and (3) for job diversity. Firefighters reported an additional reason for joining the service: the benefits of a good pension scheme. At the time of the interviews, this pension scheme was under threat, which resulted in large-scale industrial action. This context may have brought this perceived obligation to the forefront of many of the interviewees' minds.

As noted above, both groups reported some similar perceived obligations from their employers: fair treatment; having appropriate equipment to perform their jobs with competence; and being respected and valued as an employee. The extent to which these

perceived obligations were met influenced employee job satisfaction and well-being. Both groups also reported that societal factors had led, over time, to changes in their obligations. With more time in the job, they reported facing work politics, untrusting relationships with peers and departments in their organisation, and unsupportive colleagues. Some changes to their PCs came from external influences. For example, most employees mentioned that their obligations had changed on the basis of their relationships with their colleagues and supervisor. Interviewees indicated that they expect colleagues to be trustworthy, supportive and not underhand, yet some suggested a change in relationships in the workplace. Those who were married, in a relationship or were single parents mentioned that their obligations had changed due to having more family responsibilities, and that maintaining a work–life balance had become more important to them. They felt that their employer should be flexible about shift patterns and have realistic obligations of them. This is consistent with Morrison and Robinson (2004) and Conway and Briner's (2009) argument that family, friends and work colleagues influence an individual's perception of the PC.

Firefighters explicitly mentioned the role of Government in relation to their employee and employer obligations, whereas, police officers did not directly mention austerity cuts and the Government. However, police officers reported feeling neglected by their employer, that the workforce was too small, and that they had trust issues with colleagues and employers. They also felt unsupported during periods of illness.

A common breach reported by both groups was that a reduced workforce meant there was too much work resulting in a poor work–life balance. They felt that this was also preventing them from meeting the obligations to their employer because there was insufficient time or resources to do the job to the standard the employer wanted. It was evident that PC breach was associated with stress and well-being. This is in line with the

COR theory (Hobfoll, 1989) that PC breach perceived as a loss of resource could lead to stress and influence well-being.

The stressors reported by both groups were similar. Each group faced operational stressors, organisational stressors and personal stressors; however, firefighters reported an additional source of stress as being 'the Government'. In relation to operational stressors, both groups reported being unable to help people and dealing with traumatic incidents. A source of stress specific to firefighters was dealing with false alarms, whereas police officers specifically referred to dealing with the 'evil' side of people as a source of stress. This probably reflects a difference in the emphasis of their roles.

Regarding personal stressors, both groups reported having an inadequate balance between work and life, which was negatively impacting their physical and mental well-being. The two groups of participants shared many organisational stressors: workload, work politics, shift pattern, lack of supportive colleagues, and pressure to do overtime. Reported consequences of these stressors from both groups were sleep problems and fatigue. Furthermore, the police officers reported feeling depressed, while the firefighters mentioned experiencing anxiety, physical discomfort and injuries.

Overall, it was demonstrated that there were various obligations and stressors that were similar among both groups of first responders, which likely stemmed from the nature of their work and from both organisations going through austerity measures. There were also a few points on which they differed from each other. PC breach as a stressor was related to poor well-being in both groups, and several participants reported intentions to leave their jobs. Social support was a popular strategy used by both groups of participants to cope with the strain resulting from their experiences of PC breach. These findings confirm the JD-R model (Bakker et al., 2007) by providing evidence that the workplace resource of social support could help employees to cope with work-related stressors and job demands. Thus, individuals

with less support would be more likely to be stressed and to experience physical and psychological strain (Hobfoll & Shirom, 1993).

While the qualitative analyses of the interview responses provided a novel and detailed insight into PC, stressors, well-being, and their interrelationships among a small subset of participants, the survey data provided the opportunity to study this on a larger scale. As detailed above, a key theoretical issue that this thesis set out to address was the identification of potential mediators of PC violation in order to understand the underlying mechanisms of association. From the interviews, it was apparent that social support was likely to be a significant mediator for both the groups; however, the interview and survey studies were conducted concurrently, so it was not possible for the qualitative findings to inform the research design of the quantitative part of the thesis.

