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Application of the theory of planned behaviour to career choice: The role of an improved measure of emotion

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Application of the Theory of Planned Behaviour to Career Choice: The Role of an Improved

Measure of Emotion

Saveta Tegova

A report submitted in Partial Fulfillment of

the Requirements for the Award of

Bachelor of Arts (Psychology) Honours, Faculty of Computing, Health

and Science,

Edith Cowan University.



Submitted (October, 2010)

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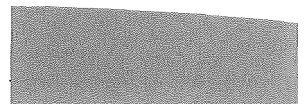
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Application of the Theory of Planned Behaviour to Career Choice: The Role of an
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Abstract

Adherents of the Theory of Planned Behaviour (TPB) propose that intention to perform behaviour can be predicted by attitudes, subjective norms and perceived behavioural control. Recent studies, however, have indicated that the standard TPB predictor variables account for 28% to 40% of the variance in intention, leaving a considerable percentage of the variance in intentions to be explained. Attitude is traditionally measured by the valence associated with the intention. The present study employed an improved measure of attitude, including both emotional dimensions of valence and arousal (Bradley & Lang, 1999), rather than using valence alone, and tested whether this enhanced measure increased the prediction of career choice in 140 university students. It was hypothesized that using both valence and arousal, to operationalise attitude, should account for more of the variance associated with intended career choice, rather than using valence alone. Consistent with the hypothesis, a logistic regression analysis revealed that the inclusion of arousal accounted for an additional 9% of the variance in intention to become a professional in the discipline studied. It may therefore be possible to increase the amount of explained variance using the TPB by including arousal in operationalising attitude as a predictor of behavioural intention.

Keywords: TPB, attitude, valence, arousal, career choice

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Supervisor: Dr Ken Robinson

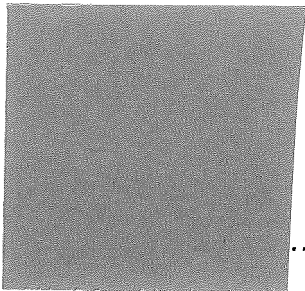
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Application of the Theory of Planned Behaviour to Career Choice: The Role of an Improved Measure of Emotion

The Theory of Planned Behaviour (TPB, Ajzen, 1991) is a leading social-cognitive model that identifies intentions as a key factor in undertaking a particular behaviour. As intentions capture the motivational aspects that influence behaviour, they are reflections of how hard a person is willing to try, and how much time and effort he or she is willing to exert to perform a behaviour (Rivis & Sheeran, 2003). In other words, intentions are immediate antecedents of actual behaviour (Ajzen, 1991). Ajzen (1991) further postulated three predictive components of behavioural intention: the individuals' attitude towards the behaviour, Perceived Behavioural Control (PBC), and the perceived social pressure to perform or not perform the behaviour (Subjective Norm, or SN). The ability of the three TPB components to predict behavioural intention, where efficacy is generally judged in terms of the percentage of variance explained, has been supported, to some degree, by numerous meta-analytic reviews across a range of behaviours (see Darker & French, 2009), including leisure choice, health related behaviours, speeding, applying to graduate school, and choosing a career (Conner & Armitage, 1998; Sagas, Cunningham, & Pastore, 2006; Tan & Laswad, 2006). However, the level of prediction is far from perfect, with the explained variance in intention ranging from 28% to 40% on average (Rise, Sheeran, & Hukkelberg, 2010). These low explained variances suggest that the TPB model presents an incomplete account of prediction of behavioural intention (Armitage & Conner, 2000). According to Armitage and Conner (2000) motivational models, including the TPB, are over simplistic, and require additional predictors to significantly increase the percentage of variance explained in intentions.

Career decisions are significant choice points in a person's life, and could be argued to be more important than typical applications of TPB in maintaining a diet or leisure choice (Arnold et al., 2006). In late adolescence and early adulthood, individuals not only need to explore themselves and the world of work and make career decisions, but they must also engage in the process of committing to their career choices (Caldera, Robitschek, Frame, & Pannell, 2003). There are few other decisions that exercise as profound an influence on people's lives as the choice of a field of work or career. Not only do the majority of people spend significantly more time on the job than in any other single activity but choice of occupation greatly affects one's lifestyle (Bandura, 2002). Career decision-making is a complex process, by which decision makers' process information about themselves and the world of work (Mau, 2001).

The TPB appears well suited as a conceptual framework for application to career choice, despite not being originally developed from career choice research (Felton, Dimnik, & Northey, 1995; Fishbein, 1967; Fishbein & Ajzen, 1975; Strader & Katz, 1990). The TPB has its roots in Vroom's (1964) expectancy theory. Expectancy theory is one of the most commonly accepted explanations of human motivation, and has been supported by extensive research (Felton et al., 1995). Vroom (1964) was the first to suggest that an individual's choice of career could be explained by one's belief that a career would result in certain outcomes weighted by his or her evaluation of the outcomes. Wanous, Keon, and Latack (1983) further proposed that expectancy theory better predicts discrete choices in circumstances where the individual has a clear choice among several other alternatives. Such conditions are typically present in the context of career choice. In turn, the TPB has been described as a methodology that makes the elements of expectancy theory operationally explicit (Felton et al., 1995).

The use of the TPB to predict career intention, however, has received limited attention thus far (Arnold et al., 2006; Coombs, Arnold, Loan-Clarke, Bosley, & Martin, 2010; Coombs et al., 2007). The few studies that have applied the TPB to predict intention to pursue a particular career have generally explained 21% to 70% of the variance in intentions (defined as the squared correlation between the predicted and observed values of a dependent variable in a single equation, Teel, Bearden, & Sharma, 1986). Studies explaining closer to 70% of the variance in career intention appear to differ from other studies in regards to the measurement of attitude. Attitude in these studies (e.g., Giles & Rea, 1999) was measured in terms of how each career option would make them *feel* (e.g., good/bad, pleasant/unpleasant and satisfied/dissatisfied), compared to asking respondents to indicate what they *thought* working in a particular area would be like (e.g., wise, good) (e.g., Arnold et al., 2006; Coombs et al., 2010; Coombs et al., 2007; Norman & Bonnett, 1995). Thus attitude in the latter studies has been operationalised in terms of the assessment, based on prior knowledge, beliefs, thoughts and opinions, regarding the disadvantages and advantages associated with the prospect of executing a behaviour. Conversely, attitude in Giles and Rea (1999) has been operationalised in terms of the valence of emotions and feelings produced by the prospect of executing a behaviour (Giner-Sorolla, 2004). The discrepancy in the previous findings shows that further investigation of the attitude component, in terms of its conceptualisation, operationalisation and measurement, within TPB, is necessary. Emotional responses have rarely been thoroughly measured in TPB research, due to the cognitive bias of the model (Verplanken, Hofstee, & Janssen, 1998), and will be further treated later in this introduction.

Behavioural Intention

Intentions occupy a vital position in cognitive perspectives to understanding human behaviour (e.g., Ajzen, 1985; Fishbein & Ajzen, 1975). In regards to the role of intention in the motivational process, factors are examined in a choice process that results in an intention (Tubbs & Ekeberg, 1991). The process by which this “choice” occurs has been described in several ways and can differ greatly depending on characteristics of both the individual and the context (Tubbs & Ekeberg, 1991). Regardless of the criteria and method of choice, an individual’s intention is the focus and product of the choice process (Tubbs & Ekeberg, 1991).

According to Ajzen (1991), any behaviour that necessitates a certain amount of planning, can be predicted by the intention to adopt that behaviour. Behavioural intentions are instructions individuals present to themselves to behave in particular ways (Ajzen, 1991). They are decisions to perform certain actions. Intentions can be inferred from participants’ responses that have the form, “I intend to do X”, “I plan to do X”, or “I will do X”. In psychological terms, behavioural intentions are indicative of an individual’s motivation to perform a behaviour. They involve both the direction (to do X, not to do X) and the intensity (e.g., how much time and effort the individual is prepared to apply in order to do X) of a decision (Sheeran, 2002). In turn the association between intentions and behaviour reflects the idea that individuals engage in behaviours they intend to perform (Conner & Armitage, 1998). One can best predict, rather than explain, any planned behaviour by observing intentions toward that behaviour (Krueger, Reilly, & Carsrud, 2000).

When the TPB is applied to career choice, an intention to pursue a particular career, together with perceived behavioural control, predicts the likelihood that an individual will pursue a particular career. Intention to pursue a career in a certain area, in turn, is determined by the

degree an individual has a positive or negative evaluation of the career (i.e., attitude towards the career), the perception of social pressure to pursue a particular career, and perceived behavioural control (Davis, Ajzen, Saunders, & Williams, 2002; Khapova, Arthur, Wilderom, & Svensson, 2007; Tan & Laswad, 2006). Hence, it should be possible to predict whether or not an individual will ultimately pursue a particular career by studying his or her intention to do so (Audet, 2004). A detailed investigation of the link between intention and behaviour, however, is beyond the scope of the current study. Despite its central role in the motivational process, intention is infrequently examined in the career motivation literature (Tubbs & Ekeberg, 1991).

Predictors of Career Choice

The present study focused more closely on the relationship between attitudes and intentions, as attitudinal consideration are weighted more heavily than subjective norm and perceived behavioral control in determining career choice (Felton et al., 1995).

Perceived social pressure. According to the TPB, subjective norms are a function of one's normative beliefs that significant referent individuals or groups approve or disapprove of him/her performing a particular behaviour, and the individual's motivation to comply with these referents (Ajzen, 1991). Hence a distinction can be made between indirect belief – based measures and direct global measures of subjective norm. A global measure is designed to directly measure an individual's overall perception of social pressure. Conversely, a belief-based measure includes a list of individual normative beliefs that the respondents consider salient. Global measures, however, are more proximal predictors of intention compared to belief-based measures (Schreurs, Derous, Van Hooft, Proost, & De Witte, 2009). A global measure of subjective norm is typically measured by asking the individual to indicate their responses from approve to

disapprove, also from should to should not, to phrases like “People who are important to me think I (should become a psychologist/should not become a psychologist)”, “People who are important to me would (disapprove of me becoming a psychologist/approve of me becoming a psychologist)” (Armitage & Conner, 1999). According to Ajzen’s (1991) TPB, an individual’s intention to perform a behaviour increases as subjective norms become more favourable.

Perceived expectations of significant referent individuals or groups such as the individual’s family, teachers, friends, and/or co-workers may contribute to one’s interest or intention to pursue a certain career (Gokuladas, 2010). The greater the general social pressure to pursue a certain career, the stronger one’s intention towards pursuing a particular career (Khapova et al., 2007). Recently, Coombs et al. (2007) examined the ability of the TPB to explain intention to work for the United Kingdom’s National Health Service (NHS) as a qualified nurse, physiotherapist or radiographer, among potential recruits and returners. Subjective norm was measured by asking the respondent to specify the extent he/she perceived that family and friends thought that he/she should work for the NHS as a qualified member of staff; and the extent he/she perceived that family and friends would be proud if he/she worked for the NHS as a qualified member of staff. The respondent’s answer was indicated on a 7-point Likert scale. Subjective norm was found to have a significant beta weight. That is, subjective norm accounted for a significant proportion of the variance in intention. Coombs et al. (2007) further found 14% of the variance in intention to be explained by subjective norm, as presented in Table 1.

