

Running Head: Model of Meaning in Work

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To all those who completed my survey - may you all find meaning in work.

To Frank Bond for his guidance and advice.

To Mum and Mike, who made my escape from the past possible.

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Abstract

The aim of this study was to identify a model which sought to predict the experience of meaning in work (MIW), and to test whether MIW mediated the outcomes of employee engagement and psychological well-being (PWB).

In particular, the study examined whether four predictor variables -strength of purpose, type of purpose, strengths use, and work role fit - were associated with the experience of MIW. Two further moderating variables were also proposed: transformational leadership (TL) and psychological flexibility (PF).

Results, based on correlation and multiple regression analyses, showed that each of the four predictor variables was strongly associated with MIW. Of particular interest was the role of transcendent purpose, which had a significantly greater association with MIW than self-related purpose. In turn, MIW mediated the outcomes of employee engagement and PWB.

These results support the importance of identifying MIW, both for individuals and organisations. They are also suggestive of a wide range of practical applications, not least the ability to increase MIW by focusing on the predictor variables assessed.

Identifying a Model of Meaning in Work for Individuals

The experience of 'meaning' in life has been shown to predict greater resilience (Britt, Adler, & Bartone, 2001), faster recovery from injury (Thompson, Coker, Krause & Henry, 2001), lower burnout (Pines, 2004) and better mental flexibility (Lapierre, Dubé, Bouffard, & Alain, 2007). However, there is less research to support the concept of meaning in work (Steger & Dik, in press).

Most research into meaning in work (MIW) either focuses on one specific predictor (e.g. Arnold, Turner, Barling, Kelloway, & McKee, 2007) or positions it as an outcome of objective job characteristics (e.g. Hackman & Oldham, 1980). Models of MIW have been hypothesised at an organisational level (Pratt & Ashforth, 2003) but no such model aimed at individuals exists or has been tested empirically. Research often studies the issue indirectly, using variables such as work as a calling (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997) or work commitment (Loscocco, 1989). Where the subject has been tackled directly, there is evidence that people with a strong sense of MIW exhibit greater engagement (May, Gilson & Harter, 2004), citizenship behaviours (Purvanova, Bono & Dzieweczynski, 2006), psychological well-being (Arnold et al, 2007) and productivity (Thakor & Joshi, 2003). However, the operationalisation (and even definition) of MIW tends to vary with each study, which makes definitive judgments about the nature of MIW difficult to make.

Therefore, despite growing interest in the subject (e.g. Bains, 2007) there is a shortage of information for people who ask: how can I increase my own meaning in work? Steger and Dik (in press) argued that there is a need to develop a coherent theory of work as meaning which articulates what specifically makes work meaningful and what consequences follow from finding MIW. Wrzesniewski (2003) has also called for research into how MIW is shaped, arguing that there are likely to be similarities in how MIW is created, and the effects it has.

This study is designed to help contribute towards such a model of MIW and has three principal objectives. The first is to identify the main predictors of MIW. In order to be of practical use, these predictors must be under the control of the individual so they can be used in interventions to increase MIW. The aim is to focus on subjective rather than objective characteristics of work, which have been adequately covered by work design models (e.g. Hackman & Oldham, 1980) and are often under the control of managers rather than employees. Second, this study seeks to confirm that MIW is associated with beneficial

outcomes for both organisations and individuals. The final objective is to help clarify the definition and measurement of the MIW concept.

Taken together, this represents a contribution towards identifying a model of MIW for individuals, in which meaning is positioned as a key predictor and mediator of beneficial outcomes for both organisations and individuals.

Defining meaning in work

Finding meaning in work has been variously defined as “finding a purpose in work that transcends the financial” (Arnold et al 2007, p198), as relating to “a process of sensemaking” (Pratt & Ashforth, 2003) and to a perception that work ‘counts’ in someone’s own system of values (Thakor & Joshi, 2003). Meaning *in* work has also been distinguished from meaning *at* work; the latter being more concerned with meeting relational needs and the former concerned with the meaning derived from actually doing one’s work (Pratt & Ashforth, 2003).

Klinger (1998) showed that meaning has consistent etymological roots, namely 1) to have in mind as purpose, and 2) to signify. Steger and Dik (in press) recently used this definition to propose that meaning consists of two primary components: purpose and comprehension. Despite the relative clarity of even this definition, there remains a need to differentiate between these two concepts to operationalise them as part of a single coherent model of MIW.