Initially, it was expected that fairness, trust and self-efficacy would be potential mediators. Equity theory (Adams, 1965) supports the notion that the perception of fairness might buffer the effect of PC violation. In addition, an established history of support reinforces over time the trustworthiness of the exchange partner. In other words, having trust in one's superiors within a rigid hierarchy is a necessary part of compliance and obedience to the regime. Finally, several previous studies on emergency personnel have evidenced the buffering effects of self-efficacy on negative outcomes to well-being (Aloe et al., 2014; Prati et al., 2010; Regher et al., 2000; Regher et al., 2003). Hence, we assumed that self-efficacy would mediate the effects of PC violation on stress and well-being. Job satisfaction and job-related discussions (gossiping) were suggested in the literature to be coping mechanisms that could mediate the effects of PC violation on trust, cynicism and organisational commitment (Kuo et al., 2015; Knights & Kennedy, 2005; Pugh et al., 2003; Turnley & Feldmann, 2000); however, there was not sufficient capacity to investigate all of these within this thesis. They are certainly a potential avenue for future studies to explore.

Fairness, trust and self-efficacy were therefore selected for study as the potential mediators for the relationships between PC violation, job-related stress and well-being. They were studied using structural equation modelling. There were, however, some difficulties with the trust data: it was noted that some of the participants selected more than one response for items, and scale items towards the end of the measure appeared to have been answered without the participants reading them. To deal with these data concerns, these responses were treated as missing data. Tests for multicollinearity were also conducted and this assumption was violated by the trust data. Despite these two issues, trust was initially included in the multiple mediation model. However, the model did not indicate a good fit to the data. Therefore, the trust variable was removed and analyses were re-run. The remaining model showed an adequate fit to the data.

For police officers, both fairness and self-efficacy combined mediated the effects of PC violation on stress and anxiety, but not on depression. However, for the firefighters, these two variables combined mediated the relationship between PC violation and depression. In addition, within the police officers' group, fairness buffered the effects of PC violation on stress and anxiety, while self-efficacy mediated the associations between PC violation, depression and anxiety. In contrast, for the firefighters, neither fairness nor self-efficacy on their own mediated the link between perceived feelings of violation, stress, anxiety and depression. These results indicate that, in the police force, officers who are experiencing job-related anxiety or stress as a consequence of PC violation could be supported by ensuring fairness in the workplace and fostering a greater sense of self-efficacy (see Chapter 4 for detailed explanation).

On the other hand, fairness and self-efficacy were not significant mediators of stress and anxiety for firefighters on their own; however, together they mediated work-related depression, thereby indicating a complex association of self-efficacy to the outcomes, rather

than the simpler associations made in the wider literature on other groups. Therefore, we confirm JD-R theory whereby these relationships were mediated through workplace and personal resources. In other words, negative emotions resulting from the inadequate supply of job resources (e.g., insufficient or inappropriate equipment to perform their task) may make the employees feel less competent in meeting their job demands and employees perceive unfairness when their contributions are not fully reciprocated. Presumably, as a result, they would feel more stressed, anxious and depressed (Clinton & Guest, 2014; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

In both survey studies, participants' demographic characteristics were measured. While not reported as part of the submitted manuscripts, this enabled consideration of whether demographic characteristics of the group (firefighters or police) affected PC violation, job-related stress, anxiety or depression. In both groups, none of the demographics showed significant relationships to any of the variables. There were no significant mean differences between males and females in terms of work-related stress, anxiety, depression, feelings of PC violation, self-efficacy and fairness. Police officers reported experiencing more occupational stress, feelings of PC violation, job-related anxiety and depression than firefighters. There were statistically significant differences on perceived fairness and self-efficacy with firefighters reporting higher levels of self-efficacy and fairness than police officers.

