The influence of employment status on Job Stress, Affective commitment and Job satisfaction: Possible moderators

Master of Business Administration

Human Resource Management track

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Abstract

The numbers of temporary forms has increased largely over the past years when compared to permanent employees. Organizations are attracted to this type of employment because of its flexibility that allows them to rapidly adjust their workforce size, cut costs while also creating a source of knowledge within organizations. This flexibility brought a lot of unbeneficial aspects when it comes to temporary employment such as aggravating job characteristics, high demands and less control etc. Most of these aspects have been related to stress which in turn was related to a decrease organizational outcome variables job satisfaction and affective commitment. The results on the relationship between employment status and these outcome variables were very mixed. An important reason that was given for these mixed results were individual differences, thus that the workforce was not homogenous and rather heterogeneous. Some individual differences has already been identified namely choice of contract, expectation and motivation. However, less attention was paid to the influence of education which plays an important role in the structure of temporary employment. This study focuses on the moderation effect of education on the interaction between employment status and job stress. And it can be concluded that education does not moderate this interaction but that this effect emerges at conditional levels of education, namely low, average and high.

Chapter One: General Introduction

General introduction

Over the past years/decades the numbers of temporary forms of employment has increased when compared to permanent employment (e.g. Samuelsson et al., 2012; Guest, 2004; Virtanen et al., 2005). Temporary employment refers to any job that is of a limited duration such as fixed-term and subcontracted jobs (Virtanen et al., 2005). Organizations are attracted to this type of employment because of its flexibility. Acquiring temporary employees allows organizations to e.g. rapidly adjust their workforce size as a response to shifts in demand of the organizations products/services; to cut costs due to the decreasing need for investing in training and development for contract workers; and it also creates a source of knowledge within organizations (Virtanen et al., 2005; Guest, 2004). This flexibility however may not be as beneficial to the temporary workers themselves as it is for the employing organization because it comes with a lot of problems such as deficiency in benefits, training and career development and high demands (e.g. De Cuyper et al., 2008; Virtanen et al., 2005; Bernhard-Oettel et al., 2005). These problems are stressors that create job stress. Job stress concerns the occurrence of a pattern of reaction when employees cannot balance the demand they are confronted with at work that challenges their ability to cope (McLean & Andrew, 1999). It affects employees in different ways (e.g. anxiety, intention to leave the organization and depression) and not alleviating it will influence the employees' behavior and attitude resulting in a decrease in for example organizational commitment, job satisfaction and performance (Zeytinoglu et al., 2012). Job stress has been used in studies as a determinant of employees work behavior and attitude, especially in the case of temporary workers (De Cuyper et al., 2008; Yeh et al., 2007). A few studies compared temporary workers with permanent workers on their attitudes and behavior but the results were mixed (e.g. De Cuyper et al., 2008; Zeytinoglu et al., 2012; Guest, 2004).

Many researchers tried to explain these mixed results by referring to methodological limitations of earlier studies, the importance of heterogeneity of the temporary workforce, methodology problems and possible hidden costs that are associated with permanent employment as the cause (De Cuyper et al., 2008). Following in the line of heterogeneity of the workforce it has been noticed that there were huge differences related to individual differences when it comes to the comparison between temporary workers and permanent workers (De Cuyper et al., 2008). It may be for example that a specific individual has a strong

desire to feel in control about their job while that desire is not so strong for others that it would negatively influence their behavior and attitude. Three possible moderators have been identified so far, namely choice of contract, motivation and expectation (Guest, 2004; De Cuyper et al., 2008). Why an individual chooses a particular employment contract whether it is out of obligation (e.g. the low availability of permanent job opportunities and poor health) or own preference (e.g. they don't want the commitment that comes with permanent employment or they like the freedom to choose the work they want to do), what motivates them and what their expectations are is different for each individual. This means that the results would also be different (Guest, 2004; De Cuyper et al., 2008). This point out that individual difference must be considered when comparing temporary workers with permanent workers because these groups are not homogenous. The individual difference that is going to be the center of attention in the current study is education because it "seems to be a major structure in temporary employment" as Hammarström et al. (2010, page 756) stated. It is assumed that job stress concentrates among low educated individuals because of the many stressors such as poorer work conditions etc. even though it may be higher among individuals who are highly educated (Hammarström et al., 2010) Therefore, the current study will focus extent of education as a moderator of the relationship between employment status, job stress, job satisfaction and affective commitment.

The research question that will be answered in this study is: *To what extent does education influence the relationship between employment status and job stress?* I will use the data extracted from Work Employee Relations Survey 2004 to test this research question.

This report will be set up as follows. In the first chapter which is the introductory chapter, I will give some information on the purpose of the study and the research question is developed. In chapter two and three, the literature on type of employment, job stress, job satisfaction and affective commitment is reviewed for further understanding of these topics and the research hypotheses are developed based on the obtained information. In the fourth chapter the design methods and procedures comes to order; I will give more information on the sampling, instrumentation, collection and analysis of the data. In the fifth chapter, the results are presented using descriptive and inferential statistics. In the sixth chapter a discussion takes places of the obtained results. In the last chapter a conclusion is developed and recommendations are made. References used and appendices of additional information can be found at the end of this report.

Chapter two: Job Stress, Job Satisfaction and Affective Commitment

In this chapter attention is paid to the dependent variables: job satisfaction and affective commitment, the independent variable: employment status, the mediator job stress and moderator education.

Job Satisfaction and Affective Commitment

Job satisfaction is a subjective response of an individual towards their job which reflects to what extent their needs are met by this job (Griffin et al., 2010). It refers to a positive emotional state as a result of one's job experience or the job itself (Beckmann et al., 2009) and it is associated with two types of sources namely, intrinsic and extrinsic sources. Intrinsic sources refers to "personal achievement, individual efforts and involvement" and extrinsic sources refers to "recognition, advancement, salary and other rewards" (McLean & Andrew, 1999, page 95). Extrinsic sources are most of the time responsible for dissatisfaction because the employee has little control over them. Gaining information on these sources of job satisfaction allows employers to adopt management practices that are suitable in order to stimulate it which in turn influence the productivity of employees (Beckmann et al., 2009). Organizational commitment concerns the relationship between the employee and their employing organization. There are three types of organizational commitment namely affective, continuance, and normative commitment (Meyer et al., 2002). Affective commitment emphasizes the desire of employee wanting to stay in an organization (McLean & Andrew, 1999). Wanting to stay in an organization is mostly influenced by whether the needs and expectations of individuals match with what they actually experience which in turn influences whether they want to stay with an organization (Restubog et al, 2006). It denotes an "emotional attachment to, identification with and involvement in the organization" (Meyer et al., 2002, page 21). Continuance commitment emphasizes the need of an employee to stay because of associated perceived costs with leaving their organization (Meyer et al., 2002). Normative commitment emphasizes the perceived obligated feeling employees have that makes them stay with their organization (Meyer et al., 2002). Of these three types of commitment, the current study focuses on affective commitment because of its affective/emotional tone. Both job satisfaction and affective commitment are influenced by and reflects the extent to which the needs and expectations of the individual match with what these individuals actually expect and experience (Restubog et al, 2006; Griffin et al., 2010).

Job satisfaction and affective commitment have received a lot of attention over the past decades because of their association with e.g. labor productivity, firm performance and turnover (Wilkin, 2013; Meyer et al, 2002).

Employment status, Job Satisfaction and Affective Commitment

The growth of flexible employment contracts has increased considerably over the past years (Voudouris, 2004; Guest, 2004). Organizations use these types of contracts to e.g. cut costs, adjust their workforce in order to respond rapidly to the shifts in demand of products/services and it also creates sources of knowledge within the organization (Voudouris, 2004; Guest, 2004). With this growth came a lot of definitions for this type of employment contracts. For example Voudouris (2004) had defined these contracts, using the label flexible employment, as "all contracts other than the 'typical contract', which relates an employee to an organization for an undetermined duration and a normal working schedule" (page 131). Voudouris (2004) then categorized short-term, part-time and quasi employment as flexible employment contracts. Another example would be Virtanen et al. (2005) who used the label temporary employment and defined it as "paid employment relations other than those with unlimited duration" (page 610) with fixed-term and subcontracted jobs falling under that category. Another common used definition is contingent work which Guest (2004) has defined as any job where the individual does not have an implicit/explicit long-term employment contract (e.g. part-time and fixed-term). From these examples it can be determined that the idea behind employment flexibility varies when it comes to the categorization of these types of employment. It is also noticeable that some definitions exclude part-time employment because it may be stable and permanent (Guest, 2004; Gallagher & Sverke, 2005). To avoid any consistency problems the current study will refer to these types of contracts as temporary employment. The term temporary employment is also mostly used in European studies (De Cuyper et al., 2008).

It is assumed that temporary employment has a negative influence on the well-being, work attitudes and commitment to the organization (De Cuyper et al., 2008; De Witte & Näswall, 2003). This negative relationship can be explained by the social comparison process and the psychological contract theory. Beginning with the social comparison process, individuals tend to compare the outcomes they receive with those received by referent others (De Witte & Näswall, 2003). And this evaluation is damaging for temporary employees because this creates a feeling of deprivation and inequity due to not receiving what they feel they deserve

while it is being received by permanent employees (De Cuyper et al., 2008; De Witte & Näswall, 2003). This feeling of deprivation and inequity leads to a decrease in job satisfaction as well as organizational commitment (De Witte & Näswall, 2003). The second theory which is the psychological contract theory also states that temporary employment negatively affects job satisfaction and organizational commitment. The psychological contract maintains that obligations between employers and employees are expected to be mutual and thus all about balance. Several psychological contracts can be identified namely transactional, relational, symmetrical and asymmetrical. Transactional contracts refer to the inclusion of job extrinsic aspects using a short-term perspective in the exchange relationship. Relational contracts refer to the inclusion of both intrinsic and extrinsic job aspects using a long-term perspective in the exchange relationship. The symmetrical contract refers to the balance of power between the employee and the employer that should be equal and the asymmetrical contract is the opposite of the symmetrical referring to an imbalance of power. The transactional (also named narrow contract) and asymmetrical contracts ought to be dominant in temporary employment and often characterized by a decrease in job satisfaction and commitment (De Witte & Näswall, 2003). This is because the content items of the psychological contract of temporary employees are argued to be narrower in terms of quality and number when compared to permanent employees (De Witte & Näswall, 2003). Based on the social comparison process and the psychological contract theory the following hypotheses were developed.

Hypothesis 1a: Employees with temporary employment have a lower score on job satisfaction than employees with permanent employment

Hypothesis 1b: Employees with temporary employment have a lower score on affective commitment than employees with permanent employment

Employment status, Job Stress, Job Satisfaction and Affective Commitment

Job stress has been used as a determinant of the attitudes and behaviors of temporary employees. Job stress mainly concerns the occurrence of a pattern of reactions when employees cannot balance the demand they are confronted with at work that challenges their ability to cope. Job stress affects employees in different ways and will result in a decrease in e.g. commitment, job satisfaction, involvement, turnover performance if not alleviated (McLean & Andrew, 1999). Job stress is therefore an important aspect that organizations

must consider because it influences e.g. the work behavior attitudes of employees resulting in poor performance, dissatisfaction, low affective commitment (Zeytinoglu et al., 2012).
There are three approaches to job related stress (Lainas, 2010). The first approach is the stimulus approach where stress acts as stimuli from the environment that negatively affects working individuals. Stress is treated here as an independent variable. The second approach is the physiological approach where stress acts as a "physiological response or reaction to negative work conditions or disturbances and focuses on the physiological consequences which are brought about by threatening or damaging environmental factors" (Lainas, 2010, page 457-458). Stress is treated here as a dependent variable. The third approach is the interactional approach where the individual and environmental characteristics interact with each other. Job stress is conceptualized according to this approach as the "psychological state experienced by an individual when he /she comes across situations or characteristics of his/her work and its environment (stressors/sources of work stress), which are perceived by him/her as raising considerable demands, exceeding his/her capabilities, and, therefore, bring about negative consequences for him/her, both on the psychological and the physiological level" (Lainas, 2010, page 457). Stress here is more dynamic and is the result of not being able to balance these demands which can have a number of consequences for the organization as well as for the individual themselves.
Stressors can be categorized in four groups, namely working conditions, employment conditions, job content and social relations at work (De Witte & Näswall, 2003). Under the working conditions category falls the stressors e.g. working in painful and tiring positions, constantly doing short/repetitive movements/tasks and being exposed to a lot of noise. Under the employment conditions category falls the stress obtained from e.g. job insecurity, little training and career development. The job content category concerns the stressors e.g. little decision latitude, work overload, difficulty of the work, role ambiguity, high working demands, time pressure and less job control among others. And the last category, the social relations at work category, refers to the stressors such as little to no social support from colleagues and supervisor, less influence in the decision making process, difficulty in raising criticism and be heard. When the influence of these stressors is high, individuals are more likely to be concerned, less efficient and vigilant when it comes to performing their tasks. This in turn can influence their productivity and health. However, stress is not always harmful. When it is limited it can stimulate an individual by for example making their work more interesting and challenging but on the other hand ongoing stress on a high level is damaging. It will then affect the individual's work, emotional and social life and most of the

time these individuals are not ever aware that they are affected by stress (McLean & Andrew, 1999).