Table 1
Percentage of Variance Accounted for in Intention by Attitude, Perceived Behavioral Control, Subjective Norms and Self-Identity

Study	Variables			
	Attitude	PBC	Subjective Norms	Self-identity
	%	%	%	%
Arnold et al. (2006)	15**	9	6	17**
Coombs et al. (2007)	23***	5.8***	14***	--

Notes: Statistical significance: ** $p < .01$ *** $p < .001$ (all two-tailed).

Furthermore, Arnold et al. (2006) investigated the ability of an extended TPB model to account for intention to work for the United Kingdom's NHS as a nurse, physiotherapist or radiographer, amongst those in professional training. Subjective norm was also measured by asking the respondent to specify the extent he/she perceived that family and friends thought he/she should work for the NHS as a qualified member of staff; and the extent he/she perceived that family and friends would be proud if he/she worked for the NHS as a qualified member of staff. The respondent's answer was indicated on a 7-point Likert scale. In Arnold et al. (2006), subjective norm, however, did not have a significant beta weight, as indicated in Table 2. Arnold et al. (2006) further demonstrated that 6% of the variance in intention was explained by subjective norm, as presented in Table 1. It appears that subjective norms play a more significant role in accounting for variance in career intention amongst potential recruits and returners,

compared to those in professional training. It may be that the career choices among those in professional training are more established and less amenable to outside influence. However, this may not be the case during earlier periods of the career choice process (i.e., among potential recruits and returners). Further research is needed to confirm these findings.

Table 2

Summary of Percentage of Variance Accounted for in, and Beta Weights for Variables in Predicting, Career Intentions.

Variable	Study			
	Present study ($N = 140$)		Arnold et al. (2006) ($N = 244$)	
	Nagelkerke R^2	β	Step R^2 change	β
Step 1				
Core TPB variables	43%		21%	
PBC		1.02		.09
Subjective Norms		-.03		.08
Attitude (measured by valence)		1.36		.22**
Step 2				
Self- Identity	1%	-.36	17%	.25**

Notes: β weights shown are in final equations. Statistical significance: ** $p < .01$ (all two-tailed). Nagelkerke R^2 and Step R^2 change relate to percentage of variance accounted for in the models.

Perceived behavioural control. In the TPB, Ajzen (1991) built on the well-researched Theory of Reasoned Action (TRA). The difference between the TRA (Fishbein & Ajzen, 1975) and the TPB is the inclusion of the perceived behavioural control variable. Ajzen (1991) added perceived behavioural control to extend the TRA to cover those behaviours typified by a low degree of volition. In comparison to attitudes and subjective norms, perceived behavioural control is a non-motivational factor and represents the degree of control an individual has over the performance of behaviour (Tan & Laswad, 2006).

The individual must have control over performing a behaviour if the intention to perform that behaviour is to be recognised (Tan & Laswad, 2006). Those who perceive they have neither the resources nor the opportunities to perform a particular behaviour are unlikely to form strong behavioural intentions to engage in it, regardless of whether they hold favourable attitudes toward the behaviour and believe that significant persons would approve of them performing the behavior (Tan & Laswad, 2006). According to Ajzen (1991), perceived behavioral control influences behaviour both indirectly (through intention) and directly. That is, an individual's intention to pursue a particular career increases as their perceived behavioural control increases (Cordano & Frieze, 2000). Additionally individuals with high levels of perceived behavioural control are more likely to actually pursue their career of choice compared to those with low levels of perceived behavioural control (Ajzen, 2005; Khapova et al., 2007; Van Hooft, Born, Taris, & Van der Flier, 2004).

There is continuous debate regarding the exact nature of the perceived behavioural control construct (Armitage & Conner, 2001b). Some (e.g., Conner & Armitage, 1998; Terry & O'Leary, 1995) propose that perceived behavioural control includes two distinct, yet related forms of control: self-efficacy and controllability. Conversely, other researchers (e.g., De Vries, Dijkstra,

& Kuhlman, 1988) have favoured the use of measures of self-efficacy only, or measures of controllability only (e.g., McCaul, Sandgren, O' Neill, & Hinsz, 1993). Self-efficacy (or perceived difficulty) refers to the confidence in one's own ability to perform a behaviour (Armitage & Conner, 1999), and would reflect an individual's perceived control over internal resources (e.g., abilities and skills). Conversely, controllability refers to perceptions of control over the environmental restrictions on behaviour (Conner & Armitage, 1998; Terry & O'Leary, 1995), and would represent one's perceived control over external resources (e.g., availability of resources and opportunities, dependence of cooperation of others) (Schreurs et al., 2009). According to Ajzen (2002a) the influence of self-efficacy and control is likely to be different for different behaviours and both should be considered.

Perceived behavioural control can also be operationalised either as a global or as a belief based measure (Schreurs et al., 2009). Global measures are more proximal predictors of intention compared to belief-based measures (Schreurs et al., 2009). A direct, global measure of perceived behavioural control is usually measured by asking the individual respondent to indicate their response from easy to difficult, also from possible to impossible, to phrases like, "For me to become a professional in the discipline studied would be (impossible/possible, easy/difficult) (Notani, 1998). In Coombs et al. (2007), respondents were asked to indicate their level of perceived confidence to work for the NHS; and how difficult they perceived it would be to work for the NHS. Thus perceived behavioural control was operationalised in terms of self-efficacy only. The respondent's answer was indicated on a 7-point Likert scale. Moreover, the two items were not combined into one scale and were examined as distinct elements of perceived behavioural control. Both measures of perceived behavioural control had a significant beta weight. Coombs et al. (2007) further found that 5% of the variance in intention was explained by

the perceived confidence item and .08% of the variance in intention was explained by the perceived difficulty item, as indicated in Table 1.

In Arnold et al. (2006), respondents were also asked to indicate their level of perceived confidence to work for the NHS, and how difficult they perceived it would be to get a job in the NHS as a qualified member of staff. Thus perceived behavioural control was also operationalised in terms of self-efficacy only. However, the alpha reliability for this scale was low ($\alpha = .42$), thus perceived behavioural control was then measured exclusively in terms of perceived confidence. Perceived behavioural control, however, did not have a significant beta weight, as indicated in Table 2. Arnold et al. (2006) further found 9% of the variance in intention to be explained by perceived behavioural control, as presented in Table 1. The research seemed to indicate that perceived behavioural control, particularly when operationalised in terms of self-efficacy, is a sound variable to include in constructing a model of career choice. However, the influence of perceived behavioural control, operationalised in terms of self-efficacy and controllability, on the percentage of variance explained still remains to be tested in the context of career choice, among university students.

Attitude. A major purpose of the TPB is to present an explanation for the attitude – behaviour relationship (Hagger & Chatzisarantis, 2005). In the theory, the strong attitude-behaviour relationship is explained by the intention construct (Armitage & Conner, 2000). As a result, the attitude construct is considered a central construct in the TPB, and Ajzen (1991) purported that the theory will be rejected if attitude does not predict intention (Hagger & Chatzisarantis, 2005). According to the TPB, attitudes are a function of the individual's beliefs that behaviour leads to particular outcomes and the individual's evaluation of these outcomes. Consequently, a distinction can be made between indirect belief-based measures and direct global

measures of attitudes (Ajzen, 1991; Huchting, Lac, & LaBrie, 2008; Mason & White, 2008; Tan & Laswad, 2006). Similar to global subjective norms and perceived behavioural control, global attitudes are more proximal antecedents of intention (Schreurs et al., 2009).

Studies testing the TPB have been motivated by a valence-based approach, comparing the influences of positive versus negative (valence or directionality) feelings states on attitude, and in turn intention (Lerner & Keltner, 2000). Thus attitudes, within the TPB, are typically operationalised by asking an individual to rate a certain behaviour using differentials such as “unpleasant-pleasant”, and “enjoyable-unenjoyable” (Bolls, A. Lang & Potter, 2001; Bradley & P.J. Lang, 1999; Keil, Moratti, Stolarova, Bradley, & P.J. Lang, 2003; Kensinger & Schacter, 2006; Ogden, Karim, Chourdry, & Brown, 2007; Stritzke, Patrick, & A.R. Lang, 1995).

According to Ajzen (1991), an individual’s intention to perform behaviour increases as his or her attitude towards the behaviour becomes more favourable (Cordano & Frieze, 2000). An individual’s attitude towards performing a certain behaviour is likely to be positive when there are positive outcomes resulting from the behaviour (Khapova et al., 2007). Hence a positive valence rating reflects a more favorable attitude towards the behaviour (Karpinski & Hilton, 2001). Valence has been considered to be a major contributor to attitude (Colombetti, 2005; Stritzke et al., 1995). Moreover, Vroom (1964) proposed that the level of effort exerted toward any action is determined by the action’s associated valence (and expectancy that the action would result in the desired outcomes). Hence the more positive the associated valence rating of a behaviour, the more motivated one will be to act.

There has been, however, a recent resurgence of interest regarding the conceptualisation and measurement of the attitude construct within the TPB, with particular attention on its constituent components (Ajzen, 2000). Although attitude is traditionally measured as a single

concept, Ajzen (2000) suggested that this TPB concept comprised of two specific sub components. Following a two-component view of attitude, a distinction was made between an affective (i.e., emotion-based) and a cognitive (i.e., belief-based) component of attitudes. Studies that have examined attitude within the TPB, as including both emotive and cognitive components, have defined the cognitive component of attitude in terms of the summed valence of the non-emotional properties associated with one's evaluation of a behaviour's potential outcomes. However, evaluations are valenced contents of emotion experience (Colombetti, 2005). More specifically, emotions arise when situations are perceived as negative or positive in some way (valence). This appraisal of value is reflected in the form of feelings that are unpleasant or pleasant. In turn, the experience of such feelings presents information that something in a particular situation is good or bad. Positively or negatively valenced feelings then signify positive or negative evaluations and attitudes (Albarracin, Johnson, & Zanna, 2005). Thus the distinction between the cognitive and emotional components of attitude is unclear. The present study subsequently does not differentiate between cognitive and emotional components of attitude.

Individuals may have differing levels of valence for various occupations depending on the degree each occupation is viewed to present opportunities for satisfying their needs and values (Janman, 1987). The valence of an occupation increases if the occupation is viewed to provide opportunities for need satisfaction. Occupations that are most instrumental for significant rewards and outcomes will present the most positive occupational valence and will be chosen over other occupations (Janman, 1987). Hence, features viewed as important to occupational choice (for example, pay, promotion prospects, opportunities for responsibility) are represented by both how significant they are to the individual (the valence) and the probability that this feature will be

present in a particular occupation (the instrumentality) (Janman, 1987). Different individuals will value particular awards differently; the valence a particular object or activity has depends partly on the nature of that activity and partly on the state of the needs of the individual at that time (Fudge & Schlacter, 1999). The more positive the perceived valence of an occupation, the greater the possibility an individual will ultimately choose that occupation (Everhart & Chelladurai, 1998).