Limitations and suggestions

While the studies reported within this thesis have made an original contribution to the field of PC research, there were limitations with both the interviews and the surveys that need to be acknowledged. The studies with firefighters were conducted during a period of large-scale industrial action. Therefore, the sample size of firefighters was small, and there is the

possibility of bias in the samples because participants self-selected to participate. Furthermore, there could be a threat to external validity because the data were collected from one police force and one fire service. Thus, it is not clear whether other counties in England might experience similar problems. Hence, the study findings cannot be generalised to all emergency personnel across the UK. Additional studies are needed to attempt to replicate these findings in other areas of the country. They should also seek to incorporate the employers' perspectives, which is absent from all the studies reported here.

Another shortcoming of this thesis was that the design of the studies was cross-sectional, limiting the causal inferences that can be drawn. The initial plan for the thesis was to conduct a longitudinal study with a 12-month follow-up; however, due to difficulties in recruiting the participants, the design was changed. In future, conducting a similar study with a longitudinal design would make a valuable contribution to the literature explaining the changes in PC over time.

This study focused on applying PC theory to first responders. Future researchers could attempt to replicate the multiple mediation models with employees from different sectors that might also be facing challenges from austerity cuts, such as prison officers or primary and secondary school teachers.

All the empirical studies were conducted at the same time due to time constraints following the change in thesis design. Hence, future studies replicating a similar approach could conduct interviews followed by the survey study to inform the choice of variables. For example, it was apparent from our interview studies that social support could be a potential mediator, but we were unable to include this in our analysis.

As noted above, the trust mediator was removed from the model due to issues with the data in the survey studies. Future researchers could attempt to replicate the multiple mediation models and include the trust variable with employees from emergency services,

and with different sectors, such as the prison service or primary and secondary education, that might also be facing challenges due to austerity cuts. Moreover, there were no moderating variables employed in the survey studies that might buffer the effects of PC violation on stress and well-being through fairness and self-efficacy. For example, situational contexts such as justification sufficiency might be used as a moderator, because the reactions to feelings of violation would be less severe when employees perceive that the organisation was forced by government regulations (e.g., budget cuts and changes to pension schemes) to renege on its obligations (Turnley & Feldman, 1999). Therefore, future research could take this into consideration to improve the model.

Lastly, there were no comparisons made between the different ranks of police officers (e.g., constables and police officers) and firefighters (e.g., watch commanders and firefighters). It would be interesting to make PC comparisons between different ranks in the two services. For example, it would be worth comparing the PC of employees and their immediate line managers over time and to identify and evaluate any changes.

Implications

There are many practical implications of this thesis for management and employers to improve the employee and employer relations within the police force and fire service. The empirical evidence from the interviews and the survey suggests that employers or management staff could mitigate or avoid PC breach and violation by early communications with new starters regarding the nature of the role and employer expectations. This is because PC develops through communication with internal staff during the early stages of a contract (Sherman & Morley, 2015; Woodrow & Guest, 2017). Moreover, managers can foster realistic expectations of a job from recruitment to reduce the likelihood of perceived unmet obligations that might partially be related to unrealistic expectations of the job at the start

(Fisk, 2010). In addition, confidential one-to-one meetings between employers or managers and individual firefighters would provide an environment in which perceived breaches could be discussed (Lester et al., 2007).

The demands placed on the police service are expanding, and it seems they are facing difficulties in meeting the public's needs. Educating the public about the respective responsibilities of the police and allied services, as well as attending to their own security needs and using the appropriate telephone numbers for emergencies/non-emergencies might alleviate some of the pressures (Bradley, 1998; Fleming & Grbosky, 2009). Furthermore, police training should equip officers with skills to manage daily frustrations in the workplace (Feltes, 2002), and flexible-working conditions would allow officers to take annual leave as needed (Tuffin, 2001). Police forces could have mental health champions to raise awareness of mental health and break down its stigmatisation in the force (e.g., see Oscar Kilo, and the work by the charity Mind for Blue Light services).