According to the job stress theory temporary employment has negative consequence on job satisfaction and organizational commitment (De Witte & Näswall, 2003). According to this theory temporary employees have job characteristics that are more aggravating which leads to strains and negative stress reactions and that the work of temporary employees is of less quality. Temporary employees are thought to be more vulnerable when it comes to limited decision latitude, role ambiguity and reduced control (job content category), working under poor conditions (working conditions category), little social support from co-workers and supervisors (social relations at work category) and job insecurity (employment condition category) and therefore more stressed than permanent employees (De Witte & Näswall, 2003). Based on the job stress theory and approaches to job stress the following hypotheses were developed.

Hypothesis 2a: Employees with temporary employment have a lower score on job control than employees with permanent employment

Hypothesis 2b: Employees with temporary employment have a higher score on psychological distress than employees with permanent employment

All three approaches to job stress namely stimulus, physiological and interactional approach (Lainas, 2010) mentioned earlier indicate that for temporary employees job stress has a negative influence which often times results in a decrease in e.g. job satisfaction, commitment, involvement (McLean & Andrew, 1999). Taking employment status out of the equation, it is important to determine the type of influence job stress (job control and psychological distress) has on job satisfaction and affective commitment. The relationship between job stress and the variables job satisfaction and affective commitment is thought to be negative according to the job stress theory.

Therefore the following hypotheses are tested in order.

Hypothesis 3a: Job stress negatively relates to job satisfaction

Hypothesis 3b: Job stress negatively relates to affective commitment

As stated before, the job stress theory indicates that temporary employment can negatively influence job satisfaction and affective commitment because of the different stressors which

can be assumed is not the case for permanent employees (De Witte & Näswall, 2003). Therefore, it is important to also test how job stress mediates the relationship between employment status (both temporary and permanent), job satisfaction and affective commitment to get a more clear view on its' role as a mediator.

Hypothesis 4a: Job stress mediates the relationship between employment status and job satisfaction

Hypothesis 4b: Job stress mediates the relationship between employment status and affective commitment

Moderator

Temporary employees have been compared to permanent employees in a lot of studies on their behavior and attitudes (e.g. Wooden et al., 2004; Lee et al., 1991; Griffin et al., 2009; Wilkin, 2012; Cuyper et al., 2008). These studies have shown that the results vary by employment status. This points out its importance but also points out that the results are mixed. For example on job security (a job stressor from the employment conditions category) de Witte and Näswall (2003) tested the influence of temporary employment on job satisfaction and organizational commitment using job insecurity as a mediator. The authors (De Witte & Näswall, 2003) have concluded that permanent employees were associated with job insecurity resulting in a decrease in job satisfaction and organizational commitment and that this was not the case for temporary employees. There was an interesting difference between the beta coefficients of the four countries after controlling for demographic variables, namely country a: ß = 0.12; country b: ß = 0.26; country c: ß = 0.09 and country d: ß = 0.33. The heterogeneity of temporary employees is a reason that could explain these mixed results (De Cuyper et al., 2008). Researchers should not fail to recognize that the temporary workforce is not homogenous, that there are different types of arrangements for temporary workers and that each individual is different as to their background characteristics, reasons behind their choice of contract etc. The comparison theory and the social exchange theory could explain the importance of individual differences because they both state that how an employee reacts is monitored by how they perceive fairness (De Cuyper et al., 2008). How an individual perceives/judges fairness is dependent on his/her own individual values, according to the normative conceptualization of fairness (Rasinki, 1987) which can be linked to individual differences. It may be the case that employees of different educational backgrounds (an individual difference) may not be treated the same which is viewed as unfair and that

when employees compare themselves with referents others on the outcomes and rewards received or exchanged negatively influence the relationship between employment status and job stress according to the comparison and social exchange theory (De Cuyper et al., 2008). Education will be tested as a moderator for its influence on the relationship between employment status and job stress. It refers to the level of schooling an individual has (Department of Trade and Industry et al., 2004). Education negatively moderates the relationship between temporary employment and job stress because viewed from the center-periphery dimension it is assumed that temporary employees who are highly educated are more stable in terms of stress than temporary employees who are not highly educated (Hammarström et al., 2010). This is because stressors such as job insecurity and poor working condition usually concentrates among temporary employee who are lower educated on the periphery (Hammarström et al., 2010). Hammarström (2010) has conducted a similar study as the current study but focused only on a specific group of permanent and temporary namely those between the ages of 30 and 42 whereas in this study the focus group relies between the ages 16 and 65 or older. Thus, the following hypothesis will be tested in order to gain more insight on the role of education level as a moderator on the relationship between employment status, job stress, affective commitment and job satisfaction.

Hypothesis 5: Low education negatively moderates the relationship between employment status and job stress while this relationship is positive when education is high

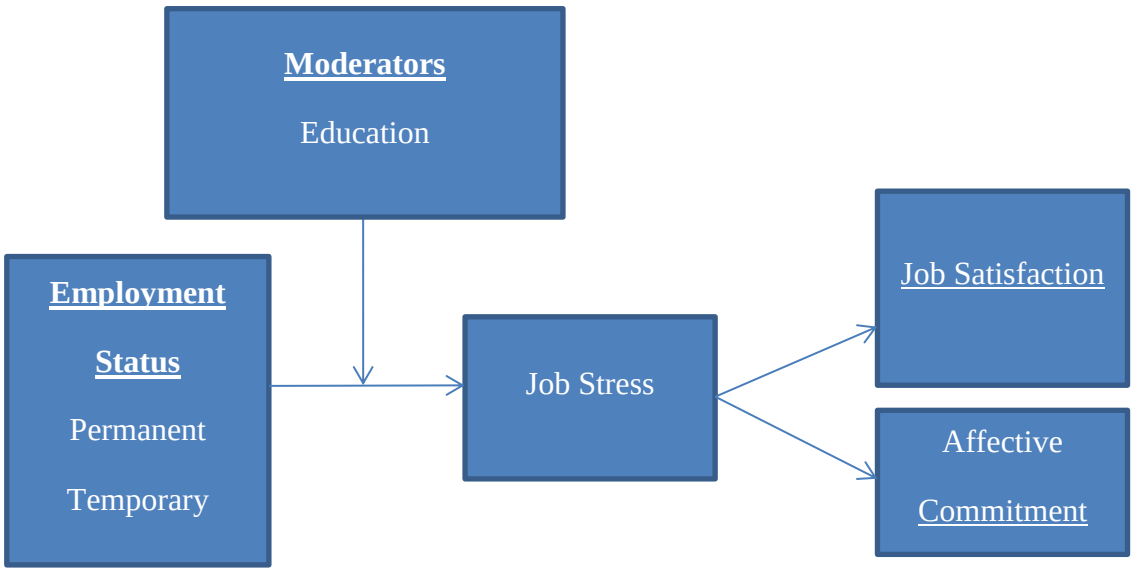

Figure 1 Research Model

Chapter three: Methodology:

This chapter gives a description of the database used for the present research and how each construct is measured.

Work Employee Relations Survey 2004

For the current study a secondary database named Work Employee Relations Survey (WERS) 2004 is used. The purpose of this data collection was to obtain a large-scale amount of statistical and reliable evidence concerning several industrial relations and practices across the sectors of the economy in Great Britain. Information was collected from managers who are responsible for employment relation, trade union/employee representatives and the employees themselves.

A total of 2.295 workplaces participated in this cross-section survey. To these workplaces a number of 41.323 questionnaires were placed from which 37.012 were received with at least one productive questionnaire with a response rate of 89.6%. After excluding the questionnaires that were neither usable nor productive (namely 4.311 questionnaires) a total of 22.451 questionnaires remained indicating a response rate of 60.7%. The current study uses the following information collected from the employees given in table 1.

The employees were surveyed using a self-completion form. Using a self-completion survey makes it possible to survey participants in a wider range (the questionnaire can be found under Appendix A). A quantitative dataset is used during this research because it allows the determination of the effect of the variables measured in a metric manner (Cook et al, 2002).

Gender	Current status	Age Groups
Female: 11962 employees Male: 10383 employees	Single: 4959 employees Widowed: 300 employees Divorced or separated employees: 1913 employees Married or living with a partner: 15150 employees	16 - 17: 245 employees; 18 - 19: 495 employees; 20 - 21: 587 employees; 22 - 29: 3461 employees; 30 - 39: 5606 employees; 40 - 49: 5985 employees; 50 - 59: 4938 employees; 60 - 64: 860 employees; 65 or more: 185 employees
Type of employees	Industry type	
Non-managerial: 22.451 employees Permanent employees Temporary employees	Manufacturing: 3225 employees Electricity, Gas, Water: 460 employees Construction: 1030 employees Wholesale & Retail: 2257 employees Hotels & Restaurants: 540 employees Transport & Communications: 1422 Financial Services: 1331 employees Other Business Services: 2727 employees Public Administration: 1970 employees Education: 2764 employees Health: 3362 employees Other Community Services: 1363 employees	

Table 1 Sample description

Measuring Affective Commitment

The scale used for measuring affective commitment intends "to assess positive feeling of identifying, attachment to and involvement in, the work organization" based on the scale developed by Meyer & Allen (1984, page 375). Affective commitment was measured by asking employees questions using 5-point Likert-scale responses from "strongly agree" (scored as five) to "strongly disagree" (scored as one) such as "I share many of the values of my organization" and "I feel loyal to my organization with the highest score for feeling

affectively committed to their company. The scale consisted of three items (Cronbachs' Alpha= .850).

Measuring Job satisfaction

For measuring job satisfaction the Measure of Job Satisfaction scale was used (Van Saane et al., 2003). This scale is mostly used in the community nurse sector. The stem question when using this scale is "how satisfied are you with a certain aspect of your job?" (Van Saane et al., 2003, page 195). The employees were asked whether they were satisfied with the e.g. "sense of achievement they get from your work" and "the scope for using your own initiatives. Both intrinsic and extrinsic sources of job satisfaction are measured. The respondents rated these questions using a 5-point Likert-scale ranging from 'very satisfied' (scored as five) to 'very dissatisfied' (scored as one) with the highest score for feeling satisfied with their job. The scale consisted of seven items (Cronbachs' Alpha= .827).

Measuring Job Stress

Job stress was measured by two specific dimensions namely job control and psychological distress using some of the measures of job control identified by Karasek (1979) and for psychological distress some items were selected that measure depressive symptoms by using the scale developed by Siu and Cooper (1998). The first item, job control, used a 4-point Likert scale ranging from "a lot" (scored as four) to "none" (scored as one) with the lowest score for feeling stressed because of lack of control. Respondent were asked questions about how much influence they have over some aspects of their job such as tasks, pace at work etc. The job control scale consisted of five items (Cronbachs' Alpha= .807). The second item, psychological distress, used a 5-point Likert scale ranging from "all of the time" (scored as five) to "never" (scored as one) with the highest score for feeling stressed. Respondents were asked how much of the time their job made them feel tense, uneasy etc. This scale consisted of three items (Cronbachs' Alpha= .843).