Attitudes (global) have been demonstrated to be valid predictors of career choice (intention to pursue a particular career) (Arnold et al., 2006; Coombs et al., 2010; Coombs et al., 2007; Van Hooft, Born, Taris, & Van der Flier, 2006). Coombs et al. (2007) explored the ability of the TPB to account for intention to work for the United Kingdom's NHS as either a qualified nurse, physiotherapist or radiographer, amongst potential recruits and returners. Attitude was measured in terms of the valence of attitudinal judgments (e.g., participants were asked to indicate to what extent they thought working for the NHS as a qualified member of staff would be enjoyable-unenjoyable, wise-unwise and bad-good). Attitude was found to have a significant beta weight. Coombs et al. (2007) further found 23% of the variance in intention to be explained by attitude, which was the highest percentage of unique variance contributing to intention, compared to perceived behavioral control and subjective norms, as portrayed in Table 1.

Furthermore, Arnold et al. (2006) investigated the ability of an extended TPB model to account for intention to work for the United Kingdom's NHS as a nurse, physiotherapist or radiographer, amongst those in professional training. Attitude in Arnold et al. (2006) was also measured in terms of the valence of attitudinal judgments (e.g., participants had to indicate whether working for the NHS in a qualified profession was enjoyable-unenjoyable; wise-unwise; and bad-good). Attitude was the only variable amongst subjective norms and perceived

behavioural control that presented a significant beta weight, as demonstrated in Table 2. Arnold et al. (2006) further found 15% of the variance in intention to be explained by attitude, as presented in Table 1, which again was the largest percentage of unique variance contributing to intention, compared to perceived behavioral control and subjective norms. Generally, the TPB component of attitude has been relatively successful in explaining variance in career choice.

Reconsideration of the Measurement of Attitude within the TPB

As a common rule, the more positive people's attitudes and subjective norms are concerning a behaviour, and the greater their perceived behavioural control, the stronger an individual's intentions, and the more likely it is that people will perform the behaviour (Jones, Courneya, Fairey, & Mackey, 2005; Sheeran, Conner, & Norman, 2001). Arnold et al. (2006), however, indicated that the TPB model explained only 21% of the variance in intention to work for the United Kingdom's NHS, amongst those in professional training, as indicated in Table 2. Hence it is evident that standard TPB methodology is not adequate in sufficiently explaining the variance in intention (French et al., 2005). Consequently, the typical conceptualisation and measurement of the key predictors of intention is open to question, and such insufficiencies may mask the true nature of these constructs and the manner in which they function in the TPB (Rivis & Sheeran, 2003). Ajzen (2002a) has presented items to measure TPB constructs, but is open to alternative TPB measures as long as they tap the considered measurement properties of the original theory. Moreover, Ajzen (1991) has also purported that the TPB is, in principle, open to the inclusion of additional predictors as long as they provide a medium to large additional contribution (over approximately 9% for a medium contribution, and over approximately 25% for a large contribution) to the explained variance, which also reaches well beyond statistical significance (predictors are considered significant with p values of less than 0.05) (Li & Buhalis,

2008; Rise et al., 2010). Hence, reconsideration, addition, and potential re-imagination of the measurement of attitude within the TPB is a valuable line of exploration (Hagger & Chatzisarantis, 2005; Rhodes, Blanchard, & Matheson, 2006).

As indicated earlier, attitude in Coombs et al. (2007) and Arnold et al. (2006) was solely measured in terms of the valence of attitudinal judgments (e.g., participants had to indicate whether they thought working for the NHS as a qualified profession was wise-unwise, or bad-good). More recent research, however, has indicated two separable dimensions of emotion, valence and arousal, equally significant in determining an emotional response. Subsequently, current attitude measures may be inadequately assessing emotion which may nonetheless influence intention (Shepherd, Sparks, & Guthrie, 1995). Better prediction of intention may be achieved with emphasis on these two emotional determinants of behaviour (Morris, Woo, Geason, & Kim, 2002). Hence the previous conceptualisation of attitude, within the TPB, is questioned and there appears to be an opportunity to potentially improve upon the model (Giner-Sorolla, 2004).

The conceptualisation of valence and arousal as the main dimensions of emotional experience is relatively accepted in emotion research (Bolls et al., 2001; Bradley & Lang, 1999). For example, Bolls et al. (2001) have suggested that human emotional experience can be mapped onto a two-dimensional space with valence and arousal as its axes, with attention on emotion as it is being experienced by a person. Arousal refers to the degree of activation related with an emotional response, regardless of the direction, and ranges from very sleepy and calm at one extreme, to very excited or energised at the other (Bolls et al., 2001; Bradley & Lang, 1999; Keil et al., 2003; Kensinger & Schacter, 2006; Stritzke et al., 1995). Hence, from this perspective, emotions arise when situations are perceived as negative or positive in some way (valence), but

also in situations that are personally relevant, significant or urgent (arousal) (Albarracin et al., 2005). Thus, these appraisals of value and importance are reflected in the form of feelings. The experience of such feelings, in turns, portrays that there is something in a particular situation that is good or bad and significant or unimportant (Albarracin et al., 2005). Consequently, positively or negatively valenced feelings indicate positive or negative evaluations and attitudes, whereas feelings of arousal capture attention and make attitude-relevant details memorable (Albarracin et al., 2005). One's attitude towards a particular career, thus, appears to be also associated with the arousal linked with the career in focus. No study to date has investigated attitude, in conjunction with the TPB and career choice, in terms of both the valence and arousal of attitudinal judgments. Hence the significance of the attitude component in predicting intentions may have been undervalued (Bagozzi, Kam-Hon, & Loo, 2001; Kraft, Rise, Sutton, & Roysamb, 2005).

Individuals engage in various behaviours, activities, and attitudes to satisfy a preference, or increase the level of stimulation, including occupational choice. Some aspects of career choice may also emerge from a natural and pervasive desire to seek out new information and novel settings, subsequently arousal may be a manifestation of intrinsic sources of motivation (Blustein, 1988). Occupational features provide a socially and legally acceptable way for individuals to attain and/or increase arousal (Roberti, 2004). Thus, the arousal dimension also appears to be related to actions (Seitz, Lord, & Taylor, 2007). The arousal-attitude-behaviour relationship, however, has been greatly neglected by attitude and TPB researchers. Very active emotions such as excitement, for example, are more likely to prompt emotion associated actions than are fairly passive emotions like sadness or contentment (Lang, 1995). In turn emotion theories and empirical findings imply an additional likely moderator of the attitude-behaviour association: the activity level of emotions related with an attitude. Individuals who relate their attitude toward a

career with excitement, for example, may be more likely to behave in line with those attitudes than individuals who relate their attitude with boredom (Seitz et al., 2007).

Other theorists have also discussed the active-passive dimension of emotion. Dimensional descriptions capture vital properties of emotional states, including arousal (active/passive) and valence (negative/positive) (Schröder, Pirker, & Lamolle, 2006). They propose that emotions such as fear and excitement signify action tendencies. According to Frijda (1986), emotional experience can be described as experienced states of action readiness or unreadiness.

Furthermore, Russell (2003) explained that high arousal states are preparations for action. Fear, for instance, leads to escape, which serves the function of protection. If these propositions are correct and active emotions are more likely than passive emotions to lead to actions, then it follows that individuals may be more likely to act on their attitudes, and may display greater attitude-behaviour consistency, when they relate active rather than passive emotions with their attitudes (Seitz et al., 2007). In situations that need a behavioural response to an attitude object, an individual will activate various emotional relations to the attitude object. Whether the attitude is negative or positive, any following behavioural response will be more probable to occur when the activated emotional relations are active rather than passive and, hence, according to emotion theorists, more probable to imply active behaviours (Seitz et al., 2007). Subsequently, at least some additional variance in career intention should be explained by the arousal associated with a particular career (Nicolaou, Shane, Cherkas, & Spector, 2008).

In summary, Bradley and Lang (1999) propose that the two dimensions, valence and arousal, account for most of the explained variance in emotional responses (Detenber, Simons, & Bennett, 1998). Given this research in emotional response, it is possible that the amount of

explained variance in predicting behavioural intention may be increased if attitude is measured by both dimensions of emotion compared with the traditional approach of using valence alone.

Self-identity

As noted previously, several studies have indicated that career choice (intention to pursue a particular career) is predictable from the three components of the TPB (e.g., Armitage & Conner, 2001a; Godin & Kok, 1996; Sheeran & Taylor, 1999). However, a substantial percentage of the variance in behavioural intention still remains unaccounted for. In Arnold et al. (2006), the standard TPB model was unable to account for approximately 79% of the variance in career intentions. Researchers have suggested additional predictors that may be included with the TPB model in the context of career choice, including self-identity (Rise et al., 2010; Schreurs et al., 2009).

Self-identity refers to the prominent and enduring features of one's self-perception (e.g., "I think of myself as a 'green consumer'") (Rise et al., 2010). According to identity theory, individuals apply socially significant categories to describe themselves when answering the question "Who am I" in regards to, for instance, sociodemographic characteristics (e.g., gender), social roles (e.g., mother, father), social types (e.g., smoker, exerciser, healthy eater, blood donor), and even personality traits (Rise et al., 2010). As such, self-identity is expected to capture a number of features of normative conduct. Hence, self-identities are the views one takes towards oneself when taking the role of specific or generalised others (Rise et al., 2010). This implies that one integrates the meanings and expectations related with an applicable categorisation into the self, thus producing a set of identity standards that direct identity-relevant behaviours (Arnold et al., 2006; Rise et al., 2010). Furthermore, one of the central propositions of vocational theory and practice (Holland, 1997; Super, 1990) is that individuals attempt to

implement their sense of self through their career choices. Subsequently it would not be surprising to find that identity as an individual who fits with the occupational setting contributes to career intention (Arnold et al., 2006).

Individuals who feel that pursuing a certain profession is important to their self concept should have stronger intentions to pursue this profession (Mason & White, 2008). In turn, the greater this perception, the more influence self-identity will have on intention. In Arnold et al. (2006), the TPB model was extended to include self-identity. The participants were asked to indicate their responses to the phrases 'I am the type of person who would feel at home working for the NHS' and 'I am a strong believer in the principles of the NHS'. The results indicated that self-identity had a significant beta weight, as presented in Table 2. Moreover, self-identity contributed an additional 17% of variance, amongst the in-training group, as demonstrated in Table 2. It should be noted that this medium sized additional variance was not found by Arnold et al. (2006) for intention to work for the NHS amongst unqualified personnel, as self-identity only attributed an additional 1% of explained variance. Hence, there is reason to assume that extending the TPB in the present study to include self-identity would increase the percentage of variance explained in career choice among university students. No known study, to date, has included self-identity, as an additional predictor variable, when predicting career choice among university students. This study extended Arnold et al. (2006) to university students, and included self-identity as a predictor of the TPB model. Moreover, the study modified the typical approach taken to measure attitude, which has hitherto been measured by focusing solely on the valence of attitudinal judgments.

