



## Earning and learning: Role congruence, state/trait factors and adjustment to university life

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**Background.** Undertaking term-time employment is increasingly commonplace for university students. Much research suggests that combining 'earning and learning' may be detrimental to university life, generating role conflicts, increasing stress and reducing academic success, participation and overall adjustment to university. Potential positive effects of term-time employment on well-being are often neglected.

**Aims.** This study adopted a balanced perspective, investigating the relationship between role congruence in academic, social and career domains and adjustment, with state and trait psychological factors as mediators/moderators.

**Methods.** A questionnaire measuring perceived role congruence, adjustment to university life and psychological state and trait characteristics was mailed to all undergraduates at a Scottish university during term-time.

**Sample.** Results for a subsample of 625 university students currently in term-time employment were included in this paper.

**Results.** Findings suggested that students generally perceived employment and university roles to be in balance, and there was no difference in adjustment for students whether currently in term-time employment or not. However, psychological factors, particularly positive affectivity and stress were important mediators of the relationship between role congruence and adjustment.

**Conclusions.** Since promoting role congruence may enhance students' adjustment and well-being, the study has implications for universities, student welfare organizations and employers offering term-time employment.

It has become commonplace in recent years for students to combine university study with term-time working. Whereas most students only worked in vacations 20 or 30 years ago, recent changes in higher education have affected employment patterns. These changes are multiple, complex and international (McInnes & Hartley, 2002). One of the most significant changes has been a shift from government to individual

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funding of higher education, altering the financial circumstances of students, necessitating more reliance on personal rather than parental or governmental funding sources. There has also been an increase in overall numbers attending university, and the student population encompasses a broader range of socio-economic backgrounds than previously. There are many more non-traditional students, commencing studies later in life, pursuing professional development, gaining qualifications for 'added value', studying part-time or using remote technologies. The distinction between 'learner-earner' students and 'earner-learners' is becoming blurred, and students are increasingly seen as consumers in an educational market place. This has led to universities offering a wider variety of courses than previously, and becoming more flexible in the type, delivery and pattern of courses offered. The sum of these changes is that university life in the 21st century is a very different experience for students in comparison with 20 or so years ago. It has been observed that 'students increasingly expect university to fit in with their lives rather than vice versa' (McInnes, 2003, p. 3). Many students work during pre-university years and are accustomed to the financial and life-style benefits this offers. Term-time working is therefore a normal part of university life for many students. The question is whether combining work and study enhances or detracts from students' academic success, adjustment, satisfaction and participation in university life.

This combination of economic and social changes has been perceived by many as negative in terms of students' success at university, although the degree of support for 'earning and learning' often depends on the researcher's own agenda. Some universities commissioning studies may be intolerant of students' employment demands, whereas others may wish to explicitly develop structures to support and integrate learning from work experience into academic study (Neill, Mulholland, Ross, & Leckie, 2004). Additionally, studies with a labour market perspective have mainly emphasized financial motives for working, and the role of student debt in perpetuating social exclusion (Metcalf, 2003), whereby student life has been described as increasingly characterized by reduced well-being, stress, a spiral of debt and failures in academic achievement (Hodgson & Simoni, 1995; Leonard, 1995; Lindsay & Paton-Salzberg, 1996; Roberts *et al.*, 2000; Ryland, Riordan, & Brack, 1994; Sorensen & Winn, 1993). Researchers are also interested in different outcomes. Most have focused on students' academic success, although others have studied social adjustment or psychological well-being. Studies across the globe have identified negative relationships between term-time working, educational engagement and academic performance for those at school or university (e.g. Bachman, Safron, Sy, & Schulenberg, 2003; Cubie, 1999; McVicar & McKee, 2001; Mortimer, Finch, Ryu, Shanahan, & Call, 1996; Warren & Lee, 2003). However, many of these studies have a specific focus of interest, and should not lead us to assume that students' employment always has negative outcomes. Other studies have identified neutral or positive aspects, suggesting the issue is multifaceted and complex. There is evidence that students can learn much that enhances their studies, and their future careers, from involvement in employment. Engagement in employment can improve achievement, provide confidence, transferable skills, the financial means to a better life-style and an improved social life whilst at university and improve future employability (Curtis & Shani, 2002; Ford, Bosworth, & Wilson, 1995; Ganz & Ganz, 1988; Humphrey *et al.*, 1998; Neill *et al.*, 2004; Wilkie & Jones, 1994). All of these factors may also contribute to better general psychological well-being, although this has not been investigated in this context.

Many previous studies of students' employment have methodological limitations. Most have been cross-sectional making it difficult to establish cause or effect, or only

included certain types of student. More significantly, the vast majority have been descriptive and atheoretical in their approach. Although eliciting students' motives for combining employment and study, and assessing the purported relationship with academic performance, studies often fail to consider this relationship in the context of student characteristics or individual psychological differences, or in the wider context of engagement in university life. It may be that the psychological benefits of combining roles outweigh the costs for students with particular characteristics, but this has not previously been investigated.