Measuring Employment status

Employment status is measured using the possibility to choose between permanent and temporary employment (including fixed-term). Permanent was coded with a one and temporary with a zero. This scale consisted of two items. (A reliability test for this scale could not be performed because it was only possible to choose one)

Measuring Education

Education is measured based on obtained academic degree. This scale consisted of six items and the items were ranked from low (coded as one) to high coded as six. The standard degree e.g. General Certificate of Secondary Education (GCSE), Certificate of Secondary Education grades was referred to as the lowest degree (coded as one) and Master of Business administration as the highest degree (coded as six). When one of these educational levels was chosen by the respondents, the rest remain zero. (A reliability test for this scale could not be performed because it was only possible to choose one)

Measuring Gender, Age and Current Status

The control variables are gender (female or male), age (ranging from 16 to 65 or older), and current status (ranging from single to married or living with a partner). Gender was coded with male as one and female as two. Ages were coded with 16-17 as one to 65 or older as nine. Current status was coded with single as one to married or living with partner as four.

Cronbach´s Alpha

Whether the Cronbach's Alpha is good is determined by the following rule of thumb according to Heus et al. (1999), when $\alpha \geq 0{,}80$ then the scale is good, when $0{,}60 \leq \alpha < 0{,}80$ then the scale is reasonable and when $\alpha < 0{,}60$ then the scale is bad and needs to be excluded. As can be determined from the given alphas' neither scales used are bad. All the scales used for measuring affective commitment, job satisfaction, job control and psychological distress are good.

Data analysis

For analyzing the data, the program SPSS is used. Before testing the different relationships the internal consistency of the different scales used to measure each variable should be tested. For testing the internal consistency Cronbach alpha is used. For testing hypotheses one and two, an independent samples t-test is used for determining differences between permanent and temporary employees. For testing hypothesis three till five an analyses of variation (regression/PROCESS) is used in order to understand the pattern of association between the dependent variable temporary employment, the independent variables job satisfaction and affective commitment with job stress as a mediator and the possible moderator education.

Chapter four: Results

Hypotheses are tested using independent samples t-test and analysis of variance (regression, and PROCESS) in order to understand the pattern of association between the dependent variable temporary employment, the independent variables job satisfaction and affective commitment with job stress as a mediator and the possible moderator education. Whether the relationship is significant depends on its p-value. P-value is significant when $p \leq .05$.

Employment status, Job Satisfaction, Affective Commitment and Job stress

Table 1 contains the results of the independent samples t-test conducted for hypothesis 1 (a & b) and 2 (a & b). Hypothesis 1a states that *employees with temporary employment have a lower score on job satisfaction than employees with permanent employment*. The results indicate that the differences between permanent and temporary employee is non-significant, with $p = .09$ (See table 1). Therefore hypothesis 1a is rejected. Following to hypothesis 1b, *employees with temporary employment have a lower score on affective commitment than employees with permanent employment*. The results in table 1 also indicates that the differences between permanent and temporary employee is non-significant, with $p = .06$ thus hypothesis 1b is also rejected.

Hypothesis 2a states that *employees with a temporary employment have a lower score on job control than employees with permanent employment*. The results indicate that the differences between group is significant, with $p < .0001$ and that temporary employees do have a lower score ($\mu = 2.3075$, $\sigma = .88539$) on job control than permanent employees ($\mu = 2.4706$, $\sigma = .87386$). Meaning that hypothesis 2a is accepted because temporary employees had less job control then permanent employees. Hypothesis 2b states that *employees with a temporary employment have a higher score on psychological distress than employees with permanent employment*. Based on the results the difference between groups is significant with $p<.0001$. However, hypothesis 2b is rejected because the temporary employees had a lower score on psychological distress ($\mu = 2.8779$, $\sigma = .76645$) than permanent employees ($\mu = 2.9942$, $\sigma = =.74156$). This means that temporary employees were less psychologically distressed then permanent employees.

Hypothesis	Variables	Permanent	Temporary	T	DF	Significance (2-tailed)
1a	Job Satisfaction	μ= 3.5167 σ= .69923	μ= 3.4877 σ=.69867	1.694	22340	p =.09
1b	Affective Commitment	μ= 3.6553 σ= .83795	μ= 3.6937 σ= .82847	-1.875	22220	p =.06
2a	Job Control	μ= 2.4706 σ= .87386	μ= 2.3075 σ= .88539	7,625	22359	p <.0001
2b	Psychological Distress	μ= 2.9942 σ=.74156	μ= 2.8779 σ= .76645	6.193	2111.010	p <.0001

Table 2 Group Statistics and Independent Samples Test of Test Variables Job Satisfaction, Affective Commitment, Job Control and Psychological Distress by Grouping Variable Employment Status

Job stress, Job Satisfaction and Affective Commitment

Table 2 contains the result of the regression analysis conducted for hypothesis 3a and b. Hypothesis 3a states that *job stress relates to job satisfaction*. The results indicate that 28.2% of job satisfaction is explained by job stress (job control and psychological distress) and that it is significant with p<.0001. Since job stress is measured by two dimensions, a regression analysis for both is conducted. Both dimensions are significantly related to job satisfaction with p<.0001 thus hypothesis 3a is partially accepted. Psychological distress is negatively related to job satisfaction (b = -.272, p < .0001) which means that as it decreases, job satisfaction increases. Job control, on the other hand, was positively related to job satisfaction (b = .441, p < .0001) which means that as it increases, so will job satisfaction. Hypothesis 3b states that *job stress relates to affective commitment*. The results for this hypothesis indicate that only 10% of affective commitment is explained significantly, p<.0001, by job stress (job control and psychological distress). Hypothesis 3b is also partially accepted because only psychological distress had a negative relation with affective commitment. The results indicate that as psychological distress increases, affective commitment decreases (b = -.133, p < .0001) and as job control increases so will affective commitment (b = .280, p < .0001).

	Predictors	b	t	Significance (2-tailed)	R^2	Significance (2-tailed)
Job satisfaction	Job Control	.441	77.539	p<.0001	.282	p<.0001
	Psychological distress	-.272	-47.812	p<.0001		
Affective Commitment	Job Control	.280	43. 859	p<.0001	.10	p<.0001
	Psychological distress	-.133	-20. 746	p<.0001		

Table 3 Regression analysis Predictors Job Control and Psychological distress

Mediator Analysis

For analyzing whether job stress mediates the relationship between employment status and job satisfaction, a custom dialog box was installed called PROCESS employment status. PROCESS was created by Andrew Hayes and colleague to make it easier to conduct a mediation and moderator analysis (Field, 2013) (A detailed output for hypothesis four and five can be found in appendix D).

Figure 1 and 2 illustrate the results obtained when the mediator analysis was conducted with job satisfaction as the outcome variable. The result in Figure 1 is interpreted in four relationships for the first dimension, job control, $r^2 = .0114$, $p < .0001$. Relationship one focuses on the influence of employment status on job control, $b = .08$ with $p < .0001$. Employment status and gender is treated here as a dummy variable where temporary employee is compared with permanent employees and males against females. The results indicated that when temporary employees were compared to permanent employee, permanent employees had more job control, hence the given b. All three control variables, gender (b =-.02, p = .028), age (b =.04, < .0001) and current status (b =.03, < .0001) were found to have a significant influence on job control. Females appeared to have less job control then males and the older you get, married or living with a partner the more job control you have. Relationship two indicates that as job control increases, job satisfaction also increases, $b = .43$, $p < .0001$ (vice versa) with the significant influence of gender (b =.12, p <.0001) and age (b = .01, p = .004) on job satisfaction. The given betas for the control variables indicates that females are more satisfied with their job and the older you get the more satisfied you are with your job. Relationship three indicates that employments status does not have a significant direct effect

on job satisfaction (b = -.01, p = .61) but with job control as a mediator (relationship four, indirect effect), this effect becomes positively significant, b= .03, p = .0491. Hypothesis 4a states that *job stress mediates the relationship between employment status and job satisfaction.* For determining whether job control mediates the relationship between employment status and job satisfaction, a closer look is taken at the confidence interval (95% CI [.0169, .0491]) because it determines whether there is mediation (Field, 2013). The given confidence interval does not contain a zero which means that an indirect effect is likely thus job control mediates the relationship between employment status and job satisfaction.
Hypothesis 4a is for now partially accepted for the dimension job control.
Following to the psychological distress dimension, figure 2 displays the results obtained, r^2 = .0114, p < .0001. The first relationship indicates that from temporary to permanent employees, permanent employees are more psychologically distressed (b = .17, p < .0001) than temporary employees. Gender did not have an influence on psychological distress but age (b =-.02, p = <.0001) and current status (b =.01, p =.005) did. As age decreases, job psychological distress increases (vice versa) and as current status increases from single to married or living with a partner, psychological distress also increases (vice versa).
Relationship two indicates a negative but significant relationship between psychological distress and job satisfaction (b = -.24, p < .0001) which means that as psychological distress decreases, job satisfaction increases (vice versa). Employment status (relationship three) did not have an effect on job satisfaction (b = .005, p = .76). By including psychological distress as a mediator (relationship four, indirect effect), the effect was negative but significant, b = -.04, p < .0001 with a 95% confidence interval, [-.0495, -.0290]. The confidence interval once again does not contain a zero thus psychological distress likely mediates the relationship between employment status and job satisfaction.
Hypothesis 4a is accepted because both dimensions mediate the relationship between employment status and job satisfaction.

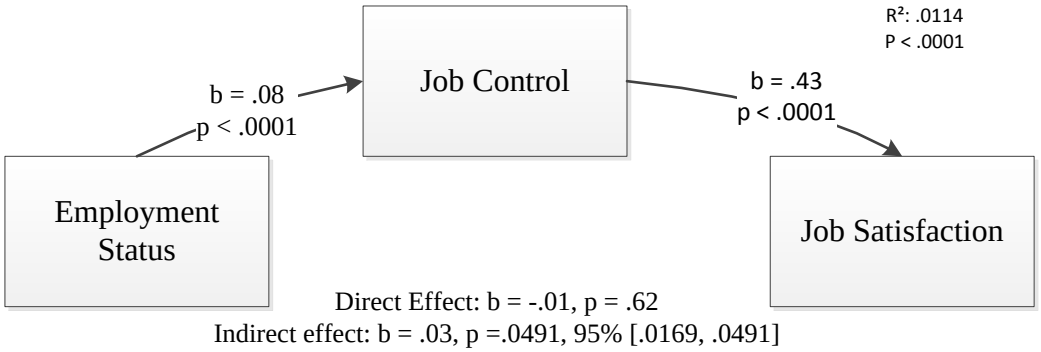

Figure 2 Mediating effect of Job control on Employment status and Job satisfaction

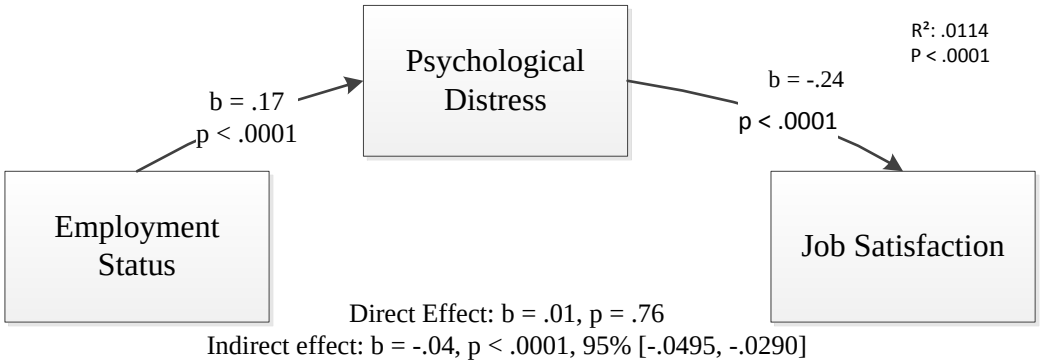

Figure 3 Mediating effect Psychological Distress on Employment status and Job satisfaction

Figure 3 and 4 illustrates the results obtained when the mediator analysis was conducted with affective commitment as the outcome variable. Hypothesis 4b states that *job stress mediates the relationship between temporary employment and affective commitment*. Figure 3 displays the results for the dimension job control r^2 = .016, p < .0001. Relationship one indicates that permanent employees have more job control than temporary employees, b =.07, p <.0001. All control variables had a significant influence on affective commitment, gender: b = -.02, p =.044; age: b =.04, p<.0001 and current status: b =.03, p<.0001. Relationship two indicate that as job control increases, affective commitment also increases, b = .32, p = < .0001. All control variable had a positive influence gender: b = .15, p<.0001; age: b =.02, p<.0001 and current status: b =.03, p<.0001. Next to that employment status has a negative significant relationship with affective commitment (relationship three), which means that permanent employees when compared to temporary employees a less affectively committed to their organization than temporary employees, b = -.07, p =.002. Overall, job control positively mediates the relationship between employment status and affective commitment, b = .02, p < .001 (relationship four) with the significance influence of the control variables gender: b =

.14, p<.0001; age: b =.04, p<.0001 and current status: b =.03, p<.0001. The 95% confidence interval [.0121, .0347] contains no zero, meaning that there is likely to be a genuine mediation by job control. Following to the psychological dimension (figure 4) with r^2 = .016, p < .0001, it also seems to have a genuine mediation effect on employment status and affective commitment with a 95% confidence interval [-.0300, -.0168] (relationship four), b = -.02, p <.0001. This indirect relationship is interpreted as follows: permanent employees are less distressed psychologically than temporary employees which in in turn increases their affective commitment. Psychological distress has a negative significant influence on affective commitment, b = -.14, p < .0001, meaning that as psychological distress decreases, affective commitment increases (relationship two). The control variables were all the three positively significantly related. Employment status negative but significantly influence affective commitment, b = .06, p < .02 (relationship three). This means that temporary employees are more affectively committed when compared to permanent employees. For both dimensions it can be concluded that their mediation effect is significant, thus hypothesis 4b is also accepted.