The first aim of the present study was to examine whether an improved measure of attitude (including both arousal and valence of attitudinal judgments) associated with an intended

behaviour would enhance the prediction of behavioural intentions, specifically in regards to becoming a professional in the discipline studied. The second aim of this study was to include and explore the predictive utility of the additional predictor variable of self-identity. Based on applying Bradley and Lang's (1999) theory of emotion to the TPB, it was expected that including an additional measure of attitude, in terms of arousal, with the standard TPB, would increase the variance accounted for in career intentions. Moreover, based on Arnold et al. (2006), it was expected that self-identity would also contribute to the variance explained in career intentions. Thus it was hypothesised (1) that a measure of attitude that includes both valence and arousal would account for more of the variance associated with intention to become a professional in the discipline studied, than valence alone, and (2) that self-identity would also add a discrete component of explained variance.

Method

Design

The present study was a regression study with five predictor variables, including attitude measured by valence, attitude measured by arousal, subjective norms, perceived behavioural control and self-identity. Moreover, five models were tested (1) standard TPB (2) valence replaced by arousal (3) standard TPB with arousal (4) standard TPB with self-identity (5) standard TPB with arousal and with self-identity.

The criterion variable was intention to become a professional in the discipline studied. The criterion variable was dichotomised to specify: 1) intention to become a professional in the discipline studied or 2) no intention to become a professional in the discipline studied.

Participants

The sample consisted of 140 university students (162 before data screening), including 97 females (68.8%) and 40 males (28.4%) (3 respondents did not specify their gender). The age of the participants ranged from 17 to 60 years, with a mean age of 25.42 years ($SD = 10.04$). Furthermore, the sample consisted of 12 (8.5%) first year, 68 (48.2%) second year, 39 (27.7%) third year, and 21 (14.9%) fourth year students. There were 100 (70.9%) psychology students (referring to students who are enrolled in a sequence of units in an undergraduate degree, that define psychology as the area of focus within the course); 4 (2.8%) law students (referring to students who are enrolled in a sequence of units in an undergraduate degree, that define law as the area of focus within the course); 3 (2.1%) engineering students (referring to students who are enrolled in a sequence of units in an undergraduate degree, that define engineering as the area of focus within the course); and 33 (23.4%) 'other' students (referring to students who are enrolled in a sequence of units in an undergraduate degree, which do not focus on psychology, law or engineering).

Participants were recruited by being approached, during a lecture, at the Edith Cowan University (ECU) Joondalup campus ($N = 69$), and by placing a Qualtrics link to the career choice questionnaire on Face book, a popular online social networking site ($N = 71$) (Ellison, Steinfield, & Lampe, 2007). Recruiting participants via Facebook further extended the generality of the study's findings. Hence the majority of the participants were recruited using convenience sampling, with additional participants collected via the method of snow balling. The participation was voluntary and no monetary reward was provided.

Materials

The materials used in this study were: a computer, Qualtrics survey software, a questionnaire regarding career choice (Appendix A) and a participation information sheet (Appendix B).

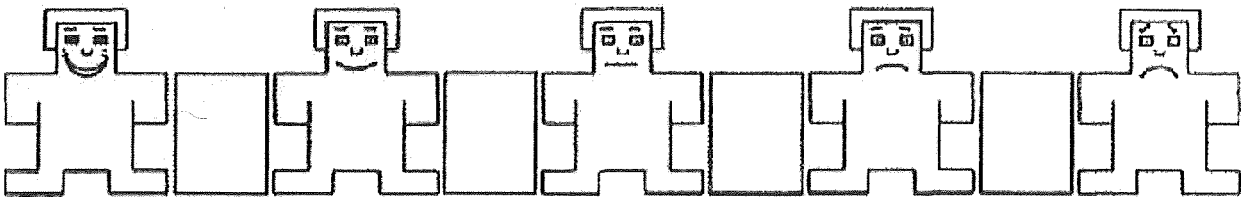
The self report career choice questionnaire was based on the TPB (Ajzen, 1991). The questionnaire was divided into sections that addressed the independent TPB constructs, attitude, subjective norms, perceived behavioural control, and the additional predictor variable self-identity. Additionally, a generalised measure of behavioural intention was included as a proximal measure of behaviour. Participants were asked to specify the discipline they were currently studying and to complete the questionnaire with this profession in mind. Where possible, the items employed to operationalise each construct were adapted from prior research that had applied the theory, with necessary validation and wording changes tailored to career choice (e.g., Arnold et al., 2006; Coombs et al., 2007). The majority of these studies conveyed a moderate to high level of internal reliability per construct, with Cronbach's alpha coefficient (α) ranging from .40 to .86 (e.g., Arnold et al., 2006; Coombs et al., 2007). Attitude, subjective norms, perceived behavioural control and self-identity were measured using a 9-point scale in the present study, opposed to a 7-point scale as employed by Arnold et al. (2006) and Coombs et al. (2007). Construct scores were generated by summing each scale's items. The questionnaire also contained external to the TPB model variables. These included age and gender. The resultant TPB questionnaire numbered 23 items.

To ensure randomness and balance in the questionnaire, some items were reversed in the questionnaire to reduce monotonous responses to the items (Chau & Hu, 2002). The constructs measured in the questionnaire are described below. The internal consistency or reliability of each

scale was assessed using Cronbach's alpha coefficients as the reliability estimates. A Cronbach's alpha of .70, or higher, is generally considered acceptable (Nunnally, 1978).

Attitude. The measures for attitudes comprised of 13 items in total. A nonverbal affective rating system (Self-Assessment Manikin, Lang, 1980) was employed to examine arousal and valence. SAM represents these attitudinal components in the absence of cognitive processing (Morris et al., 2002). Figure 1 shows the sequence of graphic figures used for each dimension. They vary from a smiling, happy figure to a frowning, unhappy figure for valence (Figure 1A), and from an excited, wide-eyed, excited figure to a relaxed, sluggish, or sleepy figure for arousal (Figure 1B). Each series formed a 9-point rating scale, when boxes in between each figure are included.

A



B

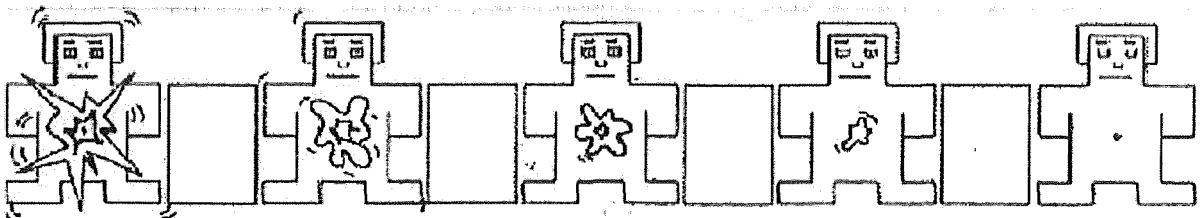


Figure 1. Self-Assessment Manikins (SAM). (A) SAM for valence (B) SAM for arousal

There were six items which examined whether the arousal associated with a particular career was high or low. The phrases incorporated words previously found to reflect some degree of arousal (e.g., "I want to become a _____ to be admired") (Bradley & Lang, 1999)

(Appendix C). Respondents were instructed to place an “X” (for the pen and paper version of the questionnaire) or to click (for the online questionnaire) over any of the five figures on each scale, or in between each figure, to represent their experience of the phrases. Hence the possible score for each item ranged from 1 to 9, with 1 denoting high arousal. Higher scores indicated lower arousal. Cronbach’s alpha for the arousal scale was high ($\alpha = .83$)

All six phrases were positive (e.g., becoming a member of my chosen profession would be an achievement; I feel excited when I think about becoming a member of my chosen profession), as individuals who experience positive emotions should be more motivated to engage in behaviours that evoke such emotions, than individuals who experience less positive emotions (Maio & Esses, 2001).

There were seven items examining valence. Respondents were instructed to place an “X” (for the pen and paper version of the questionnaire) or to click (for the online questionnaire) over any of the five figures on each scale, or in between those figures to represent their valence experience. To measure valence, participants were asked to represent their thoughts about being a professional in the discipline they are presently studying by indicating their responses from beneficial [1] to harmful [9], responsible [1] to irresponsible [9], pleasant [1] to unpleasant [9], enjoyable [1] to unenjoyable [9], good [1] to bad [9], wise [1] to unwise [9], and valuable [1] to worthless [9]. Hence the possible score for each item ranged from 1 to 9, with 1 equaling positive valence. The reliability of the valence scale was high ($\alpha = .87$).

Subjective norm. A global measure of subjective norm was employed. Specifically, subjective norm was assessed by three items (e.g., “The people in my life whose opinions I value would approve/disapprove of me becoming a professional in the discipline I have studied”, “Most

people who are important to me think that I should become a professional in the discipline I have studied”). Multiple measures of subjective norm are more strongly associated with intention (Armitage & Conner, 2001a). Participants were asked to indicate their responses from disapprove [1] to approve [9] (reverse scored), and also from should [1] to should not [9]. Hence the possible score for each item ranged from 1 to 9, with 1 equaling high subjective norm. Cronbach’s alpha for the subjective norm scale was low ($\alpha = .25$), however it was not improved by eliminating any of the three items contributing to this composite variable, thus all three items were retained (Hrisos et al., 2008).

Perceived behavioural control. A global measure of perceived behavioural control was employed. Specifically, perceived behavioural control was measured by three items (two items assessing self-efficacy and one item assessing controllability). For example, “For me to become a professional in the discipline studied would be...” (self-efficacy) and “If I had an opportunity to become a professional in the discipline I have studied I would...” (controllability). Participants were asked to indicate their responses from impossible [1] to possible [9] (reverse scored), easy [1] to difficult [9], and most definitely [1] to most definitely not [9]. Hence the possible score for each item ranged from 1 to 9, with 1 equaling high perceived behavioural control. Lower scores indicated higher perceived behavioural control. Cronbach’s alpha for perceived behavioural control was low ($\alpha = .10$); however it was not improved by eliminating any of the three items contributing to this composite variable, thus all three items were retained (Hrisos et al., 2008).

Self-identity. The measure for self-identity comprised of one item, consistent with one of the items employed by Arnold et al. (2006). This represented belief in the principles that underlie the profession in concern. Participants were asked to indicate their responses from strongly agree

[1] to strongly disagree [9]. Hence the possible score for the item ranged from 1 to 9, with 1 equaling high self-identity. Lower scores indicated higher self-identity.

Intention. One item on intention was included to address participants' general intention towards becoming a professional in the discipline they were currently studying (i.e., in the future I will become a professional in the discipline I have studied). Participants were asked to indicate a 'yes' or 'no' response. Most research investigating intentions focus on positive intentions (i.e., I intend to become a psychologist) compared to negative intentions (i.e., I will not become a psychologist); positive rather than negative intentions also appeared to be more predictive of success (i.e. successfully becoming a psychologist typically requires stronger positive intentions) (Ogden et al., 2007).

Procedure

Upon obtaining ethics approval, the questionnaire was available online, using Qualtrics survey software. A link to the online information sheet and questionnaires was sent on Facebook, and data was stored within the Qualtrics programme. The questionnaire took approximately five to ten minutes to complete. The questionnaire was presented with another study applying the TPB to speeding behaviour, and so to control for order effects, the presentation of the career choice questionnaire and speeding questionnaire was counterbalanced (Harkness, Swenson, Madsen-Hampton, & Hale, 2001).