### **Role theory**

Perceived outcomes of combining employment and study can be explained using role theory. Roles are sets of norms and expectations of behaviour that are assigned by significant others to a specific position, and provide a method for the role incumbent to organize expectations by reference to a social structure. Individuals occupy multiple roles throughout their lives, and successful management of these roles presents a psychological challenge. However, it is often assumed that the demands of multiple role occupancy in modern life have become increasingly complex, whereby coping with multiple roles is associated with increased stress and psychological morbidity, including anxiety, depression and role strain (Barnet & Marshall, 1992; Cooke & Rousseau, 1984; Home, 1998; Voydanoff, 2002). Roles are also bidirectional in impact, whereby one role will predominate over others according to the individual's motivation or level of control, for example, the impact of work roles on home life has frequently been shown to exceed the impact of non-work demands (Frone, Russell, & Cooper, 1992; Jones & Fletcher, 1996; Swanson, Power, & Simpson, 1998). There may also be problems of role definition, conflicting or ambiguous expectancies, incompatibility of tasks or lack of fit between the role and its incumbent (Ivey & Robin, 1966).

This 'zero sum' approach assumes that individuals have finite resources, and investment in one role necessarily reduces capacity for investment in others. Universities may base their recommendations to students on limiting employment hours on this model. Studies have suggested that for students, there is an optimal level of engagement in employment (generally around 15 hours per week; McInnes & Hartley, 2002; McVicar & McKee, 2001), beyond which academic performance, satisfaction or successful integration into university life is negatively affected (Mortimer *et al.*, 1996; Senecal, Julien, & Guay, 2003). Roles are also dynamic rather than static and may vary in demands over time (for example at exam times) – suggesting it is important to account for potential variability.

A more balanced 'developmental' approach to role combinations suggests that occupancy of multiple roles may be complementary and associated with greater psychological well-being (Marsh, 1991). Engagement in one role assists engagement in others, or deficits in one role are complemented in others. Role relationships can also be balanced, or mutually enhancing (Marks & MacDermid, 1996; Voydanoff, 2002). Relationships between facets of roles can be a source of satisfaction, whereby more 'fit' leads to a perception of control and well-being (Pittman, 1994). Some studies addressing positive aspects of combining study with employment have described benefits for students such as transfer of skills from work to study, developing experience to improve employability when they leave university, and social benefits of working. One such study (Curtis & Shani, 2002) suggested that around two-thirds of students reported the impact of working on academic studies as neutral or positive. Others have suggested that the academic level of the students concerned may be important, with more able

students coping better, and benefiting more from employment (Wilkie & Jones, 1994), although it can be difficult to establish causality in this case.

In the context of moves within psychology to adopt a positive focus and consider components of well-being as well as distress, it would appear to be timely to consider the potential benefits of role congruence and balance in relation to role combinations. The current study aims to investigate this issue in relation to students combining two roles, term-time employment and university life. It is hypothesized that students in term-time employment reporting more role congruence will exhibit greater satisfaction and better adjustment to university life than those reporting less role congruence.

### **Transactional models**

Although role combination demands have been linked with psychological outcomes, it is evident that not all individuals react to demands in the same way. This idea is central to psychological transactional or interactional models of stress and coping which argue that the direct (stimulus – response) relationship between demands on health outcomes is influenced by people's perceptions, or cognitive appraisal of the level of demands (such as role combinations) and their ability to cope with them. Transactional models attempt to identify individual factors which will affect (mediate or moderate) this interaction via appraisal (Cox & Mackay, 1981; Lazarus & Folkman, 1984), and form a framework for understanding appraisal, and for intervention to improve coping efforts. For students, socio-demographic factors (age, gender, financial resources), may affect appraisal. Both trait characteristics such as optimism or neuroticism and short-term situational factors, such as control, motivation or self-efficacy may also underpin attitudes and behaviour. In particular, two independent dimensions of mood have been shown to be influential (Watson, Clark, & Tellegen, 1988). Positive affect (PA) relates to the extent to which individuals feel enthusiastic, active and alert. High PA individuals are energetic and cognitively engaged, whereas low PA individuals are lethargic or sad. High negative affect (NA) includes subjective distress and poor engagement, whereas low NA individuals report calmness. These also relate to the personality dimensions of extraversion and neuroticism. A latent factor representing neuroticism or negative affect has also been shown to influence reporting of current psychological state, and response sets to questionnaires (Burke, Brief, & George, 1993; Watson *et al.*, 1988). The current study proposes to measure the influence of PA and NA on appraisal of role congruence and adjustment to university, and also to consider the role of subjective appraisals of stress as a situational (state) psychological factor, using the transactional framework described above.

Within transactional models, intervening variables may have alternative mechanisms of effect. Moderator variables will alter the direction or strength of relationship between stimulus and response (demands and outcomes), and are generally investigated by examining interaction effects between the independent variable and moderator. Alternatively, mediation models suggest that a third variable may account, at least partially, for the relationship between a demand and outcome (Baron & Kenny, 1986). This study aims to investigate the mediating and moderating role of dispositional and situational psychological factors in relation to satisfaction and adjustment. Satisfaction with university is an indicator of subjective well-being (Astin, 1993; Dey, Wimsatt, Meader, & Rhee, 1998). Adjustment is a useful index of integration into university life since it includes both academic and social facets. Successful adjustment has been shown to be related to greater satisfaction, lower stress and depression scores, better social

participation and less homesickness and loneliness in studies with university students (Fisher & Hood, 1988; Halamandaris & Power, 1997; Van Rooijen, 1986; Winefield, 1993).