Klinger (1998) argued that meaning can be seen from an evolutionary perspective. Humans evolved as motile, adaptive organisms who survived primarily by being able to respond to their environment. Life is a succession of context-dependent goals which humans are hardwired to meet. Evolution has supported this: the role of cognitive processes is primarily to *understand* the potentially aversive external stimuli reaching us during our pursuit of goals so that action can be taken. By acting as early, innate responses to stimuli, emotions focus our attention on action – the key to our survival. Klinger argued that the role of cognitive processing is therefore to manage the process of comprehension, working to sort out “the ambiguous or confusing stimuli...until they can be dismissed as irrelevant, or channelled into the emotional / motivation / action systems” (p31).

The experience of not comprehending the stimuli reaching us is often associated with acute feelings of discomfort. However, when something is subsequently understood, we experience the ‘aha!’ response, which has been shown to be affectively pleasant (King, Hicks, Krull, & Del Gaiso, 2006). At its simplest level, meaning (or comprehension) indicates

that the individual knows how to respond in terms of both emotion and goal-directed action. As Baumeister (1991) argued, meaning is therefore a process of sense-making which connects an individual's existence to a wider understanding of the world. The adaptability of humans can be explained by the need to understand ourselves *in context*, because that has always been essential to our survival.

In terms of this study's definition, comprehension and purpose are related, but distinct. Purpose, which is innate, leads us to encounter a mass of different stimuli in pursuit of goals. Comprehension may or may not ensue from these encounters, but the process of evaluation (i.e. cognition) is ongoing (e.g. Ryff & Singer, 1989a). Where comprehension is not achieved, unease often follows, but where it is, a sense of meaning occurs which is rewarded affectively. Comprehension is therefore the *outcome* of purpose. Meaning is comprehension in context: whether that is understanding a word in a sentence or the meaning of one's life in relation to the world.

Following these arguments, comprehension (or meaning) can only be enhanced by increasing our understanding of ourselves, others and our place in the world. In relation to meaningful work, Steger and Dik (in press) suggested that MIW depends on our ability to understand ourselves, our role and our organisation in context. The predictor variables in this study therefore reflect this definition, and all are conceptually linked to comprehension.

The full model is now presented, with each of the predictor variables described in turn followed by the outcome variables. A diagram of the proposed model can be found at Appendix 1.

Strength of purpose and MIW

Purposes have been defined as a type of high-level, unifying goal, which help to organise lower-order goals in terms of day-to-day activity (e.g. Damon, Menon & Bronk, 2003). When applied to work, having a strong and clear purpose is likely to involve high intrinsic motivation and persistence of effort. In so doing, purposes are responsible for the nature and extent of potentially aversive external stimuli encountered on a daily basis. Over time, this increases an individual's understanding of themselves, their organisation, and how they fit within the world around them (Steger & Dik, in press).

Whilst everyone has purpose, the strength or clarity of purpose can vary. For example, Emmons (2005) found that unifying and deeply held goals (i.e. as part of a religious framework), invest human existence with greater meaning, but that goal conflict impairs well-being.

This study hypothesises that strength of purpose increases levels of activity and focus which in turn leads to greater exposure to a wider range of stimuli. Over time, this is likely to lead to greater comprehension, or meaning.

Hypothesis 1: Strength of purpose predicts MIW.

Type of purpose: self-related and transcendent purpose and MIW

If strength of purpose is significant to MIW, then so is type of purpose. Steve Jobs, CEO of Apple, says that Apple's mission is to 'dent the universe'. That is, their collective purpose is beyond the success of the company or any individual. They are driven to make a difference in the world above and beyond mere profit.

This study hypothesises that individuals also have different types of purpose. Those with 'self-related' purpose include those who see the primary objective of work as making as much money as possible and making a success of themselves. On the other hand, those with a transcendent purpose have goals which extend beyond this. They want to change the world in some way; to dent the universe.

It is assumed that most people have self-related purpose, but this varies both in strength and in relation to transcendent purpose. Many theories of motivation start from the viewpoint that the individual rationally seeks to maximise their utility (for review see Shamir, 1991). However, Shamir (1991) argued that humans can also be motivated by self-expression and a desire to transcend their own experience as much as by personal gain. In the context of this study, this translates to a transcendent purpose.