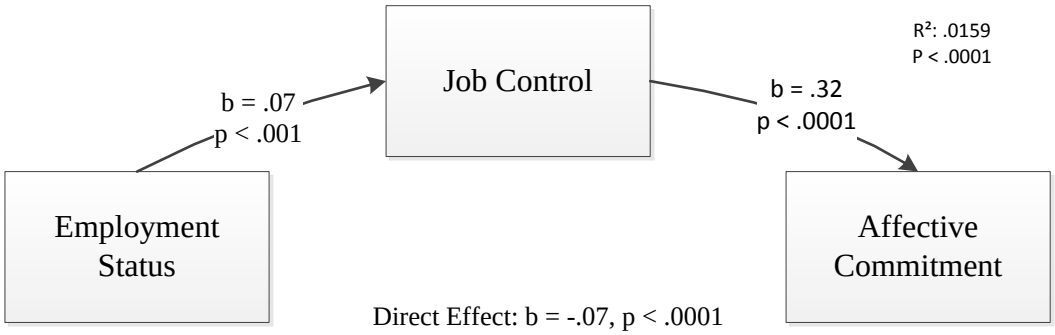

Figure 4 Mediating effect Job Control on Employment status and Affective commitment

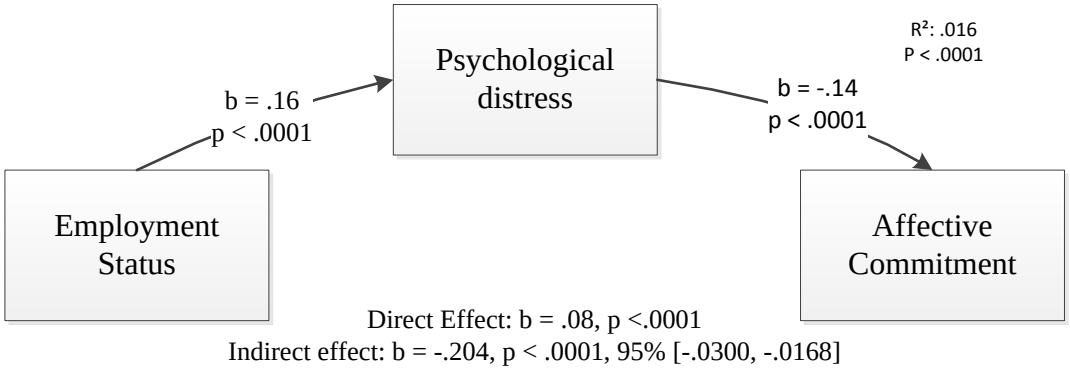

Figure 5 Mediating effect Psychological distress on Employment status and Affective commitment

Moderator Analysis

Table 3 contains the results of the moderator analysis for hypothesis 5 which states that *low education negatively moderates the relationship between employment status and job stress while this relationship is positive when education is high*. Table 3 displays the following results: the direct effect of education and employment status on job control, the interaction between employment status and education, the effect of the control variables on job control and also the conditional effect of education moderating the relationship between employment status and job control. The results of the moderator analysis testing the actual model indicate that the interaction between employment status and job control is negatively moderated by education but that it is not significant, b= .02, 95% CI [-.0061, .0517], p= .12. With the confidence interval containing a zero, there is not likely to be a mediation effect. Control variables age and current status were found to have a significant influence on the relationship, except for gender. However, a significant moderation effect was found when testing for the conditional effect of employment status on job control at two values of education, namely average and high education. From these results it can be concluded that the relationship between employment status and job control emerges when the education of the employees is average or high. When education is average (b = .06, p = .01) and high (b = .10, p <.001) both positively relates. This means that when education is average, it positively moderates the relationship between employment status and job control. This moderation effect is even stronger when education is high. Hypothesis 5 is momentarily partially accepted because the relationship is positive when education is high but positive non-significant when education is low (see table 3).

Following to the second part of hypothesis 5, table 4 contains the results for testing the moderating effect of education on the interaction between employment status and psychological distress. Table four displays the same results as for table 3. Education does moderate the interaction with employment status negatively but it is non-significant b= -.01, 95% CI -.0414, .0285], p= .72, with only age having an influence on the relationship. And also the confidence interval contains a zero thus there is not likely to be a mediation effect. However, when testing the conditional effect for the conditional effect of employment status on psychological distress at values of education, it was found that the relationship between employment status and psychological distress also emerges when the education of the employees is low, average or high. When education is low, it positively but significantly influence (b = .17, p< .001) relationship between employment status and psychological

distress which is also the case for when education is average (b = .16, p< .0001) and high (b = .15, p< .0001). These results show that from high education to low education the moderation effect decreases a bit but is still positive and significant. For this second part hypothesis 5 is also partially accepted because the high education positively moderates the relationship between employment status and job stress dimension psychological distress and low education even though significant was not negatively related.

The overall conclusion based on the results obtained for both dimensions of job stress it can be concluded that this hypothesis is partially accepted because high education do have a positive moderation effect on the interaction which is also the case when education is low.

Job Control		b	Standard Error	t	p-value
Predictors of Job Control	Constant	2.6	.0346	76.1103	p <.0001
	Education	.05	.0041	11.1648	p <.0001
	Employment Status	.06	.0252	2.5077	p = .01
	Employment status X Education	**.02**	**.0147**	**1.5453**	**p= .12**
	Gender	-.03	.0137	-1.1720	p= .055
	Age	.06	.0056	10.1881	p <.0001
	Current status	.03	.0059	5.0095	p <.0001
Conditional effect of employment status on job control at values of education	Low education -1.6626	.03	.0401	.6305	p= .53
	At the mean .0000	.06	.0252	2.5077	p = .01
	High education 1.6626	.10	.0294	3.4368	p <.001

Table 4 Linear model of predictors of Job Control and Conditional Effect

		b	Standard Error	t	p-value
Predictors of Psychological Distress	Constant	2.3	.0412	56.7846	p< .0001
	Education	.07	.0049	13.6041	p< .0001
	Employment Status	.16	.0305	5.3676	p< .0001
	Employment status X Education	-.01	.0178	-.3632	p= .72
	Gender	.01	.0163	.6209	p= .53
	Age	.02	.0067	2.952	p= .01
	Current status	.01	.0070	1.4094	p= .16
Conditional effect of employment status on psychological distress at values of education	Low education -1.6629	.17	.0472	3.3676	p< .002
	At the mean .0000	.16	.0305	3.6965	p< .0001
	High education 1.6629	.15	.0373	4.1025	p< .0001

Table 5 Linear model of predictors of Psychological Distress and Conditional Effect

Chapter five: Conclusion, Discussion and Limitation

Conclusions

It can be concluded that hypothesis 1a "*employees with temporary employment have a lower score on job satisfaction than employees with permanent employment"*, is rejected because the differences between groups on job satisfaction were non-significant. Hypothesis 1b "*employees with temporary employment have a lower score on affective commitment than employees with permanent employment*" was also rejected because the differences between groups on affective commitment were non-significant. Hypothesis 2a "*employees with a temporary employment have a lower score on job control than employees with permanent employment"* was accepted because temporary employees did have a lower score on job control. However, hypothesis 2b "*employees with a temporary employment have a higher score on psychological distress than employees with permanent employment* "was rejected because temporary employees did not have a higher score on psychological distress. Hypothesis 3a and b "*Job stress is related to job satisfaction and affective commitment*" were accepted. Job control had a positive relationship with both job satisfaction and affective commitment which means that as job control increases so will job satisfaction and affective commitment. Psychological distress had a negative relationship with job satisfaction and affective commitment which means that as psychological distress decreases, job satisfaction and affective commitment increases. Hypothesis 4a "*job stress mediates the relationship between employment status and job satisfaction"* and 4b "*job stress mediates the relationship between employment status and affective commitment",* were both accepted because job stress did mediate these outcome variables. Hypothesis 5 "*low education negatively moderates the relationship between employment status and job stress while this relationship is positive when education is high*" was partially accepted because high education did have a significant positive moderation effect on the interaction but this was also the case when education is low (the moderation effect when education is low was non-significant on the interaction between employment status and job control).

Discussion

Assuming that temporary employment negatively influence job satisfaction and affective commitment (De Cuyper et al., 2008; De Witte & Näswall, 2003), the results partially

accounted for this notion. There was no significant difference between temporary and permanent employees when it comes to job satisfaction and affective commitment thus hypothesis 1a and 1b were rejected. Reasons may be that the legislation and national legislation may have buffered the influence of employment status on organizational outcome. Because in most European countries the regulations for employment are quite protective of both permanent and temporary employees meaning that the minimum level of rights mostly associated with employees that are permanent has also been made applicable for those with temporary employments (De Cuyper et al., 2008). This shows that permanent and temporary employments are almost equal to each other and that there is no direct effect between employment status and the outcome variable job satisfaction and affective commitment. However, there was an indirect effect, through the variable job stress. The role of job stress as a mediator on the relationship between employment status, job satisfaction and affective commitment (hypothesis 4a and b), was found to be significant thus both hypothesis 4a and b were accepted. De Cuyper et al., (2008) suggested that what motivates and what employees expects would be better moderators but education have shown that is also a reliable moderator based on the results. It might be possible that education may act as a buffer to employees' motivation and expectations which further influence whether they are satisfied with their job or not or whether they are affectively committed or not. Research is needed to test this buffer notion.

According to the job stress theory, temporary employees are supposed to be more stressed due to the more aggravating job characteristics and less quality work than permanent employees (De Witte & Näswall, 2003) which mean less job control and more psychological distress. The current data partially accounted for this because temporary employees appeared to have less job control than permanent employees (hypothesis 2a was accepted) but they were also less psychologically distressed than permanent employees (hypothesis 2b was rejected). Maybe, the choice of contract may explain for this phenomenon. If the reason behind choice of contract is own preference, because e.g. they do not want the commitment that comes with permanent jobs (Guest, 2004; De Cuyper et al., 2008), they may be not as attached to their job, that it would have a negative influence on them. It might even depend on the type of industry and personal goals whether an individual may be more satisfied with their job, less psychologically distressed or not. For example, some individuals may be content with a standard job, performing the same tasks day after day while having no job control what so ever and still be less psychologically distressed than others, who are more ambitious, seeking for more challenges, opportunities, variety in job tasks etc. An individual whose personal goal

is to climb up the professional latter in their organization might be more psychologically distressed than others because there is a pressure to succeed in reaching their goal. Research is needed to test this relationship, the influence of choice of contract, personal goals etc. on psychological distress.