In addition to Facebook, participants were also recruited during a psychology lecture at ECU Joondalup Campus, at the beginning of the second semester. The lecturer was asked for permission to address the students at the start of a lecture. Contact with participants was made on one occasion. The researcher discussed the study as being designed to explore students' intentions to become a professional in the discipline they are studying. The students were

administered with the pen to paper format of the career choice questionnaire (Appendix A), which also had an information sheet (Appendix B) attached to it, and informed that all details would be kept confidential, that participation was voluntary, and if they were to feel uncomfortable completing the questionnaire, they could exclude themselves from the study without any penalty or repercussion. The literature supports that pen and paper administration of questionnaires is equivalent to internet administration (Wu et al., 2009). The questionnaire was completed within a 10 minute time frame and participants returned the completed questionnaire to the researcher.

Results

Data Cleaning and Screening

Prior to analysis, pen and paper versions of the career choice questionnaires were checked for incomplete responses. Incompleteness was defined as one or more unanswered questions in the career choice questionnaire. There were 17 incomplete questionnaires. All 17 of these questionnaires were not used within the study. There were also five incomplete online questionnaires. All five of these questionnaires were not used in the study.

Descriptive Statistics

Descriptive statistics are presented in Table 3. For the sample as a whole, mean scores for intention, attitude (measured by valence), attitude (measured by arousal), subjective norm, perceived behavioural control, and self-identity, were all favourable to the idea of becoming a professional in their chosen study discipline. The means for attitude (arousal and valence) indicated a generally positive attitude towards becoming a professional in the discipline studied. Subjective norm and perceived behavioural control were mid-ranged, inferring a weaker

perception of social approval toward, and perception of control over, becoming a professional in one's chosen study discipline. Intention and self-identity scores were relatively low within the sample, suggesting a general intent to become a professional in their chosen study discipline, and relatively high identification with the profession being studied.

Table 3

Means and Standard Deviations for Intention, PBC, Subjective Norms, Arousal, Valence and Self-identity

Variable	Theoretical Range	<i>M</i>	<i>SD</i>
Intention	1 to 2	1.03	0.17
PBC	3 to 27	9.22	2.81
SN	3 to 27	10.74	4.04
Valence	7 to 63	15.31	6.00
Arousal	6 to 54	17.00	7.26
Self-identity	1 to 9	2.32	1.52

Predicting Career Choice

Table 4 details the correlations among the five predictor variables and intention. The results of the Spearman's correlations suggest positive relationships between each independent variable and intention in the following order of decreasing strength: (a) arousal ($r = .25$), (b)

valence ($r = .22$), (c) perceived behavioural control ($r = .21$), (d) subjective norms ($r = .14$), and (e) self-identity ($r = .12$). Hence, lower scores were related with a greater intent to become a professional in one's chosen study discipline. Only arousal, valence and perceived behavioural control were significantly intercorrelated with intention $p < .05$, with the highest intercorrelation being between arousal and intention ($r = .25$).

Among the external characteristics, age ($r = .03$) and gender ($r = .11$) were positively, but weakly, related to intention. However, the intercorrelations were not significant ($p > .05$).

Table 4

Intercorrelations Among Intention, Arousal, Valence, Subjective Norms, Perceived Behavioural Control, Self-identity, Age and Gender (N= 140).

Scale	2.	3.	4.	5.	6.	7.	8.
1. Intention	.25**	.22**	.14	.21*	.12	.03	.11
2. Arousal	--	.62**	.36**	.31**	.45**	-.02	-.07
3. Valence	--	--	.23**	.38**	.48**	-.05	-.03
4. Subjective norms	--	--	--	.19*	.26**	.11	-.00
5. PBC	--	--	--	--	.31**	-.22*	-.09
6. Self-identity	--	--	--	--	--	-.13	-.08
7. Age	--	--	--	--	--	--	.06
8. Gender	--	--	--	--	--	--	--

* $p < .05$, ** $p < .01$

Logistic regression is a statistical tool that predicts the probability of a discrete outcome from a set of variables that may be continuous, discrete, dichotomous, or a mixture (Rutherford & DeVaney, 2009). Since the dependent variable in the present study was dichotomous logistic regression is a suitable method to predict the likelihood of the dependent variable occurring given the set of independent variables (Rutherford & DeVaney, 2009). Logistic regression also has additional advantages, including being robust since: 1) the dependent variable does not have to be normally distributed; 2) there is no assumption regarding a linear relationship between the dependent and independent variables; 3) the dependent variable does not need to be homoscedastic for each level of the independent variable; and 4) there is no assumption regarding normally distributed error terms (Rutherford & DeVaney, 2009).

To address issues with multicollinearity, collinearity statistics on the variance inflation factor (VIF) and tolerance scores were investigated. Menard (1995) proposes that tolerance values should be less than 0.10, and Field (2005) advises that a VIF value greater than 10 is a cause for concern. Examination for variance proportion on the smallest eigenvalue, as recommended by Field (2005), revealed no predictors that have similar high variance proportions on the same dimension. Thus, the models employed to predict intentions do not appear to have issues regarding collinearity. Hence, a series of logistic regression analyses were employed (using PASW for Windows, Version 18), as demonstrated in Table 5. Table 2, presented earlier, shows a comparison between the present study and Arnold et al. (2006) in terms of the variance accounted for in career intention by the standard TPB model and self-identity, and beta weights for the TPB variables and self-identity variable in predicting career intentions.

Standard TPB model. At step 2, with the addition of attitude (measured by valence), perceived behavioural control and subjective norms, the standard TPB model contributed to 43%

of the explained variance for intention to become a professional in the discipline studied ($\chi^2 (3) = 14.47, p < .01$). Hence the standard TPB model accounted for approximately 10% more of the variance in intention, when compared to including only perceived behavioral control and subjective norms in the model (standard TPB model - perceived behavioral control and subjective norms model = percentage of variance that valence contributed to the standard TPB model). However, the non-significance of the Wald statistic for attitude (measured by valence only) (Wald = 2.73), perceived behavioural control (Wald = 1.32) and subjective norms (Wald = .01), indicated that none of the original TPB predictor variables predicted intention to become a professional in the discipline studied ($p > .05$). At this step, the model classified 136 of students as intenders, and did not misclassify any others (it correctly classified 100% of students). The model also classified 1 student as a non-intender but misclassified 3 others (it correctly classified 25% of students). The overall weighted classification for intentions to become a professional in the discipline studied at this step was 97.9%.

Valence replaced by arousal. With attitude (measured by arousal only), perceived

behavioural control and subjective norms, the model contributed to 52% of the explained variance for intention to become a professional in the discipline ($\chi^2 (3) = 17.64, p < .01$). Hence the present model accounted for approximately 9% more of the variance in intention when compared to the standard TPB model, and approximately 19% more of the variance in intention, when compared to including only perceived behavioural control and subjective norms in the model. The significance of the Wald statistic (Wald = 4.27) implied that attitude (measured by arousal alone) predicted intention to become a professional in the discipline studied ($p < .05$). Attitude (measured by arousal alone), was also a positive predictor of intention, as indicated in Table 4, thus higher levels of arousal was related with greater intention to become a professional in the discipline studied.

However, the non-significance of the Wald statistic for perceived behavioural control (Wald = 1.87) and subjective norms (Wald = .02), indicated that these two predictor variables did not influence intention to become a professional in the discipline studied ($p > .05$). At this step, the predictive power of attitude (measured by arousal only) classified 136 of students as intenders, and did not misclassify any others (it correctly classified 100% of students). The model also classified 2 students as non-intenders but misclassified 2 others (it correctly classified 50% of students). The overall weighted classification for intentions to become a professional in the discipline studied at this step was 98.6%.

The model's predictiveness at this step was also a good fit (Hosmer and Lemeshow goodness of fit; $\chi^2(8) = 5.96, p = .65$). Additionally, the attitude (measured by arousal), perceived behavioural control and subjective norm model's odd ratio ($e^b = 1.22$) for attitudes (measured by arousal) indicated that for every one unit increase in predictive value, the likelihood of the reported intentions to become a professional in the discipline studied also increases. The confidence level of 1.01 and 1.47 provides confidence in the association between arousal and intention to become a professional in the discipline studied.

Standard TPB with arousal. With the addition of attitude (measured by arousal only), attitude (measured by valence only), perceived behavioural control and subjective norms, the model contributed to 52% of the explained variance for intention to become a professional in the discipline ($\chi^2(4) = 17.64, p < .01$). Hence, the present model accounted for approximately 9% more of the variance in intention when compared to the standard TPB model, as demonstrated by Figure 2. However, the non-significance of the Wald statistic for attitude measured by valence only (Wald = 0.00), attitude measured by arousal only (Wald = 2.27), perceived behavioural control (Wald = 1.53) and subjective norms (Wald = .02), indicated that none of the original TPB

predictor variables or arousal predicted intention to become a professional in the discipline studied ($p > .05$). The model classified 136 of students as intenders, and did not misclassify any others (it correctly classified 100% of students). The model also classified 2 students as non-intenders but misclassified 2 others (it correctly classified 50% of students). The overall weighted classification for intentions to become a professional in the discipline studied at this step was 98.6%.

Standard TPB with self-identity. With the inclusion of attitude (measured by valence), perceived behavioural control, subjective norms and self-identity, the model contributed to 44% of the explained variance for intention to become a professional in the discipline ($\chi^2(4) = 14.81, p < .01$). Hence the present model accounted for approximately 1% more of the variance in intention, when compared to the standard TPB model. However, the non-significance of the Wald statistic for attitude (measured by valence only) (Wald = 3.09), perceived behavioural control (Wald = 1.32), subjective norms (Wald = .00) and self-identity (Wald = .32), indicated none of the original TPB predictor variables or self-identity influenced intention to become a professional in the discipline studied ($p > .05$). The model classified 136 of students as intenders, and did not misclassify any others (it correctly classified 100% of students). The model also classified 1 student as a non-intender but misclassified 3 others (it correctly classified 25% of students). The current model had an overall weighted classification of 97.9%.