### **Current study**

#### *Study aims*

This research investigated the impact of perceived congruence of role demands of term-time employment and university life on full-time undergraduate students' satisfaction and adjustment to university life. Specific objectives were to:

- Measure perceived congruence between the role demands of university life and term-time employment for students combining term-time employment and full-time academic study;
- Determine the direct relationship between perceived role congruence and outcomes; that is, satisfaction and adjustment to university life;
- Using a transactional framework, investigate the role of psychological traits (positive and negative affectivity) and state (perceived stress) as mediators/moderators of the relationship between perceived role congruence and outcomes;
- Compare students in term-time employment with those not in term-time employment at the time of data collection in relation to outcomes.

### **Methods**

#### **Design**

This was the second part of a two-phase study. Phase one was a qualitative study including a series of nine focus groups with 84 undergraduate students (Broadbridge & Swanson, 2004). The research was exploratory and the groups determined students' views on the combination of term time employment and university life. Students were asked about their experience of term-time employment, the nature of this employment, and how they felt about being in employment whilst studying at university. Positive and negative aspects of combining work and studying were investigated. Students were asked how term-time employment affected their university life and how they combined the two roles. The results of this exploratory research together with factors identified from previous literature informed the construction of questions on role combinations for the second phase, administration of a cross-sectional 12-page self-completed postal questionnaire.

#### **Participants**

The questionnaire was distributed to the population of full-time undergraduates at a university in Scotland during the spring semester, 2003. It was administered mid-semester to expressly avoid exam periods when academic and employment demands may be atypical. To ensure confidentiality, data protection and voluntary participation, letters explaining the study and questionnaires were sent by the registry to students' term-time address. Returns were by a variety of methods including mail-boxes placed in teaching and residential spaces, pre-paid postal envelope or university internal mail. The study was advertised on posters and in student newspapers, and a prize draw incentive was offered for returned completed questionnaires. Since questionnaires were anonymous, no reminders were possible. The study had ethical approval from the Department of Psychology Ethics of Research Committee.

A total of 1,166 completed questionnaires (from a total of 4,600 distributed) were returned, giving a response rate of 25.3%. Women were overrepresented in the returns (73% vs. 58% in the university full-time undergraduate population). However, the returned questionnaires were broadly representative of the student population in terms of age (mean age 21.7 ( $SD = 5.2$ ), country of origin (91% Scotland or other UK students vs. 94% in full-time undergraduate population) and year of study. From the returned questionnaires, 625 students (53.6%) were currently in term-time employment and formed the main sample for the current study.

## Measures

### Demographics

Items assessed students' year of study (1 to 4), age, sex, country of origin, marital status and residential status (living at home with parents, in own home, student residences, rented flat or other).

### Term-time employment

To give an accurate and objective measure, students were asked to indicate the hours they had worked in the previous week. They were also asked whether their hours varied on a weekly basis, and invited to give their job title, and type of business.

### Role congruence

The study adopted direct measures of role relationships. Items for inclusion in the scale to measure role congruence were developed on the basis of findings from the focus group data, and previous research. They represented both positive and negative aspects of role combinations and included employment/academic issues and employment/social integration issues. Initially, 24 items were included. Items were scored on a 5-point scale from *strongly disagree* (1) to *strongly agree* (5). Scoring of negatively worded items was reversed so that higher scores represented more role congruence. The mid-point of this scale (3) represented role balance.

Data were firstly checked for normality, linearity and presence of outliers. Out of the 24 items, 3 were excluded due to high skewness (Ferguson & Cox, 1993). Of the remaining 21 items, 2 were excluded due to high multicollinearity, investigated by Pearson's  $r$  correlations between pairs of variables ( $r > .70$ ; Tabachnick & Fidell, 1996).

Principal components analysis with varimax rotation was performed on the remaining 19 items. A cut-off for loadings of .5 was applied as the criterion for inclusion of an item in factor interpretation (Comrey & Lee, 1992). The Scree Test was used to assess adequacy of extraction of number of factors. Three factors with eigenvalues  $> 1$  were extracted, explaining 58% of variance. Item loadings  $> .5$  were included in final factors. The three factors identified were labelled as follows:

- (1) Academic/workload, 9 items, (eigenvalue 6.8, 36% of variance) Cronbach's  $\alpha = .73$ .
- (2) Future career, 5 items, (eigenvalue 2.9, 15% of variance), Cronbach's  $\alpha = .83$ .
- (3) Self/social development, 5 items, (eigenvalue 1.3, 7% of variance), Cronbach's  $\alpha = .77$ .

Regression scores for these factors were saved and used in multivariate analyses. A note of the items included in each factor together with factor loadings is in Table 1.