Self-related purposes are not selfish nor are transcendent purposes selfless. For example, it is perfectly possible to have a self-related purpose of making money to provide for one's children. Conversely, it is reasonable to assume that transcendent purposes can be evil. The difference is in terms of a qualitative interaction with the world. Those with only self-related purpose will be focused on themselves and their immediate surroundings. How they do their job will be altered only in so much as it directly affects their own experience. Those with a transcendent purpose will have a wider experience, because their aim is to affect the world around them through their work. Thus over time, a transcendent purpose would bring someone into contact with more stimuli than the narrower self-related purpose, and eventually to greater comprehension.

A strong self-related purpose will create a certain amount of meaning, as it will tend to unify and clarify information in the immediate vicinity. However, comprehension is further

enhanced by full engagement with the world, and full engagement implies a transcendent purpose.

Hypothesis 1a: A transcendent purpose will predict significantly greater MIW than self-related purpose.

Use of strengths and MIW

The use of strengths at work has been shown to predict greater psychological wellbeing (PWB), self esteem, self efficacy and engagement (Govindji & Linley, 2007; Harter, Schmidt & Hayes, 2002). Peterson and Seligman (2004) argued that using one's strengths is characterised by "a sense of ownership and authenticity vis-à-vis the strength, and a feeling that 'this is the real me'" (p18). Strengths use has also been linked theoretically with the organismic valuing process which can be understood as an authentic inner voice which helps guide self-concordant development (Linley & Harrington, 2006b).

It is hypothesised that by understanding one's own strengths, individuals display and experience a certain amount of self-understanding. By consistently *using* strengths at work, this also implies some understanding of what the world needs in terms of that individual's contribution. Indeed, by enhancing self confidence and self efficacy, those using their strengths are more likely to pursue more contact with the world, which thereby reinforces the likelihood of creating greater MIW.

Hypothesis 2: Use of strengths at work predicts MIW.

Work role fit and MIW

Work role fit refers to the relation of the individual employee to the role that s/he performs in the organisation (Kristof, 1996). Researchers have linked work role fit to meaning due to the connection between a person's sense of identity and the role which they fulfil at work (e.g. Brief & Nord, 1990; Shamir, 1991). This resembles person-environment fit theories which contend that work satisfaction and employee engagement depend on the 'fit' between how well a worker's abilities, interests and values match the requirements of the organisation (e.g., Dawis & Lofquist, 1984; Finegan, 2000). May et al (2004) provided empirical evidence for such a link by showing that work role fit predicts engagement, mediated by meaningfulness of work.

It is anticipated that if someone understands their role in an organisation as congruent to their own identity then this suggests a level of comprehension of both self and organisation, which predicts greater MIW.

Hypothesis 3: Work role fit predicts MIW.

So far, the proposed model relates directly to comprehension of self (purpose and strengths) and fit with job (work role fit). However, it is worth considering what other variables might enhance MIW. For example, a personality-based variable related to learning could reasonably be predicted to increase comprehension, both directly and as a moderator of other predictors. In addition, the impact of leadership in helping someone to understand their job in context could also be expected to enhance MIW. Two further variables which are expected to both predict and moderate the effects of the other predictor variables are now described in turn.

Transformational leadership and MIW: main and moderator effects

There are strong theoretical grounds to suspect that transformational leadership (TL) will predict MIW when using the definition of meaning as comprehension. Bass (1990) argued that transformational leadership occurs “when leaders broaden the interests of their employees” and “generate awareness and acceptance of the purposes ... of the group” (p21). Such leaders are more likely to help employees understand the nature and functioning of the organisation as well as its wider role in society (Steger & Dik, in press). Arnold et al (2007) provided empirical evidence for such a link by demonstrating that TL exerts a positive influence on the PWB of workers, and that this is mediated by perceptions of meaningful work.

If a transformational leader can enhance meaning, then it is hypothesised that TL could also work in accordance with (or moderate) other predictors of MIW. For example, Shamir (1991) argued that the main effect of TL is to help workers transcend their own self interest. If this helps develop or nurture a transcendent purpose then there will be a moderating effect. It is hypothesised that TL will help people to understand themselves better in relation to their role and organisation, which in turn leads to MIW.

Hypothesis 4: There will be a main and moderating effect of TL on MIW.