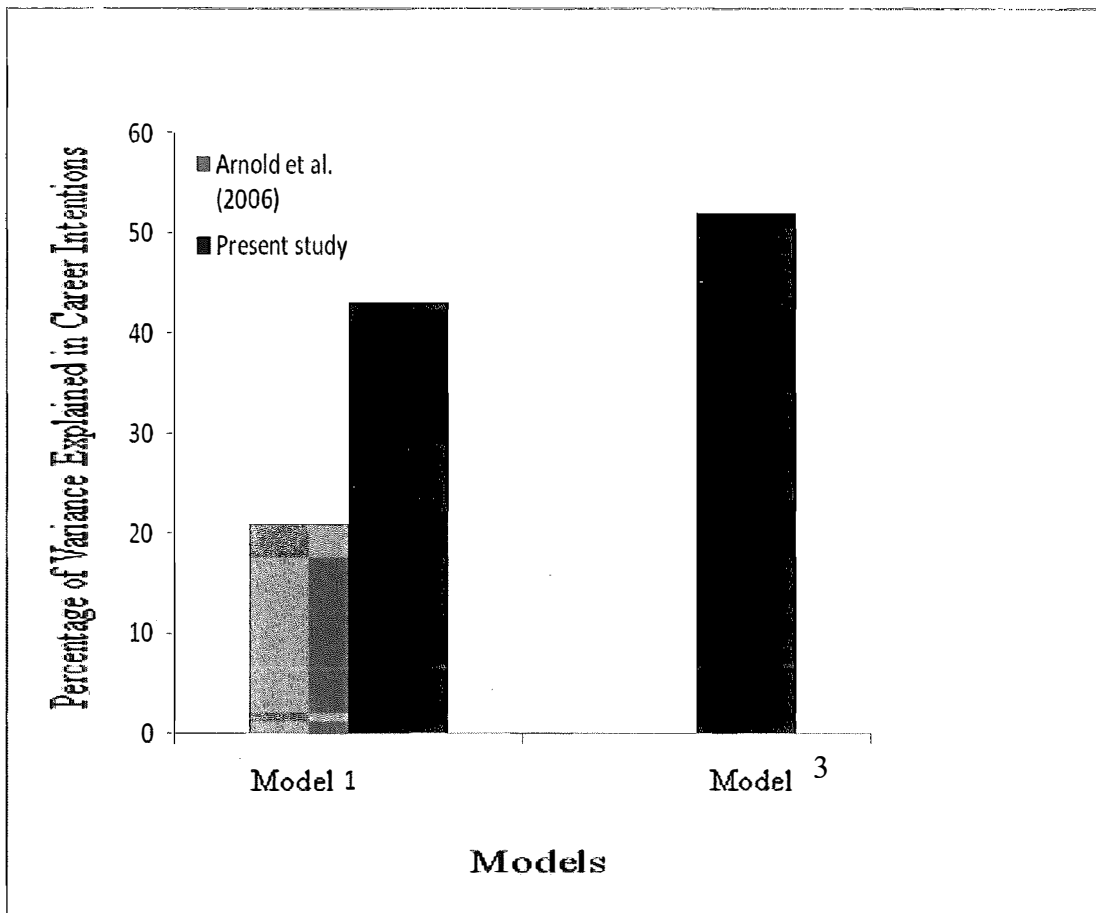


Figure 2. Bar graph of variance explained under model 1 (standard TPB) and model 3 (standard TPB plus attitude measured by arousal).

Table 5. Logistic Regression of Intention with Standard TPB Variables and Additional Variables (N = 140).

Step	Predictors	- 2LL ^a	Nagelkerke R ²	Beta	Wald test	Exp(B)	95% CI	
							Lower	Upper
1	PBC	25.36	.33	1.79	5*	1.89	1.08	3.30
	Subjective Norms			.32	.24	1.08	.79	1.49

2	PBC	21.85	.43	1.03	1.32	1.44	.77	2.69
	Subjective Norms			-.06	.01	.99	.69	1.40
	Attitude (measured by valence)			1.30	2.73	1.24	.96	1.61
3	PBC	18.69	.52	1.12	1.87	1.49	.84	2.66
	Subjective Norms			.10	.02	1.02	.73	1.44
	Attitude (measured by arousal)			1.43	4.27*	1.22	1.01	1.47
4	PBC	18.69	.52	1.12	1.53	1.49	.79	2.81
	Subjective Norms			.10	.02	1.02	.70	1.49
	Attitude (measured by arousal)			1.43	2.27	1.27	.94	1.57
	Attitude (measured by valence)			.01	.00	1.00	.72	1.39

Note. ^{***} $p < .01$; ^{**} $p < .05$; shading indicates significant predictors; ^a -2log likelihood.

Step	Predictors	- 2LL ^a	Nagelkerke R^2	Beta	Wald test	Exp(B)	95% CI	
							Lower	Upper
5	PBC	21.52	.44	1.02	1.32	1.44	.77	2.67
	Subjective Norms			-.03	.00	.99	.70	1.41
	Attitude (measured by valence)			1.36	3.09	1.25	.97	1.61
	Self-identity			-.36	.32	.79	.34	1.81
6	PBC	18.12	.53	1.16	1.53	1.51	.79	2.90
	Subjective Norms			.21	.06	1.05	.71	1.57
	Attitude (measured by arousal)			1.53	2.28	1.23	.94	1.62
	Attitude (measured by valence)			.10	.01	1.02	.74	1.40
	Self-identity			-.55	.51	.70	.26	1.88

7	PBC	13.72	.65	2.11	2.08	2.11	.77	5.81
	Subjective Norms			-1.74	.42	.75	.32	1.78
	Attitude (measured by arousal)			3.34	2.47	1.58	.89	2.81
	Attitude (measured by valence)			.6	.20	.90	.58	1.41
	Self-identity			-.65	.39	.65	.17	2.48
	Gender			9.36	.00	6.96E8	.00	.
	Age			.40	.24	1.04	.89	1.22

Note. ** $p < .01$; * $p < .05$; shading indicates significant predictors; ^a -2 log likelihood.

Discussion

The results of the present study provided support for the Theory of Planned Behaviour (TPB, Ajzen, 1991) in predicting career choice, amongst a sample of university students.

Behavioural intentions may thus be reasonably well predicted from the measures traditionally presented in the TPB.

The foundational principle behind the TPB proposes that the more an attitude and subjective norm are viewed as favourable, and as the perceived behavioural control becomes greater, the stronger one's intention to perform the behaviour (Ajzen, 1991). Attitude, subjective norms, and perceived behavioural control were all positively related with intention in the present

study. Furthermore, the traditional predictors of attitude as operationalised by valence, subjective norm and perceived behavioural control were found to account for 43% of the variance in intention to become a professional in the discipline studied. This is typical and supports the operationalisation of the TPB measures in the present study. For instance, in a meta-analysis including 185 applications of the TPB, Armitage and Conner (2001b) demonstrated that 39% of the variance in intention was explained by TPB measures.

The explained variance associated with the standard TPB model reported in the present study (43%) was much greater compared to the percentage demonstrated by Arnold et al. (2006). Arnold et al. (2006) reported that the standard TPB variables accounted for 21% of the variance in intention to work for the United Kingdom's NHS as a nurse, physiotherapist or radiographer, amongst those in professional training. A likely reason for the discrepancy in results can be attributed to differing methodology used to develop the questionnaires. The present study employed more items to assess the standard TPB model than Arnold et al. (2006) (13 compared with 7). The current study also employed a 9-point scale to assess responses to phrases examining the TPB components, whereas Arnold et al. (2006) employed a 7-point scale. Moreover, there were differences in the operationalisation of some of the TPB constructs. Perceived behavioural control, for example, was operationalised in terms of self-efficacy and controllability in the present study. However, Arnold et al. (2006) operationalised perceived behavioural control in terms of self-efficacy only. The sample of respondents (students in professional training from the United Kingdom, compared to Western Australian university students) also differed (Tolma, Reininger, Evans, & Ureda, 2006).

This study was designed to extend Arnold et al. (2006) by testing the predictive utility of the TPB among university students, in the prediction of intention to become a professional in the

discipline studied. Incorporating the additional predictor variable (self-identity) into the model, however, only contributed 1% to the explained variance in intention to become a professional in the discipline studied. In turn, self-identity itself did not significantly predict career intention. These results are surprising, as it was expected that self-identity would account for significant proportions of the variance in intention. This expectation was based on Arnold et al. (2006), where self-identity added a significant percentage to the variance in intention (17%), amongst the in training group. It might be argued that self-identity only becomes salient when an individual has already invested considerable resources and/or effort into implementing an intention (Arnold et al., 2006). It is likely that the present student sample is not yet aware of the behavioural commitment to their profession of choice. Hence, a participant saying that they identify with the profession they are currently studying for, may not carry as strong an implication for behaviour, as it may for someone who is currently in professional training for a specific position (Arnold et al., 2006). More importantly, however, the non-significance of self-identity in predicting career intention is likely attributed to the insufficient number of non-intenders in the present sample to be able to distinguish between intenders and non-intenders to become a professional in the discipline studied (Fekadu & Kraft, 2001).

The sample of students “in professional training” (which includes exposure to NHS workplaces) in Arnold et al. (2006) may have been inferring their self-identity responses from an exploration of past work experience. Past behaviour has been found to contribute significantly to the variance in intention (Shepherd et al., 1995). Thus even if self-identity is demonstrated to be a unique contributor to the variance in intention, its validity may be viewed as a “result” of the behaviour, performed in the past, as opposed to an “antecedent” to it, thereby insinuating a basic hypothesis onto an interaction effect (Fekadu & Kraft, 2001). It is unknown as to whether the

present sample of university students have had prior professional experience in the discipline they are studying. However, it appears more likely that the “in professional training” sample in Arnold et al. (2006) used responses to the self-identity phrases as a proxy for past behaviour, thereby potentially explaining the discrepancy between the two findings (Shepherd et al., 1995).

Researchers should probably include past behaviour as an additional TPB predictor variable, to examine whether self-identity maintains its unique contribution to the variance in intention (Shepherd et al., 1995). Moreover, the contrasting results may be explained by the item/s employed to assess self-identity. Self-identity may have accounted for a unique percentage of variance in Arnold et al. (2006) because two items were used to assess self-identity compared to a single item used in the present study.

The present study was also designed to examine the role of valence and arousal in operationalising attitude as a predictor of intended career choice. It was hypothesised that using arousal to measure attitude would account for additional variance in university students’ intentions to become a professional in the discipline they are studying. This second hypothesis was also supported, with the results revealing that adding attitude measured by arousal to the standard TPB model, accounted for a further 9% of the variance in career intention. The additional explained variance can be considered a medium effect size (Cohen, 1992), which is meaningful and worthwhile from a practical viewpoint (Rhodes et al., 2006). Thus, when the attitude towards a particular career is positive, the variance in intention to become a professional in the discipline studied appears to be increased when arousal is also assessed.

Attitude measured by arousal alone also significantly predicted intention to become a professional in the discipline studied, when included with subjective norms and perceived behavioural control in the analysis, and indeed was the only significant predictor in this model.

According to these findings, the university students based their intention to become a professional in the discipline studied primarily on how arousing they perceived their occupation of choice to be, with less regard given to the opinions of others and little concern over internal and external resources. Thus initial findings regarding the inclusion of arousal in the measurement of attitude appear promising. It is suggested that future research might focus on understanding what specifically influences respondents' attitude (Coombs et al., 2010). Nevertheless, it seems that a student's intention to become a professional in the discipline they are studying is largely a function of the attitude measured by arousal that he or she holds towards pursuing a career in the present study discipline.

Although attitude measured by valence did contribute an additional 10% when added to the perceived behavioural control and subjective norms model in accounting for career intention, it was not significant. This contrasts with the significant result reported by Arnold et al. (2006). It may be that this was due to direct experience with behaviour through work in the professional area. This is likely to strengthen the relationship between attitude and behaviour, because it improves one or more of the confidence, clarity, accessibility, and stability of an attitude, as well as the degree to which an individual can communicate reasons for his or her attitude (Arnold et al., 2006; Fekadu & Kraft, 2001). The TPB does not place enough emphasis on people's differing situations and behavioural histories (Arnold et al., 2006).