**Table 1.** Role congruence items, means, medians and factor loadings

	Factor loading	Item mean (SD)	Median <sup>b</sup>
<i>Academic/Workload</i>			
1 My term time employment doesn't affect the amount of studying I do	.74	2.6 (1.2)	2
2 Term-time employment has a positive effect on my academic studies	.58	2.4 (0.9)	2
3 I'd get a better degree if I wasn't working during term time (R) <sup>a</sup>	.80	2.6 (1.2)	3
4 I miss lectures as a result of my term-time employment (R)	.59	3.7 (1.3)	4
5 My term-time work has negatively affected my participation in university clubs and societies (R)	.60	2.6 (1.2)	2
6 Balancing employment and studying makes me stressed (R)	.82	2.6 (1.2)	2
7 I find it difficult to manage my educational and employment workloads (R)	.78	2.9 (1.1)	3
8 I have difficulty meeting academic deadlines because of my term-time work (R)	.80	3.2 (1.2)	3
9 My term-time work adversely affects my concentration at university (R)	.71	3.3 (1.1)	3
<i>Career/Experience</i>			
1 Working during term-time has enriched my educational experience	.53	2.7 (1.1)	3
2 I can apply my term-time job experience to my academic studies	.87	2.4 (1.2)	2
3 I can apply my academic studies to my term-time job	.83	2.5 (1.1)	2
4 Working during term-time helps my future job prospects after graduating	.73	3.3 (1.2)	4
5 My term-time working provides good networking opportunities	.62	2.9 (1.2)	4
<i>Self/Social Development</i>			
1 I like having a term-time job whilst at university	.62	3.2 (1.2)	4
2 The money I earn from term-time work helps me to enjoy my life at university	.65	3.9 (1.0)	4
3 Term-time working enhances my social life	.71	3.1 (1.3)	3
4 My term-time work is an important part of who I am as a person	.67	3.2 (1.1)	3
5 My term-time employment has been good for my self-development	.67	3.8 (1.0)	4

<sup>a</sup>(R) Indicates reversed scores.

<sup>b</sup>1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree.

#### *Traits: Dispositional affect*

Positive and negative affectivity was measured using the PANAS (Watson *et al.*, 1988). This includes 20 items describing different feelings and emotions. Participants are asked to indicate to what extent they generally feel this way, on a scale from *not at all* (0) to *very often* (4). Two subscales with ten items each, representing positive and negative

affectivity were obtained. Internal consistency of these scales was  $\alpha = .86$  for positive affectivity (PA) and  $\alpha = .86$  for negative affectivity (NA), respectively.

*Psychological state: Perceived stress*

This was measured using the Perceived Stress Scale (PSS: Short Version) (Cohen, Kamarck, & Mermelstein, 1983). This has been shown to correlate significantly and positively with life events and depression in student samples (Cohen *et al.*, 1983). Four items were included to measure the degree to which life was perceived as stressful, scored from 0 (*never*) to 4 (*very often*), giving a possible maximum score of 16. Higher scores indicate more stress. Internal consistency was given as  $\alpha = .60$  by Cohen and Williamson (1988), and for the present sample was .75.

*Adaptation to university (CAQ; Crombag, 1968; Van Rooijen, 1986)*

This measure of adaptation to university has shown to correlate with increased mental well-being, and greater satisfaction with aspects of university life, including academic studies, financial and residential situations and social relationships (Van Rooijen, 1986), and has been used previously with students in Scotland (Fisher & Hood, 1988; Halamandaris & Power, 1997). The scale has 18 items, scored from 1 (not applicable) to 7 (very applicable). Statements indicating poor adjustment are reversed to indicate positive adjustment. Previously reported internal consistency was good (Halamandaris & Power, 1997; Van Rooijen, 1986), and was  $\alpha = .89$  in the current study.

*Satisfaction with university life*

Several factors have been associated with student satisfaction, including social background, academic environment, social environment, area of study and support services (Dey *et al.*, 1998). Measures of general satisfaction are also effective indicators of university performance and well-being. Overall satisfaction with university life was measured here using a four item scale constructed for the study. Statements with the root 'I am satisfied with . . .' included 'my academic performance at university', 'my university grades', 'my social life at university' and 'my participation in university life'. Items were scored from *strongly agree* (5) to *strongly disagree* (1). Internal consistency was  $\alpha = .77$ .

**Statistical analysis**

Transactional frameworks suggest that the direct effect of demands (role congruence) on outcomes (adjustment, satisfaction) will be mediated or moderated by factors affecting appraisal. Firstly, principal components analysis was used to identify latent role congruence factors. This method was chosen since analysis was exploratory and the main aim was to generate factors applicable to the current population, which could be used in regression analyses. Other independent variables used in the regressions (excluding demographic variables) were mean-centred to reduce the effects of collinearity (Aitken & West, 1991). The impact of role congruence on adjustment to university and satisfaction with university life was investigated using hierarchical linear regression. Initial regressions were carried out including demographic variables (age and gender), as a first step and hours worked in previous week as a 'control'. However, these variables did not contribute significantly to the overall variance predicted, so the simpler models are presented here.

Adjustment and satisfaction were regressed on to the three-role congruence factors in two separate analyses. Trait and state factors (PA, NA and perceived stress) were included

as potential intervening variables (moderators) in a second step. Interactions were tested by creating the product term of each of these two sets of three predictor variables, entered into the regressions as a final step. Interactions would need to add significantly to the variance predicted for a moderation effect to be observed, suggesting that either positive (PA) or negative (NA or stress) psychological factors would, respectively, enhance or reduce the impact of role congruence on adjustment or satisfaction. The mediating effect of PA, NA and stress on the relationship between role congruence and adjustment was also investigated using regression analysis as described in Baron and Kenny (1986). This aimed to explain under what psychological conditions role congruence and adaptation/satisfaction may be related. The impact of demographic variables, academic and term-time employment characteristics were investigated using univariate tests, including *t* tests, one-way ANOVA, Pearson correlations and chi squared. Analysis was carried out using the SPSS 11.5 for Windows statistical package.

## Results

Table 2 compares respondents currently in employment with those not in employment. Fewer students in first years than other years, fewer men than women and more students living with their parents than other types of residence were currently in employment.