Psychological flexibility and MIW: main and moderator effects

Psychological flexibility (PF) is defined as contacting the present moment as a conscious human being, and, based on what the situation affords, acting in accordance with one’s chosen values (Hayes, Strosahl, Wilson, Bissett, Pistorello, Toarmino, 2004). Bond & Flaxman (2006) showed that those high in PF are better able to take advantage of extra control over

their work, and that learning is a mediator of this process. As PF is predictive of learning, and learning is linked to comprehension, a main effect with MIW is hypothesised.

According to the context sensitivity hypothesis (Bond & Flaxman, 2006), people with higher PF are not as entangled in thoughts and emotions so are better able to notice and take advantage of the opportunities to work towards their goals provided by greater job control. Theoretically, those high in PF will also be more aware of the opportunities available to them to make progress towards their purpose, make use of their strengths and develop their fit with the organisation, which over time will increase their levels of understanding and meaning. Therefore a main *and* moderator effect of PF is anticipated. A final benefit is that unlike other trait-like constructs PF can also be increased, thus fitting the objective of a usable model.

Hypothesis 5: There will be a main and moderating effect of PF on MIW.

As previously discussed, the benefits of MIW are wide-ranging. This study examines one individual and one organisational outcome which can be seen to underpin many of the important benefits which have already been examined in the literature.

MIW and employee engagement: main and mediating effects

In research spanning over 4.5 million employees, the Gallup Organisation (2008) found that organisations with the most highly engaged employees reported earnings per share growth of 2.6 times that of organisations with engagement levels in the third and fourth quartiles. Engagement has also been positively associated with employee outcomes such as increased productivity, customer satisfaction, job satisfaction, organisational commitment, and negative turnover intention (Demerouti, Bakker, De Jonge, Janssen and Schaufeli, 2001; Konrad, 2006).

Kahn (1990) argued that engagement refers to how staff members employ themselves physically, cognitively and emotionally during work and that this is intrinsically linked to self-expression. Similarly, Shamir (1990) argued that job motivation is an interaction between self-concept, the job and the context in which it is performed. Building on this research, May et al (2004) found that Kahn's 'meaningfulness' condition contributed the most to levels of engagement. Conversely, lack of meaning in work is associated with a "decoupling of the self" (May et al, 2004, p12) and can lead to disengagement (Aktouf, 1992).

It is hypothesised that those who experience MIW are likely to be more engaged in their work due to greater congruence between self and context, and that it is comprehension that

mediates this process. If strength and type of purpose, strengths use and work role fit predict MIW, and MIW predicts engagement, then it is MIW that acts as a mediator of engagement in the model.

Hypothesis 6: MIW mediates the relationship between strength of purpose, type of purpose, strengths use, work role fit and employee engagement.

MIW and PWB: main and mediating effects

Meaning already features prominently in the coping literature: finding meaning in negative events is consistently shown to predict recovery (Davis, Wortman, Lehman & Silver, 2000). Research has also demonstrated that meaningful activities are associated with absorption and enjoyment (Csikszentmihalyi, 1996; Ryan & Deci, 2001). Reker and Wong (1988) noted that “the realization of personal meaning is always accompanied by feelings of satisfaction and fulfilment” (p221). Wong (1998) found that people with a stronger sense of personal meaning had a better sense of well-being and those with less developed personal meaning registered higher on a depression scale. Indeed, Ryff and Singer (1998) even argued that positive mental health includes the assumption that life has meaning.

In the work environment, Arnold et al (2007) found that meaningful work is the mechanism through which transformational leadership exerts positive influence on psychological wellbeing (PWB) and this study seeks to extend this finding of mediating effects to the other predictor variables.

Hypothesis 7: MIW mediates the positive relationship between strength of purpose, type of purpose, strengths use, work role fit and PWB.

Given a mediating role for MIW in the outcomes of engagement and PWB, and a potential moderating role of PF and TL on the predictor variables, a moderated mediated model can be predicted (Baron and Kenny, 1986). Thus, people with strong purpose, work role fit and consistent use of strengths will experience greater engagement and PWB via MIW. These mediating effects will be greater for people who are higher in PF and / or who experience TL. That is, PF and/or TL will moderate the effects of the predictor variables on the mediator.

Hypothesis 8: The interaction between PF and TL and the predictor variables on the mediator MIW constitute a moderated mediated model.

Control variables

Demographic variables that might increase comprehension were examined to see if they influence the results. Three variables related to longevity were identified as control variables: age, time in organisation and length of career.

Method

Participants

In a cross-sectional survey design, a convenience sample of 497 full-time working adults was recruited via various websites as well as friends and colleagues of the researcher.