Firefighters spoke about the use of mindfulness to handle stressors. Workers who practise relaxation techniques outside of work return with a lower threshold of tension than their colleagues. Therefore, the officers could use similar techniques, such as yoga, to relax or decompress after a difficult situation (Cole & Sanderson, 2017). In the future, an intervention study using different forms of techniques, such as mindfulness and relaxation therapy, could be conducted to assess the ability of these techniques to combat stress and boost the well-being of emergency personnel.

It was apparent that fairness and self-efficacy explain the relationships between negative emotions resulting from perceived broken promises, work-related stress, depression and anxiety. Employees could be provided with psycho-education courses to learn self-regulatory mechanisms that foster a greater sense of self-efficacy. For example, exposure to success stories, verbal persuasion, and social influences that reinforce appropriate behaviour

can be used to strengthen officer's self-efficacy (Bandura, 1997; Shakespeare-Finch, Rees & Armstrong, 2015; Souza et al., 2014). Furthermore, organisations could be more open and honest, and improve the self-worth and empowerment of employees through fairness by ensuring that the allocation of internal resources is fair (Adebayo et al., 2008), by explaining decision-making, and by taking a balanced approach when resolving disputes (Gakovic & Tetrick, 2003).

Conclusion

This thesis has advanced knowledge and understanding of PC theory in the context of austerity cuts. It assessed how employees experienced their PC and how it related to stress and well-being with two types of emergency services personnel. This was achieved by systematically reviewing the literature and through qualitative and quantitative empirical studies on areas where there was no prior research. Lastly, several theoretical and practical implications for future research have been suggested and discussed.

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APPENDIX A: Interview Schedule

Introduction

First of all, we appreciate your willingness to take part in this interview. The purpose of this study is to have in-depth understanding of experiences and thoughts of officers at their work place. I am interested in hearing about your life as a firefighter/police officer. Some questions will focus on your experiences and thoughts and there are no specific answers to those questions. This interview will take place for an hour and I will tape record it as I won't be able to write down all what you share with me. I hope that we will enjoy the interview. Do you have any questions to be clarified before we begin?

Demographics

What is your age? What is your marital status? I would like to know for how many years you are working in this service?

Questions:

Why did you choose to become a police officer/firefighter?
Could you speak something about a day from last week?

What are/were your perceived obligations when you joined the Fire Service/Police Force? Have these changed in any way?

Do you feel that your employer has any perceived obligations from you? Are they realistic?

Do you feel that your employer has fulfilled their obligations too you? In what way?

From your personal experience, which is the most stressful aspect of working in your role? What sort of impact does it have on you?

Does your employer help in managing the stressors you mention?

Whom do you talk with about your job? (If family) Does your job affect your family? If yes how and why? How do you balance between work life and home life?

Does your employer provide you with support? If yes, what sort of support? If no, why do you think this is?

Did you see any behaviour changes within yourself after joining this job? Like in social places, in relationships.

How happy/satisfied are you with your work in the Fire Service/Police Force? Are their any particular aspects of the job that are more/less satisfying than others?

Do you have any questions or comments to add?

Thank you.

APPENDIX 2: Questionnaires

A: Demographics

What is your age?

What is your gender?

What is your job title?

What is your marital status?

○ Single

○ Married

○ Divorced

○ Widow/ Widower

○ Other

How would you describe your ethnicity?

○ White: British/Irish/ Eastern European/ Other

○ Black or Black British Black African / Black Caribbean / other black

○ Mixed: White and Black Caribbean / White and black African /White and Asian / other mixed

○ Asian: Indian/ Pakistani/ Bangladeshi/ other Asian

○ Chinese

○ Other:

What education level did you reach?

○ Primary

○ Secondary

○ College or equivalent

○ Tertiary (undergraduate, postgraduate)

How long have your worked in the force (in years)? _____

B. Occupational stress

Thinking about your job as a police officer/firefighter, do the conditions described below cause you stress?