**Table 2.** Comparison of students currently in employment with those not in employment; demographics and study variables

	Currently working N (%)	Currently not working N (%)	Comparison
<b>Demographics</b>			
<i>Year of study</i>			
1st year	118 (43%)	155 (57%)	
2nd year	176 (56%)	140 (44%)	
3rd year	165 (60%)	111 (40%)	
4th year	161 (55%)	133 (45%)	
			$X^2 = 16.8, df3, p = .001$
<i>Gender</i>			
Male	146 (23%)	167 (31%)	
Female	478 (77%)	373 (69%)	
			$X^2 = 8.3, df1, p = .004$
<i>Residence</i>			
Home with parents	157 (83%)	32 (17%)	
Own home	76 (56%)	60 (44%)	
Halls of residence	186 (38%)	305 (62%)	
Flatshare	187 (59%)	131 (41%)	
Other	16 (61%)	10 (39%)	
			$X^2 = 119.8, df4, p = .0001$
<b>Study variables</b>			
Adaptation to university	91.5 (18.0)	92.2 (19.0)	$t(1137) = .68, ns$
Satisfaction	13.0 (3.3)	14.3 (2.8)	$t(1143) = 6.9, p = .001$
PA	35.3 (5.4)	35.2 (5.4)	$t(1143) = .25, ns$
NA	23.1 (6.3)	23.0 (6.4)	$t(1140) = .31, ns$
Perceived stress	7.1 (3.2)	6.5 (3.2)	$t(1155) = 3.08, p = .002$

Note. Totals vary slightly due to missing data.

### **Work characteristics**

Most of the students were employed in the service sector, most notably in retailing (41%), catering (13%), bars (15%) and other service work (27%).

Students' hours of employment in the previous week were normally distributed with a mean of 18.6 ( $SD = 9.9$ ) and a range of 0–76 hours. Most (62%) worked more than the recommended 15 hours per week. Many students (67%) reported that their employment hours varied week by week. There were no gender differences in hours worked. Hours worked were also negatively correlated with overall satisfaction with university life (Pearson  $r = -.21$ ,  $p = .001$ ) and academic role congruence (Pearson  $r = -.30$ ,  $p = .001$ ), but not with career or social role congruence, adjustment to university, or psychological state (stress) or trait (PA and NA) variables.

There was no difference between students in employment or not in employment in terms of adaptation to university, PA or NA (Table 2). However, students in employment reported more perceived stress and less satisfaction than those not in employment.

### **Comparison of employed students with other samples**

Adjustment to university, stress and PA and NA scores were compared with student samples from other research. In terms of adjustment (CAQ), students in term-time employment in the present study displayed slightly lower adjustment overall ( $M = 91.46$ ,  $SD = 18.0$ ) than an earlier sample of 103 first-year students at the same university ( $M = 94.0$ ,  $SD = 18.5$ ; Halamandaris & Power, 1997), male and female first-year students at another Scottish university ( $M = 95.39$ ,  $SD = 19.67$  and  $M = 100.13$ ,  $SD = 17.18$ , respectively; Fisher & Hood, 1988), and a sample of 536 Dutch students ( $M = 95.6$ ,  $SD = 15.7$ ; Van Rooijen, 1986). When broken down by year of study, adjustment for first-year students in the current study was significantly lower ( $M = 87.1$ ,  $SD = 19.0$ ) than for other samples. Students in the current study also exhibited higher perceived stress ( $M = 7.1$ ,  $SD = 3.2$ ) than a normative sample ( $M = 4.5$ ,  $SD = 2.96$ ; Cohen & Williamson, 1988).

One-sample  $t$  tests showed that mean PA scores in the current study ( $M = 35.33$ ,  $SD = 5.4$ ) differed significantly from undergraduates in the original US sample ( $M = 35.9$ ,  $SD = 6.4$ ;  $t = 2.63$ ,  $p = .008$ ; Watson *et al.*, 1988). Similarly, NA scores were significantly higher in the current study ( $M = 23.1$ ,  $SD = 6.3$  vs.  $M = 18.1$ ,  $SD = 5.9$ ;  $t = 19.64$ ,  $p = .0001$ ).

There was no difference in perceived stress, satisfaction, PA or NA by year of study, although first-year students reported lower adjustment to university than other years,  $F(3, 607) = 3.07$ ,  $p = .01$ . There was no gender difference in adjustment to university or satisfaction, however women reported significantly higher stress,  $t(617) = 3.7$ ,  $p = .001$ , and NA scores,  $t(609) = 2.4$ ,  $p = .017$ , than men.

### **Role congruence**

Mean scores for the 19 role congruence items are shown in Table 1. Median scores are also given to indicate where scores represent role conflict (1,2), role balance (3) or role enhancement (4,5).

For the 9-item academic/workload factor, the average item mean score was 2.9 ( $SD = .86$ ), indicating an overall role balance. In particular, term-time employment was not associated with missing lectures, poorer concentration or meeting academic deadlines. For the 5-item career/experience factor, the average item mean was slightly lower at 2.7 ( $SD = 0.90$ ). Role enhancement items related to future job and career prospects. For the 5-item self/social development factor, the average item mean was

higher at 3.5 ( $SD = 0.82$ ). Two items indicated role balance and the remainder indicated role enhancement.

### **Role congruence, adjustment and psychological variables**

Mean values and Pearson correlations between the main study variables are shown in Table 3.