There was a completion rate of 78.2%, leaving 404 usable responses. 33% of the remaining participants were male and 67% female. 35% of participants were aged 30 or below, and 23% above 41. 42% of all participants were ten years or more into their career, and 46% had been with their current organisation for between 1 and 5 years (see Appendix 2).

Instruments

Unless otherwise stated, each instrument was measured with a Likert-type scale, with respondents indicating the extent to which each statement is true of them in their working life using a seven-point scale from 1 (strongly disagree) to 7 (strongly agree).

Predictor variables

Strength of purpose. The five work-related items from the Purpose in Life scale (Ryff, 1989) were used to measure strength of purpose, with high scorers defined as having clear goals and a sense of directedness. The internal consistency estimate (using Cronbach's alpha) was .715 for this scale.

Self and transcendent purpose. The researcher devised two new scales, based on the Categories of Identified Purpose (Stanford Center for Adolescence, 2008) to measure the 'self' and 'transcendent' purpose constructs. Higher scores indicated stronger transcendent / self-related purpose. The alpha coefficients were .858 for the transcendent scale and .699 for the self-related purpose scale.

Strengths use at work. Ten work-related items were used from the 14-item Strengths Use Scale (Govindji & Linley, 2007). The scale measures the extent to which strengths are used at work with higher scores indicating strengths used more often. The ten items formed a single factor and the alpha coefficient in this study was .923.

Work role fit. Work role fit was measured by using the same scale as May et al (2004) which directly measured individuals' perceived fit with their jobs and self-concept. This four-item scale uses a Likert format from 1 (strongly disagree) to 5 (strongly agree) with higher scores indicating better work role fit. The alpha coefficient was .906.

Psychological flexibility. The Acceptance and Action Questionnaire 2 (Bond, Hayes et al, submitted) is a ten-item measure of flexibility, assessing people's ability to focus on the present moment and act in a way that is congruent with values and goals (Hayes et al, 2004). Each item is rated on a seven-point Likert-type scale labelled "Never true" (scored 1) to "Always true" (scored 7), with higher scores indicating greater PF. The alpha coefficient was .868.

Transformational leadership. The eight-item transformational leadership scale used by Arnold et al (2007) was used to measure TL. Participants were asked to rate how often their supervisor engages in behaviours specific to each of the four dimensions of transformational leadership, as measured by the Multifactor Leadership Questionnaire (Bass & Avolio, 1995). The items are measured on a five-point scale ranging from 0 (not at all) to 4 (frequently, if not always). Higher scores indicate a perception that the supervisor exhibits more transformational leadership behaviours. The alpha coefficient was .930.

Meaning variables

Three scales used recently in research to measure MIW were used in this study, with a fourth composite scale formed from these scales.

Meaning 1: Psychological meaningfulness. Six items used by May et al (2004) measured the degree of meaning that individuals discovered in their work-related activities. Respondents rated items on a scale ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating greater perceived meaning derived from work. The alpha coefficient was .941.

Meaning 2: The Work as Meaning Index (WAMI). The WAMI was developed from the Meaning in Life Questionnaire (Steger, Frazier, Kaler & Oishi, 2006) and yields five subscales, of which two relating to MIW were used in this study. Respondents rated 10 items with higher scores indicating greater perceived meaning derived from work. The alpha coefficient was .922.

Meaning 3: Meaningful work. Arnold et al (2007) conceptualised meaningful work as "finding a purpose in work that transcends the financial" (p198). Respondents rated four

items on with higher scores indicating greater perceived meaning derived from work. The alpha coefficient was .906.

Composite meaning scale. In order to reduce the number of items in the scale, all 20 items from the above three meaning scales were entered into a principal component analysis and the 12 highest loading items included in a composite MIW scale (see Appendix 4). This composite scale was subsequently used as the Dependent Variable (DV) in all relevant analyses, unless stated otherwise. Higher scores indicated higher MIW. The alpha coefficient was .955 for the composite scale.

Outcome variables

Employee engagement. As with May et al (2004), employee engagement was measured by using 12 items on a five-point Likert scale each reflecting one of Kahn's (1990) three components of engagement. An exploratory factor analysis failed to reveal three separate and reliable scales, so a single overall engagement scale was used where higher scores indicated higher engagement at work. The alpha coefficient was .822.