The non-significance of attitude measured by valence in the prediction of intention in the present study may also be attributed to the fact there was not enough variability in the present sample to distinguish between intenders and non-intenders to become a professional in the discipline studied. Nevertheless further research is required to determine whether arousal is a better measurement of attitude than valence, amongst other populations, as well as other domains.

The issue of which measurement (arousal or valence) is more predictive has significant implications for interventions to change behaviour (McMillan & Conner, 2003).

The analysis testing attitude measured by valence, attitude measured by arousal, subjective norms and perceived behavioural control in the prediction of intention to become a professional in the discipline studied, indicated that arousal was not significant in predicting intention in this model. This is possibly because of the strong correlation between valence and arousal. Alternately, it may be that the sample employed was not large enough (Fekadu & Kraft, 2001). Future research should thus aim for a sample size of 200-300 respondents to confirm the present findings.

Although subjective norm did contribute to the prediction of university students' career intentions, similar to past research (e.g., Arnold et al., 2006), subjective norm itself was not a significant predictor in any of the models tested. Non-TPB studies have revealed that social contacts close to the decision maker, particularly friends and family, play an important role in a person's decision to pursue a particular career. These people may have experience relevant to that decision, and expressed opinions about it (Arnold et al., 2006). What other individuals think, say or do, however, appeared to exert minimal influence on the formation of intentions to pursue a career in the discipline one is studying, at least in this sample. Subjective norm, however, was measured with low internal consistency reliability in the present study. Low internal consistency reliability infers that a scale does not measure the underlying construct (Arnold et al., 2006). Thus this issue likely accounted for the non-significance of subjective norm, in the present study, as a predictor of career intention (Johnston, Gilbert, Partridge, & Collins, 1992). The present findings, however, support previous suggestions that the subjective norm component be removed from the TPB, due to its weak performance in the prediction of intention (Arnold et al., 2006).

This lack of support for subjective norm is in accordance with non-TPB research suggesting that significant others are neither necessary nor sufficient for students' career decisions (Mutha, Takayama, & O'Neil, 1997). Moreover, Taylor, Harris, and Taylor (2004) suggested that parents, in particular, may be viewing career choices as something out of their control. Parents seem to realize that while they may have more influence compared to anyone else, it is minimal. They believe that they do not have, and should not have, influence on their children's career decisions. University educated parents are also more likely to express approval or disapproval of their children's career plans, than parents with a junior high school education or less, who are often reticent (Deutsch, 2004). Moreover, Stott, Howard, and Linnett (1997) found that higher-ability year nine students, in choosing their specialist subjects, were more likely to be influenced by interest, compared with less able students who were more likely to be influenced by teachers and parents. Hence, as university students are more able in terms of their intellectual ability, planning ability and independent thought (Grant, Stansfield, & Land, 2000), it might be argued that the present sample is more likely to be influenced by interest rather than by parents or significant others (Trend, 2009). Subjective norm has also been found to be more influential over career intention when the respondent is married or cohabiting than when not doing so (Arnold et al., 2006). Marital status (single, married, living with partner) was not collected in the present study; hence future studies should explore the role of subjective norm, amongst the various marital statuses, in career intentions.

The low predictive value of the subjective norm construct in the present study may be attributed to the narrow conceptualisation and measurement of subjective norm, focusing solely on the social pressure placed on students when forming decisions to pursue a particular career (injunctive norm). Normative influences can also be measured in terms of descriptive norms,

which refer to the perception of whether other people perform the target behaviour (Sheeran & Orbell, 1999). Thus, in regards to descriptive norms, significant others motivate the individual by demonstrating to him/her what is the normal or typical thing to do, and what is probably to be an effective and adaptive decision (“If significant others are doing it, then it must be the sensible way to act”) (Sheeran & Orbell, 1999). A number of studies have indicated that descriptive norms contribute to the prediction of intentions, independently of injunctive norms (McMillan & Conner, 2003; Povey, Conner, Sparks, James, & Shepherd, 2000). Fishbein (1993) also suggested that both measures may be used as indicators of the same construct – perceived social pressure. Thus future studies should explore the role of descriptive norms, in the measurement of subjective norm, in conjunction with the TPB and career choice.

Although perceived behavioural control contributed to the explained variance in intention, in accordance with Arnold et al.’s (2006) findings perceived behavioural control did not significantly predict intention to become a professional in the discipline studied in any of the models investigated. The present finding is again likely attributed to the lack of variability in the present sample to distinguish between intenders and non-intenders to become a professional in the discipline studied (Fekadu & Kraft, 2001). Moreover, perceived behavioural control was measured with low internal consistency reliability in the current study, and thus this issue may also explain why perceived behavioural control was a non-significant predictor of career intention (Johnston et al., 1992). The perceived behavioural control items may not have fully captured the potential barriers to pursuing a certain career such as the time commitment or possibly the need for some respondents to attain further educational qualifications before they could be considered (Arnold et al., 2006). Asking respondents about the perceived “difficulty” or

“ease” of pursuing a particular profession does not permit a distinction to be made between ease or difficulty in relation to external (e.g., availability) and internal (e.g., confidence) factors.

The low contribution of perceived behavioural control may, however, also be attributed to the occurrence of unfamiliar and familiar behaviours (Arnold et al., 2006). University students are aware of some of the possible obstacles that may intrude with their prospective career pursuits; however their inability to overcome or sufficiently address difficulties may be contributing to their reduced effort with pursuing their career of choice. Students may be unfamiliar with the expectations of the career they intend to pursue (Arnold et al., 2006). Perceived behavioural control was conceptualised to capture non-motivational factors of available opportunity and resources (e.g., time, skills, and money). These non-motivational control factors were further hypothesised to influence intentions through anticipation from past experience (Ajzen, 1991). It is unknown whether the participants have had prior direct experience in their chosen field. The unfamiliarity may have resulted in an inability of the university students to sufficiently manage control influences, and consequently may explain why perceived behavioural control was a non-significant predictor of intention in the present study (Arnold et al., 2006). Hence, it can be argued that if the participants had experience in their chosen career, the contribution of perceived behavioural control may have been higher.

The addition of the perceived behavioural control component to the TRA was made specifically to enhance the model’s ability to account for variation in behaviour in situations where volitional control might be low. Another likely explanation for its lack of influence in the present study may be linked with the participants’ perceptions of personal control over career choice. It may be that career choice, in this sample, is thought to be greatly under volitional control. Perhaps under such conditions, the TPB simply reduces to the TRA (Sutton, McVey, &

Glanz, 1999). The TPB was developed specifically to account for behaviours for which perceived and actual control may be low. Hence when control is high, the TPB reduces to the TRA (Sutton et al., 1999). Whether such high perceptions of personal control are present in earlier stages of the career choice process is uncertain, but possibly this is less likely and worthy of research attention (Millar & Shevlin, 2003). The significance of perceived behavioural control (as well as attitudes and subjective norms) in the prediction of intention is also assumed to vary across situations and behaviours. That is, for behaviours where (for instance) attitudes are strong, perceived behavioural control may be less predictive of intention (Ajzen, 1991).

Ajzen (1991) proposed that external variables such as socio-demographic variables (e.g., age, gender etc.) can influence intention to become a professional in the discipline studied through the other constructs, attitudes, subjective norms, or perceived behavioural control (Tolma et al., 2006). Moreover, it can be argued that the perceived behavioural control component represents the external characteristics (nature of particular behaviour being explored, and situational variables), hence the inclusion of external characteristics as a distinct construct may be unnecessary. However, Ajzen (1985) did not originally conceptualise control factors to include demographic factors, suggesting that their influence may not be mediated through the effect of perceived behavioural control, or the other TPB components (Tolma et al., 2006). This proposition was supported, with the demographic variables contributing 12% to the variance in intention, when added to attitude (measured by valence), attitude (measured by arousal), perceived behavioural control, subjective norm and self-identity model. This model further accounted for the largest percentage of variance (65%) in intention to become a professional in the discipline studied. None of the socio-demographic variables (age and gender), however, were determinants of career intention.

Results of the present study should be considered in the context of additional limitations.

One of the major limitations, as pointed out several times, is the insufficient number of non-intenders to explore whether student intenders and non-intenders differ with reference to the TPB variables in their career choices (Watt & Richardson, 2007). Thus the models in the present study were unable to provide appropriate measures for the prediction of becoming a professional in the discipline studied, due to the extremely poor specificity of the models. A suitable measure generates both good specificity and sensitivity. This, however, is to be expected as studying for a particular discipline well influences one's motivation to choose this career (Watt & Richardson, 2007). There may be instances where students have failed to be accepted into their career of choice or otherwise been unable to pursue their initial career choice. Thus not so much choosing a career, and instead defaulting to it. Future studies should aim for a better representation of intenders and non-intenders to confirm the significance/non-significance of the present results (Watt & Richardson, 2007).

Furthermore, the participants in the sample were primarily second and third year undergraduate university students, residing in Western Australia. Hence the university source yielded a convenience sample. Thereby, generalisation of the results to non- West Australian university students remains to be tested through empirical validation (Smith, Tran, & Thompson, 2008). Moreover, as a result of sampling constraints more than half of the participants were in their early twenties, and female. Future research, then, should aim to include a more representative group of people (Mason & White, 2008).

The present study also excluded 22 respondents due to missing data (listwise deletion). However, this is usually not an advisable method (Schlomer, Bauman, & Card, 2010). One issue with this approach is that if the cases with missing values varied in some way from the completed

cases, then the remaining cases will be a biased subsample of the total sample, and the analysis may consequently produce biased results (Schlomer et al., 2010). Listwise deletion can also result in a loss of statistical power. However, missing data can be included on the basis of missing data procedures (e.g., mean substitution, multiple imputation, and full information maximum likelihood) (Schlomer et al., 2010).

Another further limitation regarding the current study is the use of a correlational design. This raises a crucial question with reference to making inferences about causation (Abraham & Sheeran, 2004). However, this does not mean that the results will be invalid. Rather it is the initial and required step in investigating the TPB. Thus, future research should integrate a prospective study involving experimental designs to reveal and support the underlying patterns of prediction (Abraham & Sheeran, 2004).

A self-reported measure of career choice was utilised. The focus on self-report data may open the research to consistency biases (Conner, Norman, & Bell, 2002). In particular, the findings would be strengthened by more objective behavioural measures including observations of career choice behaviour, validation by significant others or a longitudinal study. However, this would be impractical for a 4th year project. Nevertheless, there is still reason to believe that the findings will have some generality. Meta-analytic findings have demonstrated that TPB predicts objectively measured behavior nearly as well as self-reported data (Armitage & Conner, 2001b). It would still, however, be advantageous to apply the TPB to a more objective measure of career choice than self-report (Elliot, Armitage, & Baughan, 2003).