Greater congruence between term-time employment and university life in academic, career and self/social development factors was related to more positive outcomes, including adaptation to university and satisfaction with university life. Effects were medium-sized, with correlations of Pearson  $r = .30$  and  $.48$ , respectively, for the academic role factor, and smaller for the other factors. More role congruence was also associated with more positive affectivity, and lowered role congruence with more perceived stress. Associations with negative affect were only significant for the academic role factor. PA, NA and perceived stress were also intercorrelated in the expected direction.

### **Predicting satisfaction and adjustment to university**

Two separate regression analyses were carried out to predict satisfaction and adjustment to university as shown in Table 4.

Overall, 31% of variance in satisfaction and 42% of variance in adjustment were predicted. Academic role and self-social development were significant individual predictors of satisfaction, whereas only academic role congruence individually predicted adjustment to university life.

Psychological factors were important additional variables in predicting adjustment, adding 33% of variance, whereas they added only 9% of variance to predicting satisfaction. Positive affect was the most important individual psychological predictor of both satisfaction and adjustment.

Addition of interaction terms to these analysis did not produce any benefit, and none were significant individually. Since there was a clear and robust relationship between the predictors and dependent variables in these analyses, it is unsurprising that additional interaction effects were not apparent.

What is perhaps of greater interest is the possibility that psychological variables such as affectivity and perceived stress might act as mediators in the relationship between role congruence and satisfaction and adjustment, whereby mediators carry or account for all or part of the influence of the independent variable (IV) on the dependent variable (DV). To test for mediation, the procedure cited in Baron and Kenny (1986) was followed. A series of three simple regressions were carried out for each test with adjustment and satisfaction as DVs. IVs were the three role congruence factors, with psychological variables (PA, NA, perceived stress) as mediators. The Sobel test was used to assess mediation effects (Sobel, 1982), comparing the unstandardized regression coefficients ( $B$ ) for the relationship between the IV and the mediator, and the mediator and the DV (with the IV as additional predictor). Where the IV did not affect the mediator, no further analysis was carried out. Significant mediation effects were shown for all of the psychological variables, although results were less robust for NA than perceived stress and PA, as shown in Table 5.

The direct relationship between academic role congruence and satisfaction and adaptation was partially mediated by perceived stress, and both trait variables (PA/NA), since unstandardized regression coefficients were reduced in each case. Although stress

**Table 3.** Means, standard deviations and Pearson correlations between main study variables

Measure (No. of Items)	Mean (SD)	1	2	3	4	5	6	7
1 Academic (9)	26.1 (7.7)	—						
2 Career (5)	13.7 (4.5)	.33***	—					
3 Self/social (5)	17.3 (4.1)	.44***	.57***	—				
<i>Mediators/Moderators</i>								
4 PA (10)	35.3 (5.4)	.28***	.14**	.16***	—			
5 NA (10)	23.1 (6.3)	-.29***	-.03	-.01	-.38***	—		
6 Perceived stress (4)	7.1 (3.2)	.42***	-.10*	-.11**	.46***	.59***	—	
<i>Outcomes</i>								
7 Adaptation (CAC; 18)	91.5 (18.0)	.30***	.12**	.17***	-.46***	-.50***	—	
8 Satisfaction (4)	13.0 (3.3)	.48***	.18***	.32**	-.30***	-.40***	.52***	—

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

**Table 4.** Hierarchical regression analysis predicting satisfaction and adaptation to university life

Variables	Satisfaction			$\beta^a$ (Significance <sup>b</sup> )
	R	Adjusted $R^2$	df, F Change	
1. Role congruence	.48	.23	(3, 550) 59.91***	
Academic				0.42***
Career				-0.06
Self/social				0.16***
2. Moderators	.57	.31	(3, 547) 22.52***	
PA				0.22***
NA				-0.08
Perceived stress				-0.09
3. Interactions	.56	.29	(9, 538) 0.32	
PA × academic				0.20
PA × career				0.10
PA × self/social				-0.01
NA × academic				0.02
NA × career				0.02
NA × self/social				0.04
Stress × academic				0.27
Stress × career				-0.04
Stress × self/social				-0.01
Adjustment (CAQ)				
1. Role congruence	.28	.08	(3, 552) 17.42***	
Academic				0.27***
Career				-0.01
Self/social				0.05
2. Moderators	.65	.41	(3, 549) 105.03***	
PA				0.40***
NA				-0.18***
Perceived stress				-0.19***
3. Interactions	.66	.42	(9, 540) 1.09	
PA × academic				-0.29
PA × career				0.16
PA × self/social				-0.22
NA × academic				0.16
NA × career				0.06
NA × self/social				-0.02
Stress × academic				-0.05
Stress × career				-0.10
Stress × self/social				-0.03

<sup>a</sup>Beta values reported are at entry.

<sup>b</sup>\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

and PA partially mediated the relationship between career role congruence and satisfaction and adaptation, the relationship between NA and career role congruence was not significant, so one of the conditions for mediation was not fulfilled. Similarly, stress and PA mediated the relationship between self/social role congruence and satisfaction and adaptation, but NA did not.