Psychological well-being. As per Arnold et al (2007), this variable was measured using the six positively worded items from the General Health Questionnaire (Goldberg, 1972). Participants were asked to identify how often (in the past three months) they had experienced various symptoms, the response scale ranged from 1 (never) to 4 (all the time), with higher scores indicating more positive PWB. The alpha coefficient was .876.

Procedure

Participants were invited to take part in the study via e-mail and various websites, including Facebook, Linked In and the researcher's own blog. The only criterion was that they should be in full time work. All participants were informed of their right to withdraw their data from the study at any time and were assured of the anonymity and confidentiality of their responses. Participants were asked to complete the informed consent form and read the instructions prior to completing the survey online.

Participants followed the written instructions in the survey and were presented with 11 measures and 88 items in total. No time limits were set and no incentive was offered for taking part in the study. The questions were presented in a different order within each scale to control for potential order effects. Once participants had completed the survey they were debriefed. See Appendix 7 for full survey details.

Data Analysis

93 of the 497 cases had a significant number of missing cases and were removed. After this, missing data was around 2% and deemed missing at random, so the researcher used his own knowledge to fill in missing data (Tabachnik & Fidell, 2007). All remaining data was within the correct range, and histograms and scatterplots showed fairly normal distributions with no concerns over linearity or heteroscedasticity.

A small number (3%) of univariate outliers were identified using z-scores, but such deviations are expected in a sample of this size (Tabachnik & Fidell, 2007), so no action was taken. Thirteen multivariate outliers were also found against the critical χ^2 value of 37.70 ($p = 0.001$), but once again as these cases represent 3% of the total sample, no action was taken. There was no evidence of multicollinearity. Z-scores were used in all analyses in order to ensure variables could be compared meaningfully.

Overall, initial data screening did not reveal any violations of assumptions for the statistical analyses used.

Data Analyses

Descriptive statistics on all main variables were produced, including means and standard deviations (see Appendix 3). Factor analysis was carried out on the type of purpose measure to distinguish the self and transcendent purpose scales. As no theory was driving any distinction between the three meaning scales, principal components analysis was used to identify the highest loading items and create a composite meaning scale (see Appendix 4).

Correlation analyses were then used to assess the bivariate relationships between variables. Multiple regression analyses were conducted on the five main predictors of MIW, and MIW as a predictor of engagement and psychological well-being. An examination of meaning as a mediator of engagement and psychological well-being was conducted using Baron and Kenny's (1986) established four-step procedure. The procedure outlined by Muller, Judd & Yzerbyt (2006) was used to examine the moderated mediated hypothesis.

All statistical analyses are reported with two-tailed levels of significance, with alpha set at .05.

Results

The intercorrelations between major study variables are presented at Table 1, below.

As hypothesised, the composite meaning scale correlated significantly with all predictor variables. As expected, self-related purpose was significantly related to MIW but the strength of this correlation was weaker than that of transcendent purpose.

Significant associations were also found between MIW and the outcome variables of employee engagement and PWB, as predicted. In general, the effect sizes of the associations between the predictor variables and MIW were medium to large, for PF and TL and MIW small to medium, and MIW and the outcome variables, large (Cohen, 1988).

In terms of the potentially confounding effects of the demographic variables, significant but modest correlations were found between age and MIW ($r(404) = .214$, $p < .01$, $r^2 = .046$) but no such correlations with years in current organisation ($r(404) = .069$, $p > .05$, $r^2 = .005$) or years in current career ($r(404) = .035$, $p > .05$, $r^2 = .001$). As age had the only significant correlation with MIW, that alone was controlled in subsequent regression analyses.

Finally, correlations between the meaning scales were also high ($> r = 0.75$), indicating strong associations between the meaning scales. The composite meaning scale was therefore used in all subsequent analyses unless otherwise stated.

Table 1

Bivariate correlations between major study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Transcendent purpose	1.00											
2. Self purpose	.078	1.00										
3. Strength of purpose	.314**	.228**	1.00									
4. Strengths use	.300**	.120*	.609**	1.00								
5. Work role fit	.338**	.183**	.547**	.531**	1.00							
6. Psychological flexibility	.046	.006	.299**	.329**	.185**	1.00						
7. Transformational leadership	.106*	.158**	.339**	.261**	.347**	.179**	1.00					
8. Meaning 1: Psychological meaningfulness	.413**	.132**	.613**	.610**	.770**	.250**	.295**	1.00				
9. Meaning 2: Work as meaning index (WAMI)	.453**	.087	.607**	.519**	.689**	.261**	.272**	.808**	1.00			
10. Meaning 3: Meaningful work	.307**	.095	.636**	.574**	.713**	.285**	.373**	.771**	.796**	1.00		
11. Meaning Composite scale	.399**	.128**	.649**	.629**	.799**	.266**	.330**	.959**	.889**	.877**	1.00	
12. Employee Engagement	.289**	.115*	.556**	.497**	.507**	.135**	.236**	.641**	.527**	.569**	.643**	1.00
13. Psychological well-being	.251**	.110*	.527**	.532**	.504**	.511**	.257**	.564**	.515**	.565**	.594**	.418**