Hypothesis 3a and b were both accepted because both psychological distress and job control had a significant relationship with both job satisfaction and affective commitment. Job control was positively related to job satisfaction and affective commitment while psychological distress was negatively related to job satisfaction and affective commitment. Both of these results were to be expected because the more job control an individual has, the less stressed they are and the more satisfied they are with their job as well as affectively committed to their organization. And as psychological distress decreases, job satisfaction and affective commitment increases. Researchers such as **M**cLean & Andrew (1999), determined that there is an association between stress, job control, commitment, satisfaction, and that they are often interrelated.

While controlling for the moderator effect education on the interaction between employment status-job control and employment status-psychological distress, it was determine that the moderation effect was non-significant in both cases. However the relationship did emerge significantly at different levels of education. Hypothesis 5 was partially accepted because high education had a positive effect on the interaction between employment status and job stress (thus both dimensions) but when it comes to low education it did not had a negative significant effect as was expected. Low education had instead a positive significant effect on the interaction between employment status and psychological distress while this relationship was non-significant on the interaction between employment status and job control. This may indicate that the relationship between employment status and job stress is stable for all educational levels. Education is indeed important, but you can find highly educated individuals working a temporary job not because they can't find a job but because of the responsibilities that comes with a permanent job or they like to choose where they want to work or the opportunity to work at different organizations.

Limitations

It may be difficult to generalize these finding because temporary employment is operationalized differently in different countries. In European research it is referred to as temporary, non-permanent and fixed-term while in US and Canada it is referred to as

contingent. And as explained in the literature the different definitions have the same meaning but with different categorization. Meaning that there is different type of temporary employment and the finding could not be generalized to all except to European studies. Using a secondary database is quit limiting and challenging because you are tied to a specific amount of data and questionnaire. The data was representative of the entire population based on gender, industry, age and current status but not so much on the amount of temporary employees versus permanent employees. This notion is questionable because there were too many permanent employees and less temporary employees which normally indicates that unrepresentativeness. However, it can be possible to generalize these findings based employment type because these numbers actually represent the population of these employment types individually. This means that there might be a quite small amount of temporary employees working in England and a larger amount of permanent employees.

A main source of measurement error is common method bias. This is an important issue because it can "threaten the validity of conclusions made in this study about the relationships between measures" (Podsakoff et al., 2003, page 879).

The study might be subjected to a few sources of common method bias, namely consistency motive, implicit theory, using negative or positive wording and measuring predictor and criterion variables at the same time, location and using the same medium (Podsakoff, et al., 2003). The first one is consistency motive which refers to the tendency of respondents trying to maintain consistency in how they answer their questions by searching for similarities in the questions asked. The source of common method bias is implicit theories which refer to respondents' beliefs as to how they make connections among certain behavior, outcomes and traits. Specifically, on job control and job satisfaction, the questions measuring these variables followed each other in the original questionnaire and thus could easily link them together by the respondents. Here is referred to the questions: "In general, how much influence do you have over the following?" and "How satisfied are you with the following aspects of your job?" Negative wording such as tense, worried and positive wording such Ï feel loyal to my organization" were used. These worded items may account for artifactual relationships on the questionnaire used for this study. Predictor and criterion variables in this study were measured at the same time, same location and using the same medium which can produce artifactual covariance independent of the content of the constructs themselves. In this case, the questionnaire was filled in by the respondents at their respective organization, in the same period by the same questionnaire. This bias might be small because there were different types

of organizations involved but still an amount of people at each organization filled in the questionnaire.

Practical implications and future research

This study had concluded that there is no direct effect between employment status and the outcome variables job satisfaction and affective commitment. Thus for future research on this matter it would be interesting to find whether there are other variables except for job stress that can mediate this relationship. Further research is also needed to test the buffer effect of education on the relationship between employees' motivation and expectations and the outcome variables job satisfaction and affective commitment. The influence of variables such as choice of contract, personal goals etc. on psychological distress should also be tested.
As for managers it is important for them to know their employees as to what their personal goals are, needs, why they have chosen a particular contract etc., in order for them to minimize unnecessary stress, through managerial practices, which can influence their organization latter down the road.
In conclusion, education did not moderate the relationship between employment status and job stress but the relationship did emerge at different levels of education: low, average and high.

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Appendix

Appendix A: Wers 2004 Questionnaire (adapted)

Modified WERS 2004 questionnaire

1. Are you male or female?

Male	Female

2. How old are you?

16-17	
18-19	
20-21	
22-29	
30-39	
40-49	
50-59	
60-69	
65 or more	

Which of the phrases below best describe your job=

Permanent	
Temporary	

3. Which of the following are you?

Single	
Widowed	
Divorced/separated	
Married or living with a partner	

4. Which, if any, of the following vocational or professional qualifications have you obtained?

GCSE grades/CSE grades, 2-5 SCE O grades, D-E/SCE Standard grades 4-7	
GCSE grades A-C. GCE 'O'-level passes, CSE grade 1, SCE O grades A-C, SCE standard grades 1-3	
1 GCE 'A'-level grades A-E, 1-2 SCE Higher grades A-C, AS levels	
2 or more GCE 'A'- levels grades A-E, 3 or more SCE higher grades A-C	
First degree, e.g. BSc, Bes, HND, HNC, MA at first degree level	
Higher degree, e.g. MSc, MA, MBA, PGCE, PhD	
Other academic	
No academic qualifications	

Job stress

5. In general, how much influence do you have over the following?

	A lot	Some	A little	None
What tasks you do in your job				
The pace at which you work				
How you do your work				
The order in which you carry out tasks				
The time you start or finish your working day				

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

	All the time	Most of the time	Some of the time	Occasionally	Never
Tense					
Worried					
Uneasy					

Job satisfaction

1. How satisfied are you with the following aspects of your job?

	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
The sense of achievement you get from your work					
The scope for using your own initiative					
The amount of influence you have over your job					
The training you receive					
The amount of pay you receive					
Your job security					
The work itself					

Affective Commitment

1. To what extent do you agree or disagree with the following statements about working here?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I share many of the values of my organization					
I feel loyal to my organization					
I am proud to tell people who I work for					

Appendix B: Reliability analysis (Cronbachs'Alpha)

The Cronbach Alfa is used to test for internal consistency of the scales (reliability) in order to calculate to what extent the scale items measure the same thing (Heus et al., 1999). The analysis of a scales' internal consistency helps determine whether certain items should be deleted or not because it lowers the scales internal consistency when included. The rule for deleting an item counts when the alpha-if-item-deleted is considerably higher than the scales' overall Cronbach alpha (reliability statistics).

B1. Affective Commitment

Below the reliability statistics and item-total statistics of the construct Affective Commitment are displayed.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,850	,850	3

Table 6 Affective Commitment Reliability Statistics

Affective Commitment is measured by asking the following question: "To what extent do you agree or disagree with the following statements?"

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
I share many of the values of my organization	4,55	3,226	,671	,451	,836
I feel loyal to my organization	4,81	2,944	,754	,576	,757
I am proud to tell people who I work for	4,68	2,789	,738	,558	,774

Table 7 Affective Commitment Item-Total Statistics

When comparing the Cronbach's-Alpha-if-item-deleted (highlighted in red) of the four items with the overall Cronbach's Alpha of 0,850 of the entire scale (highlighted in green) it can be concluded that this scale is internally consistent and that no item should be deleted.

B2. Job Satisfaction

Below the reliability statistics and item-total statistics of the construct Job Satisfaction are displayed.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,827	,834	7

Table 8 Job Satisfaction Reliability statistics

Job satisfaction is measured by asking the following question: "How satisfied are you with the following aspects of your job?"

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
The sense of achievement you get from your work	15,15	17,487	,675	,577	,787
The scope for using your own initiative	15,18	17,516	,673	,600	,788
The amount of influence you have over your job	14,92	17,268	,693	,585	,784
The training you receive	14,70	17,773	,518	,274	,813
The amount of pay you receive	14,25	18,500	,403	,179	,835
Your job security	14,94	18,633	,460	,222	,822
The work itself	15,16	17,919	,645	,509	,793

Table 9 Job Satisfaction Item-Total Statistics

When comparing the Cronbach's-Alpha-if-item-deleted of the seven items (highlighted in red) with the overall Cronbach's Alpha of 0,827 of the entire scale (highlighted in green) it can be concluded that this scale is internally consistent and that no item should be deleted.

B3. Job Control

Below the reliability statistics and item-total statistics of the construct Job Control are displayed.

Job Control is measured by asking the following question: "*How much influence do you have over the following*?"

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,807	,823	5

Table 10 Job Control Reliability Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
What tasks you do in your job	8,04	8,934	,652	,446	,751
What tasks you do in your job	8,06	8,980	,627	,428	,758
How you do your work	8,37	9,481	,688	,535	,747
The order in which you carry out tasks	8,33	9,404	,658	,483	,753
The time you start or finish your working day	7,49	9,186	,420	,179	,838

Table 11 Job Control Item-Total Statistics

When comparing the Cronbach's-Alpha-if-item-deleted of the five items (highlighted in red) with the overall Cronbach's Alpha of 0,807 of the entire scale (highlighted in green) it can be concluded that this scale is internally consistent and that no item should be deleted.

B5. Psychological Distress

Below the reliability statistics and item-total statistics of the construct Psychological Distress are displayed.

Psychological Distress is measured by asking the following question: "*11. Thinking of the past few weeks, how much of the time has your job made you feel each of the following?*"

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,843	,844	3

Table 12 Reliability Statistics Psychological Distress

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Tense	4,6379	3,424	,665	,447	,824
Worried	4,9445	3,172	,752	,570	,739
Uneasy	5,1510	3,187	,713	,526	,778

Table 13 Item-related Statistics Psychological Distress

When comparing the Cronbach's-Alpha-if-item-deleted of the three items (highlighted in red) with the overall Cronbach's Alpha of 0,844 of the entire scale (highlighted in green) it can be concluded that this scale is internally consistent and that no item should be deleted.

Appendix C: Descriptive statistics And Spotting Normality

A detailed descriptive analysis was conducted to spot for normality in this sample.

C1. Affective Commitment

N	Valid	22222
	Missing	229
Mean		2,3416
Std. Deviation		,83722
Skewness		,570
Std. Error of Skewness		,016

Table 14 Descriptive Statistics Affective Commitment

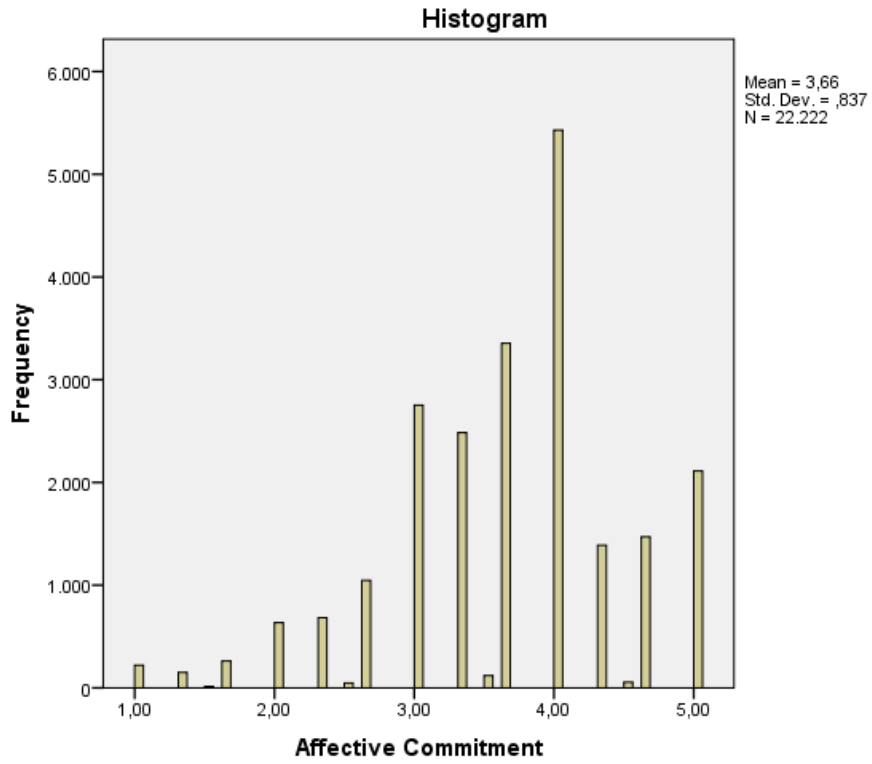
Table 14 indicates that the test of normality was significant $p < .0001$.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Affective Commitement	,129	22222	,000