**Table 5.** State (Stress) and trait (PA/NA) mediators of the relationship between role congruence, satisfaction and adaptation to university

		DV Satisfaction				
IV	MED	Step 1	Step 2	Step 3	Sobel test	
		IV → Med B (SE)	IV → DV B (SE)	Med → DV (+ IV) B (SE)	Z	p =
Academic			0.20 (0.015)			
	Stress	-0.18 (0.015)		-0.21 (0.040) 0.16 (0.017)	4.71	.0001
	PA	0.19 (0.027)		0.16 (0.022) 0.17 (0.015)	5.16	.0001
	NA	-0.24 (0.032)		-0.09 (0.019) 0.18 (0.016)	3.85	.001
Career			0.13 (0.029)			
	Stress	-0.07 (0.029)		0.39 (0.039) 0.10 (0.027)	2.38	.05
	PA	0.16 (0.049)		0.22 (0.023) 0.10 (0.027)	3.16	.01
	NA	<i>ns</i>		-	-	-
Self/social			0.26 (0.031)			
	Stress	-0.14 (0.052)		-0.37 (0.037) 0.22 (0.029)	2.26	.01
	PA	0.12 (0.031)		0.21 (0.022) 0.21 (0.029)	3.61	.01
	NA	<i>ns</i>		-	-	-
DV Adaptation (CAQ)						
Academic			0.69 (.091)			
	Stress	-0.18 (.015)		-2.51 (0.229) 0.24 (0.093)	-9.38	.0001
	PA	0.19 (.027)		1.78 (0.118) 0.35 (0.081)	6.46	.0001
	NA	-0.24 (0.032)		-1.13 (0.018) 0.42 (0.088)	6.08	.0001
Career			0.46 (0.163)			
	Stress	-0.07 (0.029)		-2.77 (0.206) 0.26 (0.144)	2.40	.016
	PA	0.16 (0.049)		1.86 (0.115) 0.16 (0.137)	3.27	.001
	NA	<i>ns</i>		-	-	-
Self/social			0.76 (0.18)			
	Stress	-0.09 (0.031)		-2.74 (0.203) 0.52 (0.156)	2.68	.0074
	PA	0.21 (0.053)		1.87 (0.114) 0.36 (0.149)	3.81	.001
	NA	<i>ns</i>		-	-	-

IV = Independent variable; Med. = Mediator; DV = Dependent variable; B = Unstandardized regression coefficient; SE = Standard error. *ns*: Non-significant relationship between IV and mediator.

## Discussion

This study adopted a balanced approach to investigating links between role congruence and psychological outcomes for university students in term-time employment. It incorporated role theory (investigating the concept of role congruence) within a transactional framework. It was hypothesized that greater perceived congruence between term-time employment and university roles would be related to better overall adjustment to university and satisfaction with university life, but that this relationship would be partly dependent on individual student characteristics, more specifically state and trait psychological factors, perceived stress and dispositional affect.

In accordance with this hypothesis, the main findings of this study indicate a positive relationship between students' term-time employment, adjustment and satisfaction with university life - and comparisons with students not currently in employment at the same university suggest that term-time working is not generally a negative factor in predicting adjustment to university.

Three separate facets of role congruence were identified as important. These related to combining employment demands with the academic role, future career demands and self/social development at university. It was gratifying to have identified three factors, since one of the aims was to consider the impact of employment on the whole student role - not only the relationship between demands of academic study and workload and term-time employment, which had been the focus of most previous research. Scores for these role congruence scales suggested that study participants generally perceived their term-time employment and academic roles at university to be in balance. This replicates findings in a major recent Australian study (McInnes & Hartley, 2002). However, one suggestion made in that study was that students' overall engagement in both academic and social aspects of university life had reduced in recent years, and that lack of investment in the university role might explain the lack of reported conflict. In the current study, students reported a high level of commitment to university, and claimed not to miss lectures or deadlines as a result of term-time employment, although they did note reduced participation in university clubs and societies. It is more likely that term-time working has become a normal part of student life in the twenty-first century, and students aim to achieve a balance between employment and university life rather than reducing their investment in this role. In our study, 54% of students were currently in term-time employment, and a further 17% had participated in term time employment at some point during their time at university. Students have an expectation that they will undertake paid employment at some time during their university career, and manage and integrate this with academic work and other aspects of university life.

Career role congruence - indicating the relevance of term-time employment to the curriculum content of academic studies and future career experience - was less balanced, but also less strongly related to overall satisfaction or adjustment to university. Students were more positive about the benefits of term-term employment enhancing personal development and social involvement. It is interesting that term-time employment was seen as contributing to the perception of the 'student' self, not only because the money earned allows more complete engagement in student life-styles, but also because term-time employment was seen to facilitate self-development. This is indicative of current students adopting a broader and more pragmatic perspective than in the past towards university as a means to career fulfilment and self-development, as well as fulfilling academic goals. However, it was also clear that academic role congruence was the core concern of students in this study. When these three aspects of

role congruence were jointly entered as predictors in regression analysis, both academic and social role congruence individually predicted satisfaction with university life, whereas only academic congruence individually predicted adjustment to university. Similarly, only 8% of variance in adjustment was predicted by role congruence in comparison with 23% of variance in satisfaction.

Although negatively correlated with satisfaction, actual hours worked did not add significantly to the regressions for satisfaction or adjustment. This may be because our measure of hours worked in the past week did not accurately reflect hours worked over the semester, or it may be complexity or type of work that is important. Alternatively, it may be that hours worked *per se* are less important than overall appraisal and coping with role demands as our study suggests. Other studies have identified negative outcomes in relation to working long hours (e.g. McInnes & Hartley, 2002), and a more detailed analysis of the psychosocial characteristics of these students may provide helpful information to universities in planning support services.