Summary and Conclusions

The current study represented a test of the TPB in the context of career choice, among a university sample. Additionally, this study has built upon past TPB research, with the measure of

attitude extended to include valence and arousal (rather than valence alone), suggested by Bradley and Lang (1996) to be the two main dimensions of emotional experience. To the researcher's knowledge, this is the first study to have employed an additional attitude component (being arousal) with the TPB model. More importantly, the study has expanded upon Arnold et al. (2006) by demonstrating that the inclusion of both valence and arousal in the measurement of attitude increased the percentage of variance accounted for in career intentions, amongst a sample of university students. Hence, the results of the present study are encouraging, and provide researchers with a framework that may assist in addressing and explaining the unaccounted for variance in intention apparent in TPB research. Employing both valence and arousal in the measurement of attitude may assist the explanation of a number of significant effects that may have been confounded by a valence only measurement of attitude (Mano, 1997). The fact that the majority of past research did not acknowledge a more detailed description of attitude may have further prevented a better understanding of emotion's influence on attitude, and in turn intention (Mano, 1997). Finally, attitude measured by arousal appeared to be a better predictor of intention to become a professional in the discipline studied, compared to attitude measured solely by valence, and this may be worth replicating in other populations and contexts.

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Appendix A

Career Choice Questionnaire

Please only complete this part of the questionnaire if you are studying at university. Are you studying at university? (indicate by placing a X over the box)

Yes

No

Please indicate your chosen profession (professional discipline you are currently studying)

Psychology

Engineering

Law

Other, please indicate _____

Year of study:

First

Second

Third

Postgraduate

Instructions for completion:

There are no right or wrong answers to the questions that follow, but please be accurate. On the other hand do not spend time thinking about your responses as your initial reaction is probably the most accurate. Please choose one response only.

The first set of questions is designed to determine how excited or calm the description makes you feel.

If the description makes you feel stimulated, excited, frenzied, jittery, wide-awake, or aroused, then you should mark the option on the left (High Arousal).

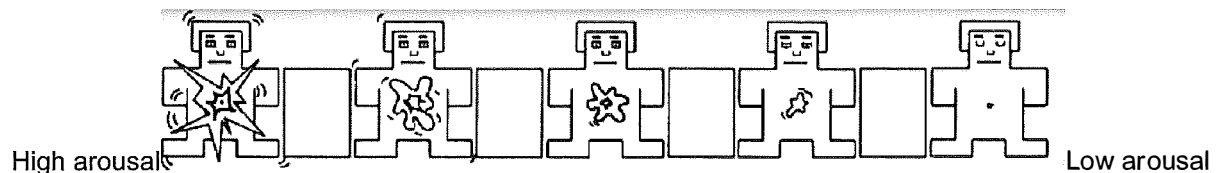
If you feel completely relaxed, calm, sluggish, dull, sleepy, or unaroused by the description, you should mark the option on the right (Low Arousal).

If you are not excited nor at all calm, mark the option in the middle of the row. Again, if you wish to make a more finely tuned rating of how excited or calm you feel, mark the option corresponding with the space between the pictures.

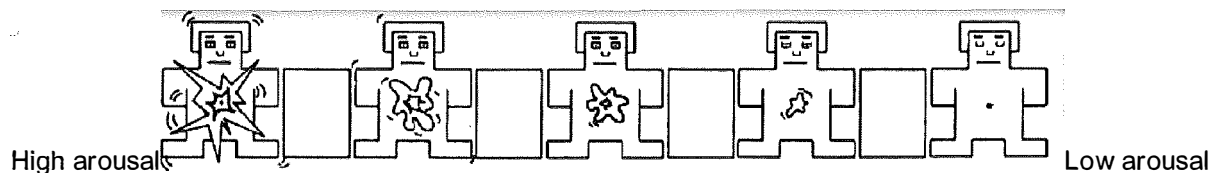
"Chosen profession" refers to the professional discipline you are currently studying

Please choose the option, by placing an X in the manikin, which best indicates your level of arousal to the following descriptions of becoming a professional in the chosen discipline corresponding with the manikin.

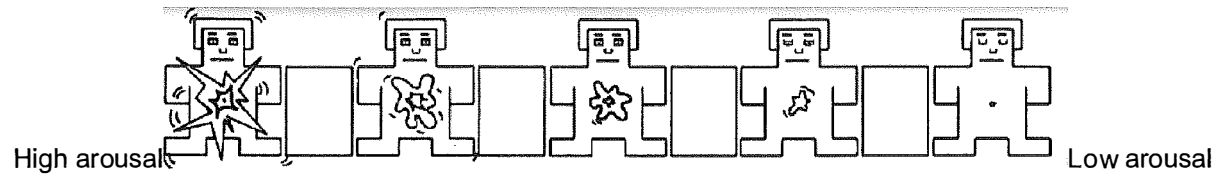
I really feel alive when I think about becoming a member of my chosen profession (professional discipline you are currently studying)



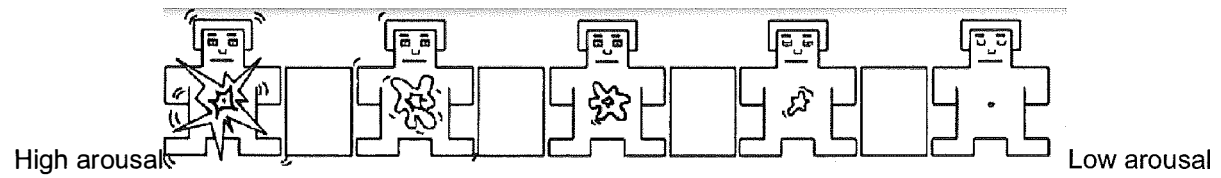
I want to become a member of my chosen profession (professional discipline you are currently studying) because I would enjoy doing it



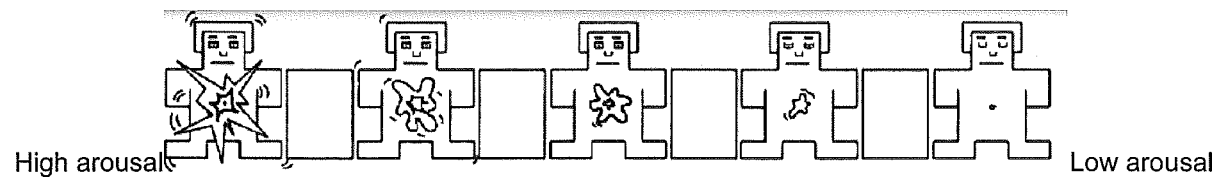
I want to become a member of my chosen profession to be admired



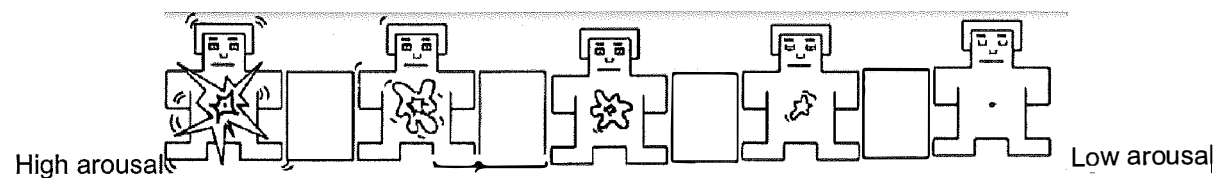
I feel excited when I think about becoming a member of my chosen profession

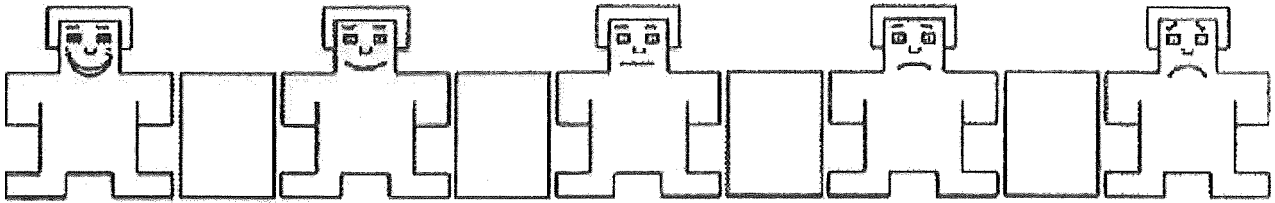


To me, becoming a member of my chosen profession would be an achievement



I feel proud when I think about becoming a member of my chosen profession





Please choose the options, by placing an X over the box, that best represent your thoughts about becoming a professional in the discipline you are currently studying corresponding to the manikin above

Good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bad
Beneficial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Harmful
Pleasant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unpleasant
Enjoyable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unenjoyable
Valuable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Worthless
Wise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unwise
Responsible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Irresponsible

Please choose the option, by placing an X over the box, which best represents your beliefs about becoming a professional in the discipline you are currently studying.

The people in my life whose opinions I value would disapprove/approve of me becoming a professional in the discipline I am currently studying

Disapprove Approve

Most people who are important to me think that I should become a professional in the discipline I am currently studying

Should Should Not

I think that I should become a professional in the discipline I am currently studying to comply with the wishes of people who are important to me

Should Should Not

For me to become a professional in the discipline I am currently studying would be

Impossible Possible

Easy Difficult

If I had an opportunity to become a professional in the discipline I am currently studying, I would:

Most definitely Most definitely not

I believe in the principles that underlie the profession I have chosen.

Strongly agree Strongly disagree

In the future I will become a professional in the discipline I am currently studying

Yes/ No (Please circle)

To enable us to ensure that we collect data from a wide range of participants please complete the following questions. Please remember that all information is confidential and that we cannot identify you in any way.

Age (In years): _____

Gender: Male / Female (Please circle)

Appendix B

Participation Information Sheet

Edith Cowan University

270 Joondalup Drive

JOONDALUP WA 6027

Phone: [REDACTED]



Application of the Theory of Planned Behaviour to Career Choice: The Role of an Improved
Measure of Emotion

Your involvement in the study will require that you complete a questionnaire on “career choice” which should take approximately 10 minutes in total.

The questionnaire will assess your attitudes towards the profession you have chosen, how you think other people would respond to your chosen profession, your perceived control over becoming a professional in your chosen area, and self identity.

Your participation is voluntary and you can terminate the experiment at any point. The questionnaire information is deidentified and the information presented will be kept confidential. We would be pleased to answer any questions you may have. Your participation is greatly appreciated!

There is a possibility that this study will be published. If this is the case, then the deidentified data will be kept for five years following publication in a secure filing cabinet at the University. If you would like further information, you can contact me, my supervisor, or an independent representative of Edith Cowan University on contact details provided below.

Saveta Tegova (Researcher)

Phone: [REDACTED]

Email: [REDACTED]

Dr Ken Robinson (Supervisor)

Phone: [REDACTED]

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Phone: [REDACTED]

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Dr Justine Dandy (independent representative of ECU)

Phone: [REDACTED]

Email: j [REDACTED]

Yours sincerely, Saveta Tegova

Appendix C

List of "Arousing" Words

Affective Norms for English Words (Bradley & Lang, 1999)

Description	Arousal Mean
Alive	5.50
Enjoy	5.20
Admired	6.11
Excited	7.67
Achievement	5.53
Proud	5.56