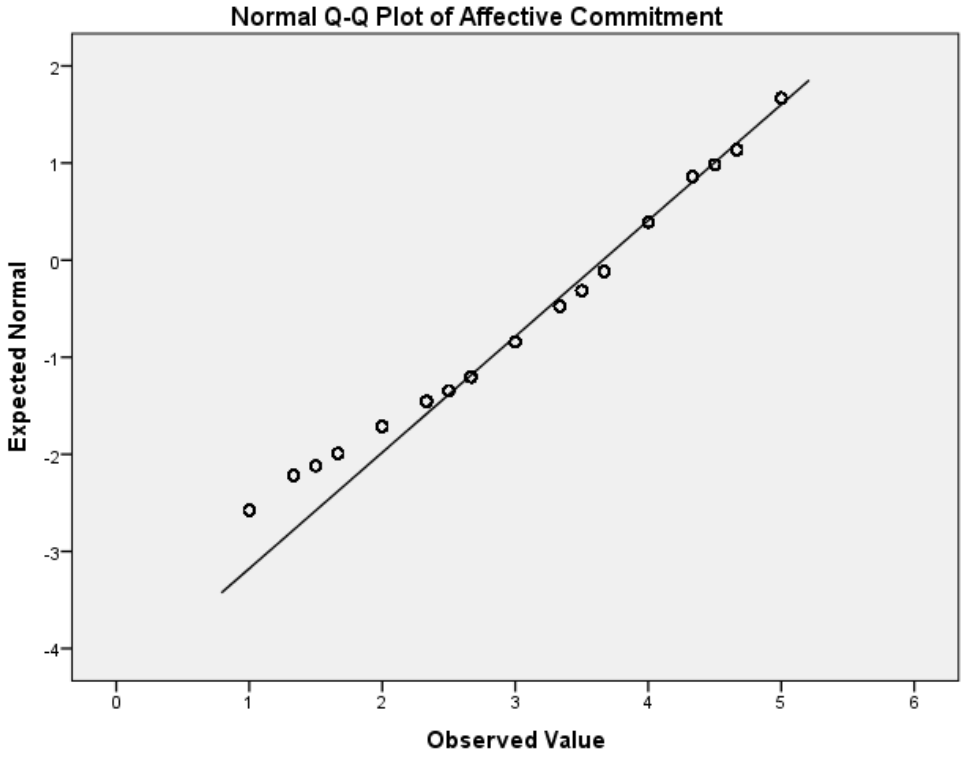
a. Lilliefors Significance Correction

Table 15 Tests of Normality Affective commitment

A visual view of this significant normality is given below in histogram 1 and q-q plot 1.



Histogram 1 Affective Commitment



Plot 1 Affective Commitment

C2. Job satisfaction

N	Valid	22342
	Missing	109
Mean		3,5144
Std. Deviation		,69921
Skewness		-,546
Std. Error of Skewness		,016

Table 16 Descriptive Statistics Job Satisfaction

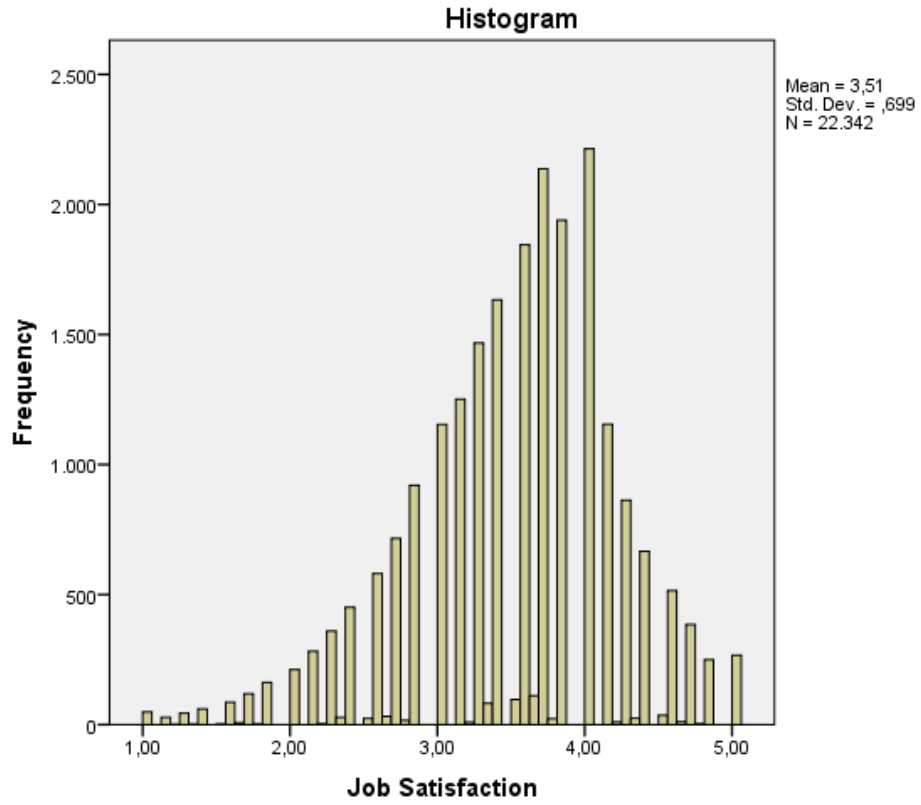
Table 16 indicates that the test of normality was significant $p < .0001$.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Job Satisfaction	,090	22342	,000

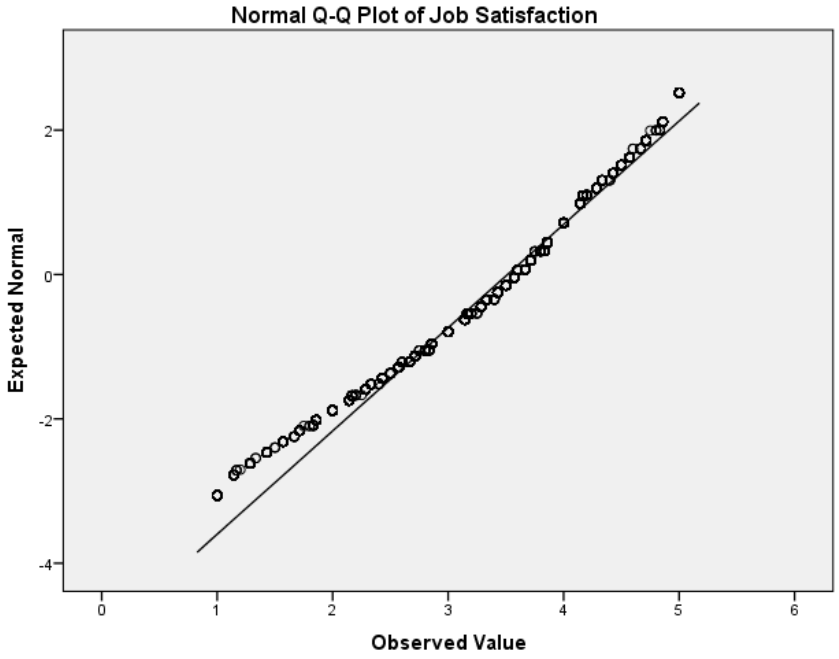
a. Lilliefors Significance Correction

Table 17 Tests of Normality Job Satisfaction

A visual view of this significant normality is given below in histogram 2 and q-q plot 2



Histogram 2 Job satisfaction



Plot 2 Job satisfaction

C3. Job Control

N	Valid	22305
	Missing	146
Mean		2,0152
Std. Deviation		,74426
Skewness		,573
Std. Error of Skewness		,016

Table 18 Descriptive Statistics Job Control

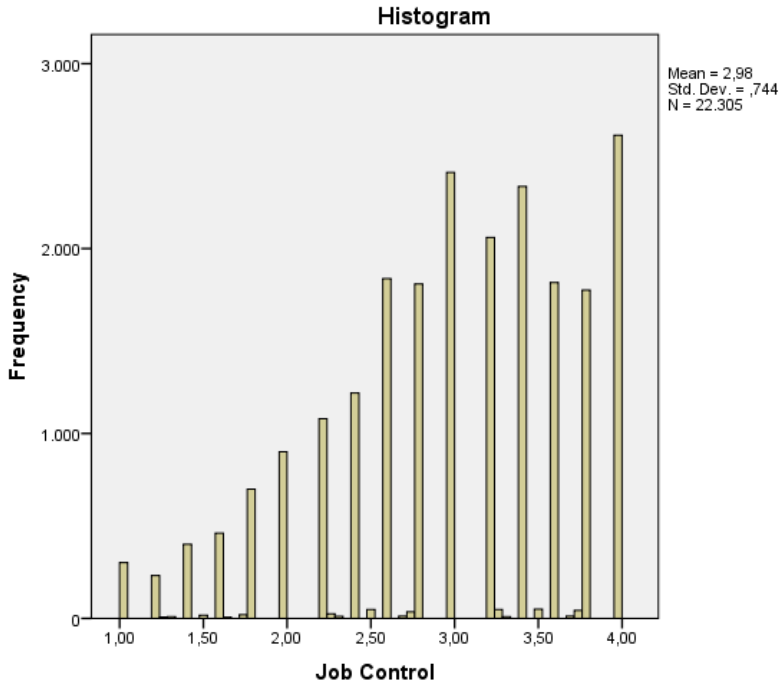
Table 18 indicates that the test of normality was significant p < .0001.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Job Control	,099	22305	,000

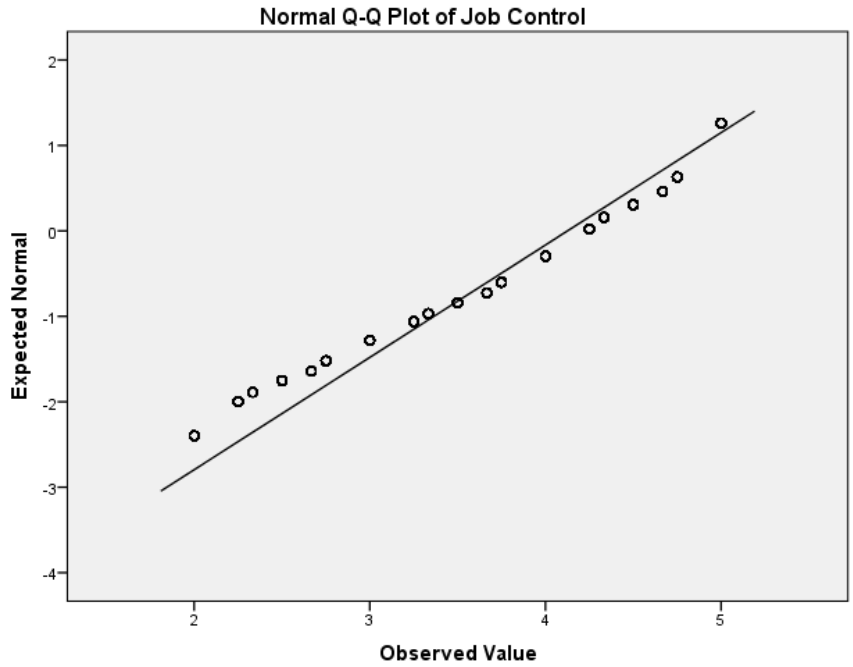
a. Lilliefors Significance Correction

Table 19 Tests of Normality Job Control

A visual view of this significant normality is given below in histogram 3 and q-q plot 3.