Comparing data from this study with studies from the 1980s and 1990s appears to reveal an overall negative trend in psychological well-being over time, with poorer adjustment, more perceived stress, lower PA and higher NA in this study. Whether university life has indeed become less rewarding and more stressful over the past 10 to 20 years is difficult to say on the basis of one study. However, promoting psychological well-being is important for ensuring effective participation in higher education for all categories of student, and it may be beneficial for universities to consider ways of promoting positive congruence between learning and earning roles as a means of promoting achievement and attracting and retaining students. Although changes have been made in the way university education is delivered, more universities could develop innovative ways of deliberately integrating learning and transferable skills from the workplace into the curriculum (Neill *et al.*, 2004; Smith & Betts, 2000).

This study also showed that individual differences are important mediators of links between role congruence and adjustment, since they affect appraisal. Both situational and dispositional factors were examined as moderators and mediators of the role congruence/adjustment relationship. Regarding moderation, it might be supposed that a situational factor such as stress would reduce role congruence leading to a disproportionate reduction in adjustment under a high stress condition. Conversely, dispositional characteristics such as PA or NA may mediate the relationship between role congruence and adjustment, whereby successful adjustment only occurs under conditions of high PA or low NA. All of these possible relationships were tested in this study. We found no significant moderation effect for stress, PA or NA, suggesting that these variables do not change the relationship between role congruence and adjustment or satisfaction. Ideally, moderators would not be significantly correlated with predictor variables, and this may have prevented interactions in this study. However, there were strong main effects of PA on satisfaction, and of PA, NA and stress on adjustment, suggesting that underlying psychological factors have an important influence on students' engagement and overall coping with university life. It is important for universities to be aware of factors that might influence students' perceived stress and well-being. One factor that is implicated in stress is a lack of control over the phasing of academic work and employment demands, and there may be certain times of year when deadlines and work demands become much more difficult to manage. This study was carried out deliberately during a period of 'normal' demands; however, there is a clear

need for a longitudinal study to identify dynamic changes in demands from both universities and employers over a university career.

There are some methodological issues in relation to the current study. Although typical for questionnaire surveys, the response rate was low, and women were overrepresented. We may have missed evidence of particular patterns of role combinations for male students. Nevertheless, the overall sample size was large enough to make conclusions generally robust. Since it was cross-sectional in design, this study could not establish whether less stress and more positive affect led to greater role congruence, or vice versa. A longitudinal design should be used in future work to further investigate this relationship.

This also relates to common method variance whereby a common latent factor may underpin self-reports of predictor variables and outcomes and bias responses. Correlations between academic role congruence and psychological factors in this study were significant and of medium size, although smaller for career and self/social role congruence, suggesting possible confounding of variables. Although some researchers have argued that NA and, to a much lesser extent, PA should be treated as 'nuisance' variables and statistically controlled in research (Burke *et al.*, 1993), in the current study, we have suggested these variables have a more substantive role in linking demands and outcome variables (Spector, Zapf, Chen, & Frese, 2000). Although NA and perceived stress were highly correlated in the present study, a significant mediating role was found for both PA and NA, and perceived stress in the relationship between academic role congruence, adjustment and satisfaction. This is an important finding, since it suggests that the beneficial effects of role congruence are dependent to some extent on psychological well-being, and in the absence of such well-being, individuals may experience psychological distress related to conflict between academic roles and term-time employment. A further methodological problem may relate to our direct measure of role congruence reflecting students' perceived role combination demands. Use of a more objective measure of actual demands from different roles and a closer modelling of the relationship between management of these demands over time would be very helpful in understanding students' appraisal of specific situations and coping with role combinations. A more detailed qualitative approach to this investigation would be useful here. In some studies, role conflict has itself been utilized as a potential mediator of work and family characteristics and psychological well-being (e.g. Parasuraman, Purohit, Godhalk, & Beutell, 1996), and it would be useful to test this model with student role combinations.

Although we measured the perceived impact of employment on academic work, we did not directly measure students' success at university via their academic grades in this study, or the impact of employment on these grades. This was unfortunate, since it may be that more able students find it easier to cope with the demands of university life and multiple roles. This factor should be addressed in future research, using a longitudinal design to track the influence of employment on grades, and to compare more able with less able students in terms of role congruence.

It is important to view these results in a wider social context and also in relation to particular characteristics of students, universities and employment. The proportion of students working during term-time in this study was slightly higher than other recently reported figures (Mori, 2003; National Statistics, 2004). Other studies also suggest that many students work longer hours than the recommended 10 to 15 hours per week (Canny, 2002; Smith & Taylor, 1999). The reported type of work in the current study is fairly typical (Barke *et al.*, 2000; Sorenson & Winn, 1993), although the extent of

term-time working varies across universities, with fewer students in employment at more prestigious universities (Metcalf, 2003). The different aspects of role congruence identified here (academic, career, self/social) may have different importance weightings for students in other universities, or studying different courses. The university studied was a 1960s campus university, and availability of work may have been limited by the semi-rural location. Additionally, a relatively high proportion of students reported living at home with parents, a factor common to some Scottish universities. 'Home' students are more likely to work during term-time, and to have a history of access to local employment.

Despite limitations, this study emphasises the benefits of role congruence for psychological well-being, offering a counterbalance to previous research which has identified mainly negative outcomes in relation to earning and learning. There is a need for further detailed study of the complex variations and interactions in learner and earner characteristics to enable students and universities to promote role congruence in future.

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