(10 = extremely bothered, 5 = somewhat bothered, and 0 = not bothered at all).

Poor diet.

Discrimination based on gender, ethnicity, or age.

Exposure to anxious or overly demanding co-worker or administrator.

Financial strain due to inadequate pay

Bothered by not being able to predict or control events.

Concerns about not knowing the latest technology.

Thoughts about past run(s) that have been particularly upsetting/disturbing.

Observing negative effects of stress on co-workers, e.g., illness, alcohol abuse, and burnout.

Dislike of routine paper work.

Working with a substandard co-employee on emergency incidents or situations

Conflicts with coworkers and team members.

Disruption of sleep

Feelings of isolation from family due to work demands and stress.

Concerns about serious personal injury/disablement/death due to work.

C: Self-efficacy

Relate the following to your job today. For each situation described below, please rate how capable you are that you can successfully deal with it. Please rate them as you currently believe. Because people differ from each other in the ways that they deal with work situations, there is no single correct answer. Answer with your immediate response rather than spending a lot of time thinking about your answer. Please write your answer in the blank provided.

Using the following scale, think about "how capable am I to…"

1_____2_____3_____4_____5_____6_____7

Not Capable   A little Capable   Pretty Capable   Very Capable

_____ 1. Deal with combative or hostile people.

_____ 2. Deal with injured children.

_____ 3. Deal with human dismemberment (loss of limbs, head, etc.).

_____ 4. Deal with blood, vomit, or other bodily fluids.

_____ 5. Deal with the sounds of people retching as they vomit.

_____ 6. Handle the death of a patient or person I am responding to.

_____ 7. Cope with the death of a child.

_____ 8. Handle difficult environmental working conditions (e.g., darkness, weather, etc.)

_____ 9. Cope with visual reminders of difficult calls.

_____ 10. Have dreams about difficult calls.

_____ 11. Not self-criticize my ability to handle calls.

_____ 12. Believe I am competent in all aspects of my work.

_____ 13. Manage the physical demands of the work.

_____ 14. Discuss with others the emotionally upsetting calls.

_____ 15. Multi-task when doing my job.

_____ 16. Cope with feelings of guilt.

_____ 17. Deal with the meaninglessness of a call.

_____ 18. Manage my anger.

_____ 19. Process what I might encounter on the way to a call.

_____ 20. Handle the humour associated with my job.

D: Job-related anxiety and depression

Thinking of the past few weeks, how much of the time has your job made you feel each of the following?

Never	Occasionally	Some of the time	Most of the Time	All of the Time
1	2	3	4	5

Miserable

Depressed

Tense

Worried

Gloomy

Uneasy

E: Psychological contract violation

Looking overall at how far the Police Force/ Fire Service has or has not kept its promises and commitments, to what extent do you agree with the following statements?

Please use the following rating scale for your answers.

Strongly disagree - 1

Somewhat disagree - 2

Partly agree and partly disagree - 3

Somewhat agree - 4

Strongly agree - 5

1. I feel happy
2. I feel angry
3. I feel pleased
4. I feel violated
5. I feel disappointed
6. I feel grateful

F: Fairness

Please answer each question given below using the scale shown:

Not at all --Totally

   1   **2**   **3**   **4**   **5**

1. Overall, do you feel you are rewarded fairly for the amount of effort you put into your job?
2. Do you feel that organisational changes are implemented fairly?
3. Do you feel you are fairly paid for the work you do?
4. Do you feel fairly treated by managers and supervisors?

G: Trust

Please answer each question given below using the scale shown:

Not at all --Totally

   1   **2**   **3**   **4**   **5**

1. To what extent do you trust senior management to look after your best interests?
2. In general, how much do you trust Police Force/ Fire Service to keep its promises or commitments to you or other employees?
3. To what extent do you trust your immediate line manager to look after your best interests?