Histogram 3 Job Control



Plot 3 Job Control

C4. Psychological Distress

N	Valid	22361
	Missing	90
Mean		3,5334
Std. Deviation		,87977
Skewness		-,391
Std. Error of Skewness		,016

Table 20 Descriptive Statistics Psychological Distress

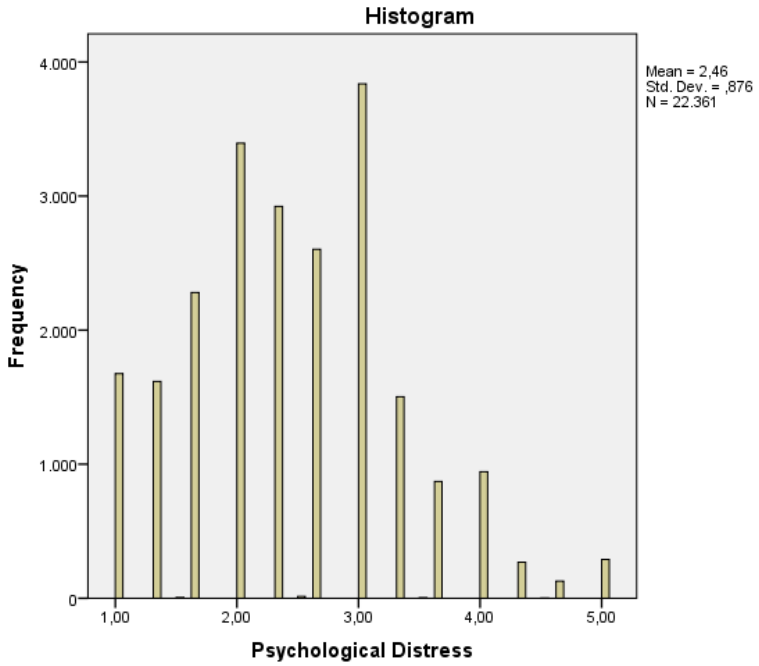
Table 20 indicates that the test of normality was significant $p < .0001$.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Psycological_Distress	,100	22361	,000

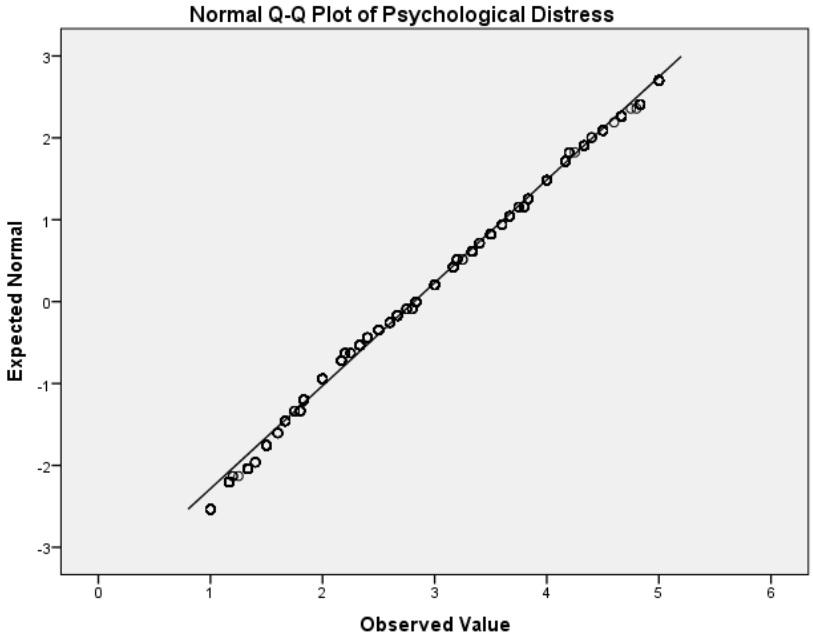
a. Lilliefors Significance Correction

Table 21 Tests of Normality Psychological Distress

A visual view of this significant normality is given below in histogram 4 and q-q plot 4.



Histogram 4 Psychological Distress



Plot 4 Psychological Distress

C5. Education

N	Valid	11295
	Missing	11156
Mean		3,3455
Std. Deviation		1,66336
Skewness		,107
Std. Error of Skewness		,023

Table 22 Descriptive Statistics Education

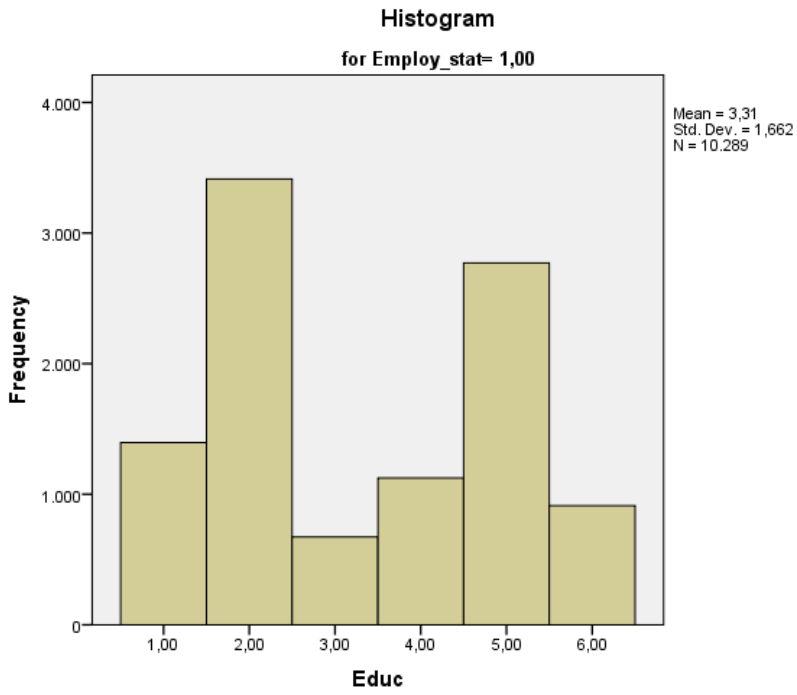
The test of normality was signicant p < .0001.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Education	,246	11295	,000

a. Lilliefors Significance Correction

Table 23 Tests of Normality Education

A visual view of this significant normality is given below in histogram 5.

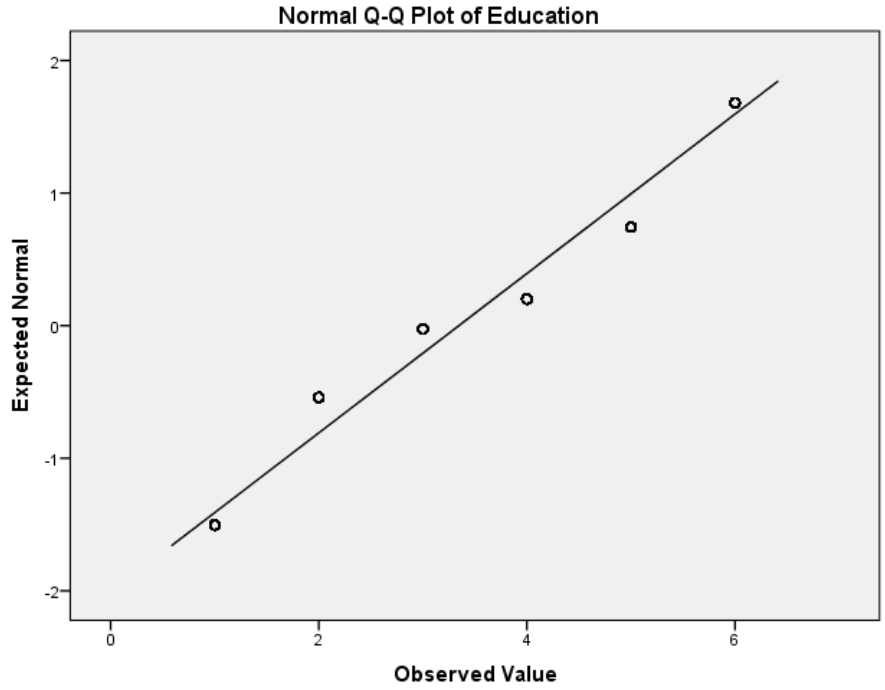


Histogram 5 Education

1= GCSE grades/CSE grades, 2-5 SCE O grades, D-E/SCE Standard grades 4-7
2= GCSE grades A-C. GCE 'O'-level passes, CSE grade 1, SCE O grades A-C, SCE standard grades 1-3

3= 1 GCE ‘A’-level grades A-E, 1-2 SCE Higher grades A-C, AS levels
4= 2 or more GCE ‘A’- levels grades A-E, 3 or more SCE higher grades A-C
5= First degree, e.g. BSc, Bes, HND, HNC, MA at first degree level
6= Higher degree, e.g. MSc, MA, MBA, PGCE, PhD
7 & 8* = other academic qualifications and no academic qualifications

*7 and 8 are considered missing values because other academic qualifications does not states whether it is high or low.



Plot 5 Education

C6 Employments Status

N	Valid	22347
	Missing	104
Mean		1,0786
Std. Deviation		,26909
Skewness		3,133
Std. Error of Skewness		,016

Table 24 Descriptive Statistics Employment Status

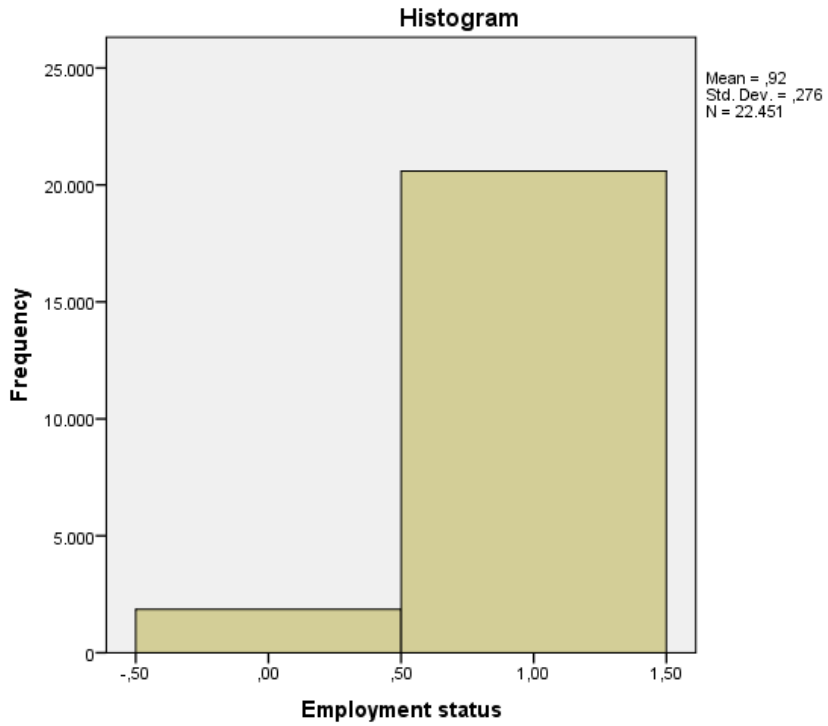
The test of normality was signicant p < .0001.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Employ_stat	,536	22347	,000

a. Lilliefors Significance Correction

Table 25 Test of Normaility Employment Status

A visual view of this significant normality is given below in histogram 6.



Histogram 6 Employment Status

Appendix D: PROCESS analysis

Mediation analysis

Hypothesis 4a[1]: Job stress mediates the relationship between employment status and job satisfaction

Run MATRIX procedure For Job Control as a mediator of the relationship between Employment status and Job satisfaction:

****

Model = 4

Y = Job Satisfaction

X = Employment Status

M = Job Control

Statistical Controls:

CONTROL= Gender Age Current Status

Sample size

22132

****

Outcome: Job Control

Model Summary

R	R-sq	F	df1	df2	p
,1148	,0132	73,9113	4,0000	22127,0000	,0000

Model

	Coefficients	se	t	p
constant	2,6311	,0301	87,3833	,0000
Employment Status	,0750	,0184	4,0788	,0000
Gender	-,0219	,0100	-2,1972	,0280

Age	,0400	,0039	10,2067	,0000
Current Status	,0301	,0044	6,7892	,0000

****

Outcome: Job Satisfaction

Model Summary

R	R-sq	F	df1	df2	p
,4651	,2163	1221,4257	5,0000	22126,0000	,0000

Model

	Coefficients	se	t	p
constant	2,0021	,0292	68,5155	,0000
Job Control	,4278	,0056	76,0566	,0000
Employment Status	-,0233	,0154	-1,5121	,1305
Gender	,1188	,0083	14,2348	,0000
Age	,0095	,0033	2,8941	,0038
Current Status	,0065	,0037	1,7461	,0808

**********TOTAL EFFECT MODEL **********

Outcome: Job Satisfaction

Model Summary

R	R-sq	F	df1	df2	p
,1069	,0114	63,9234	4,0000	22127,0000	,0000

Model

	Coefficients	se	t	p
constant	3,1278	,0283	110,5338	,0000
Employment Status	,0088	,0173	,5100	,6100
Gender	,1094	,0094	11,6755	,0000
Age	,0266	,0037	7,2296	,0000
Current Status	,0194	,0042	4,6472	,0000

**********TOTAL, DIRECT, AND INDIRECT EFFECTS **********

Total effect of Employment Status on Job Satisfaction

Effect	SE	t	p
,0088	,0173	,5100	,6100

Direct effect of Employment Status on Job Satisfaction

Effect	SE	t	p
-,0233	,0154	-1,5121	,1305

Indirect effect of Employment Status on Job Satisfaction

	Effect	Boot SE	BootLLCI	BootULCI
Job Control	,0321	,0081	,0169	,0491

Normal theory tests for indirect effect

Effect	se	Z	p
,0321	,0079	4,0726	,0000

Hypothesis 4a[2]: Job stress mediates the relationship between employment status and Job Satisfaction

Run MATRIX procedure For Psychological Distress as a mediator of the relationship between Employment status and Job satisfaction:

****

Model = 4

Y = Job Satisfaction

X = Employment Status

M = Psychological Distress

Statistical Controls:

CONTROL= Gender Age Current Status

Sample size 22143

****

Outcome: Psychological Distress

Model Summary

R	R-sq	F	df1	df2	p
,0603	,0036	20,1759	4,0000	22138,0000	,0000

Model

	Coefficients	se	t	p
constant	2,3858	,0355	67,1694	,0000
Employment Status	,1681	,0217	7,7558	,0000
Gender	-,0057	,0118	-,4822	,6297
Age	-,0219	,0046	-4,7254	,0000
Current Status	,0147	,0052	2,8008	,0051

****

Outcome: Job Satisfaction

Model Summary

R	R-sq	F	df1	df2	p
,3145	,0989	485,8129	5,0000	22137,0000	,0000

Model

	Coefficients	se	t	p
constant	3,6958	,0296	124,8110	,0000
Psychological Distress	-,2367	,0051	-46,3552	,0000
Employment Status	,0451	,0165	2,7320	,0063
Gender	,1090	,0090	12,1831	,0000
Age	,0214	,0035	6,0826	,0000
Current Status	,0225	,0040	5,6483	,0000

********** TOTAL EFFECT MODEL **********

Outcome: Job Satisfaction

Model Summary

R	R-sq	F	df1	df2	p
,1068	,0114	63,8681	4,0000	22138,0000	,0000

Model

	Coefficients	se	t	p
constant	3,1311	,0283	110,7644	,0000
Employment Status	,0053	,0172	,3049	,7604
Gender	,1104	,0094	11,7754	,0000
Age	,0266	,0037	7,2159	,0000
Current Status	,0190	,0042	4,5606	,0000

**********TOTAL, DIRECT, AND INDIRECT EFFECTS **********

Total effect of Employment Status on Job Satisfaction

Effect	SE	t	p
,0053	,0172	,3049	,7604

Direct effect of Employment Status on Job Satisfaction

Effect	SE	t	p
,0451	,0165	2,7320	,0063

Indirect effect of Employment Status on Job Satisfaction

	Effect	Boot SE	BootLLCI	BootULCI
Psycolog	-,0398	,0053	-,0495	-,0290

Normal theory tests for indirect effect

Effect	se	Z	p
-,0398	,0052	-7,6478	,0000

Hypothesis 4b[1]: Job stress mediates the relationship between employment status and Affective Commitment

Run MATRIX procedure For Job Control as a mediator of the relationship between Employment status and Affective Commitment:

****

Model = 4

Y = Affective Commitment

X = Employment Status

M = Job Control

Statistical Controls:

CONTROL= Gender Age Current Status

Sample size

21986

****

Outcome: Job Control

Model Summary

R	R-sq	F	df1	df2	p
,1146	,0131	73,1627	4,0000	21981,0000	,0000

Model

	Coefficient	se	t	p
constant	2,6305	,0302	87,0129	,0000
Employment Status	,0732	,0185	3,9685	,0001
Gender	-,0202	,0100	-2,0189	,0435
Age	,0397	,0039	10,1102	,0000
Current Status	,0306	,0044	6,8947	,0000

****

Outcome: Affective Commitment

Model Summary

R	R-sq	F	df1	df2	p	
,3088	,0954	463,4019	5,0000	21980,0000		,0000

Model

	Coefficient	se	t	p
constant	2,3479	,0378	62,1179	,0000
Job Control	,3195	,0073	43,9297	,0000
Employment Status	-,0978	,0199	-4,9115	,0000
Gender	,1491	,0108	13,8357	,0000
Age	,0267	,0042	6,2826	,0000
Current Status	,0217	,0048	4,5185	,0000

********** TOTAL EFFECT MODEL **********

Outcome: Affective Commitment

Model Summary

R	R-sq	F	df1	df2	p
,1262	,0159	88,9897	4,0000	21981,0000	,0000

Model

	Coefficient	se	t	p
constant	3,1883	,0340	93,7798	,0000
Employment Status	-,0744	,0208	-3,5834	,0003
Gender	,1426	,0112	12,6936	,0000
Age	,0394	,0044	8,9101	,0000
Current Status	,0314	,0050	6,2958	,0000

********** TOTAL, DIRECT, AND INDIRECT EFFECTS **********

Total effect of Employment Status on Affective Commitment

Effect	SE	t	p

-,0744 ,0208 -3,5834 ,0003

Direct effect of Employment Status on Affective Commitment

Effect	SE	t	p
-,0978	,0199	-4,9115	,0000

Indirect effect of Employment Status on Affective Commitment

	Effect	Boot SE	BootLLCI	BootULCI
Job Control	,0234	,0059	,0121	,0347

Normal theory tests for indirect effect

Effect	se	Z	p
,0234	,0059	3,9514	,0001

Hypothesis 4b[2]: Job stress mediates the relationship between employment status and Affective Commitment

Run MATRIX procedure For Psychological Distress as a mediator of the relationship between Employment status and Affective Commitment:

****

Model = 4

Y = Affective Commitment

X = Employment Status

M = Psychological Distress

Statistical Controls:

CONTROL= Gender Age Current Status

Sample size 22023

****

Outcome: Psychological Distress

Model Summary

R	R-sq	F	df1	df2	p
,0594	,0035	19,4672	4,0000	22018,0000	,0000

Model

	Coefficients	se	t	p
constant	2,3831	,0356	66,8820	,0000
Employment Status	,1642	,0217	7,5640	,0000
Gender	-,0024	,0118	-,2004	,8411
Age	-,0219	,0046	-4,7227	,0000
Current Status	,0150	,0052	2,8592	,0043

****

Outcome: Affective Commitment

Model Summary

R	R-sq	F	df1	df2	p
,1934	,0374	171,1034	5,0000	22017,0000	,0000

Model

	Coefficients	se	t	p
constant	3,5263	,0368	95,8442	,0000
Psychological Distress	-,1405	,0063	-22,1506	,0000
Employment Status	-,0535	,0205	-2,6133	,0090

Gender	,1425	,0111	12,8325	,0000
Age	,0362	,0044	8,2987	,0000
Current Status	,0334	,0049	6,7686	,0000

********** TOTAL EFFECT MODEL **********

Outcome: Affective Commitment

Model Summary

R	R-sq	F	df1	df2	p
,1263	,0160	89,2330	4,0000	22018,0000	,0000

Model

	Coefficients	se	t	p
constant	3,1914	,0339	94,1056	,0000
Employment Status	-,0765	,0207	-3,7049	,0002
Gender	,1428	,0112	12,7218	,0000
Age	,0393	,0044	8,9093	,0000
Current Status	,0313	,0050	6,2737	,0000

********** TOTAL, DIRECT, AND INDIRECT EFFECTS **********

Total effect of Employment Status on Affective Commitment

Effect	SE	t	p
-,0765	,0207	-3,7049	,0002

Direct effect of Employment Status on Affective Commitment

Effect	SE	t	p
-,0535	,0205	-2,6133	,0090

Indirect effect of Employment Status on Affective Commitment

	Effect	Boot SE	BootLLCI	BootULCI
Psychological Distress	-,0231	,0033	-,0300	-,0168

Normal theory tests for indirect effect

Effect	se	Z	p
-,0231	,0032	-7,1517	,0000

Moderator analysis

Hypothesis 5a[1]: Education moderates the relationship between employment status and job stress

Run MATRIX procedure for Education as a moderator of the relationship between Employment status and Job Control:

****

Model = 1

Y = Job Control

X = Employment Status

M = Education

Statistical Controls:

CONTROL= Gender Age Current Status

Sample size 11187

****

Outcome: Job Control

Model Summary

R	R-sq	F	df1	df2	p
,1835	,0337	68,9190	6,0000	11180,0000	,0000

Model

	Coefficient	se	t	p	LLCI	ULCI
constant	2,6321	,0346	76,1103	,0000	2,5643	2,6999
Education	,0456	,0041	11,1648	,0000	,0376	,0536
Employment Status	,0632	,0252	2,5077	,0122	,0138	,1125
interaction	,0228	,0147	1,5453	,1223	-,0061	,0517
Gender	-,0262	,0137	-1,9172	,0552	-,0531	,0006
Age	,0575	,0056	10,1881	,0000	,0464	,0685
Current Status	,0293	,0059	5,0095	,0000	,0179	,0408

Interactions:

Interaction Employment Status X Education

****

Conditional effect of X on Y at values of the moderator(s)

Education	Effect	se	t	p	LLCI	ULCI
-1,6626	,0253	,0401	,6305	,5284	-,0533	,1039
,0000	,0632	,0252	2,5077	,0122	,0138	,1125
1,6626	,1011	,0294	3,4368	,0006	,0434	,1587

Values for quantitative moderators are the mean and plus/minus one SD from mean.
Values for dichotomous moderators are the two values of the moderator.

****

Data for visualizing conditional effect of X of Y

Employment Status	Education	yhat
-,9118	-1,6626	2,8820
,0882	-1,6626	2,9073
-,9118	,0000	2,9233
,0882	,0000	2,9865

-,9118	1,6626	2,9646
,0882	1,6626	3,0656

Hypothesis 5a[2]: Education moderates the relationship between employment status and job stress

Run MATRIX procedure for Education as a moderator of the relationship between Employment status and Psychological distress:

```
**************************************************************************
Model = 1
   Y = Psychological Distress
   X = Employment Status
   M = Education

Statistical Controls:
CONTROL= Gender      Age      Current Status

Sample size      11199

**************************************************************************
Outcome: Psychological Distress
```

Model Summary

R	R-sq	F	df1	df2	p	
,1431	,0205	39,0912	6,0000	11192,0000		,0000

Model

	Coefficients	se	t	p	LLCI	ULCI
constant	2,3376	,0412	56,7846	,0000	2,2569	2,4183
Education	,0661	,0049	13,6041	,0000	,0566	,0757
Employment Status	,1636	,0305	5,3676	,0000	,1039	,2234
Interaction	-,0065	,0178	-,3632	,7165	-,0414	,0285
Gender	,0101	,0163	,6209	,5346	-,0218	,0420

Age	,0182	,0067	2,6952	,0070	,0050	,0314
Current Status	,0099	,0070	1,4094	,1587	-,0039	,0237

Interactions:

Interaction Employment Status X Education

****

Conditional effect of X on Y at values of the moderator(s)

Education	Effect	se	t	p	LLCI	ULCI
-1,6629	,1744	,0472	3,6965	,0002	,0819	,2668
,0000	,1636	,0305	5,3676	,0000	,1039	,2234
1,6629	,1529	,0373	4,1025	,0000	,0798	,2259

Values for quantitative moderators are the mean and plus/minus one SD from mean.
Values for dichotomous moderators are the two values of the moderator.

****

Data for visualizing conditional effect of X of Y

Employment Status	Education	yhat
-,9112	-1,6629	2,2091
,0888	-1,6629	2,3834
-,9112	,0000	2,3288
,0888	,0000	2,4925
-,9112	1,6629	2,4486
,0888	1,6629	2,6015