* p < .05. ** p < .01.

Evaluating the proposed model

To ensure clarity, the results of this study are reported in order of the original hypotheses.

Hypotheses 1 – 3: Strength of purpose, type of purpose, use of strengths at work and work role fit significantly predict MIW.

To test the hypotheses that strength of purpose, type of purpose, strengths use and work role fit (the main predictor variables) would be associated with MIW, a standard multiple regression with simultaneous entry of the predictor variables was performed. As noted previously, age was entered into the regression first, in order to control for its effects.

Table 2 shows that the main predictor variables are all significant predictors of MIW, except self-related purpose, supporting hypotheses 1-3. The model as a whole explained 73% of the variance in MIW.

Table 2

Summary of hierarchical regression results with MIW as the dependent variable (DV) and the main predictor variables as the independent variables (IVs) controlling for participant age

Predictors	Step 1		Step 2	
	Standardised β values	R ² change	Standardised β values	R ² change
Age	.214**	.046**	.041	.688**
Strength of purpose			.216**	
Transcendent purpose			.089**	
Self-related purpose			-.043	
Strengths use			.168**	
Work role fit			.562**	

Dependent variable: MIW.

p < 0.05, p < 0.01**.*

Hypothesis 1a) predicted that self-related purpose would predict significantly less MIW than a transcendent purpose. The correlation and regression results show that this hypothesis can also be supported.

In terms of effect size, the regression coefficients in Table 2 (and subsequent tables 3-6) can be considered small at .14, medium at .36 and large at .51 (Cohen, 1988).

Hypothesis 4: Transformational leadership will predict and moderate levels of MIW

Sequential hierarchical multiple regression was conducted in three stages. Age was entered in model 1. The main predictors were entered in model 2 to test their effects and to remove their effects from the cross product, thereby identifying whether the interacting (moderating) effects predicted MIW. Interactions were tested by computing a product term for each of the main predictors - firstly with PF and then TL – which were then entered in model 3 along with their constituent first-order effects (Cohen, Cohen, West, & Aiken, 2003).

Table 3

Summary of hierarchical regression results with MIW as the DV and age (model 1), the predictor variables and TL (model 2) and interactions between TL and the main predictor variables (model 3) as the IVs

Predictor variables	Regression Model					
	Model 1	ΔR^2	Model 2	ΔR^2	Model 3	ΔR^2
Age	.214**	.046**	.044	.689**	.044	.001
Strength of purpose			.212**		.215**	
Transcendent purpose			.090**		.088**	
Self purpose			-.044		-.046	
Strengths use			.167**		.160**	
Work role fit			.557**		.558**	
Transformational leadership			.023		.026	
TL * Strength purpose					.008	
TL * Transcendent purpose					-.026	
TL * Self purpose					-.003	
TL * Strengths use					-.001	
TL * Work role fit					-.007	

Note. Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2

Dependent variable: MIW. $p < 0.05^*$, $p < 0.01^{**}$.

None of the TL*predictor interactions explained a significant amount of variance in model 3, and model 3 was not significantly different to model 2. In addition, the main effect of TL was not significant in either model 2 or 3.

However, when work role fit was removed from the model TL did become significant ($\beta = .110$, $t = 2.972$, $p = .003$), indicating that work role fit and TL share a large proportion of variance in predicting MIW. It is also worth noting that when Arnold's (2007) meaning scale was used as the DV, TL again became a significant main effect ($\beta = .089$, $t = 2.586$, $p = .010$). This indicates that certain measures of meaning are predicted by TL, but other scales are not.

Hypothesis 5: Psychological flexibility will predict and moderate levels of MIW

A sequential hierarchical multiple regression was conducted in three stages, as above. This time, PF formed the interaction with the main predictors.

Table 4

Summary of hierarchical regression results with MIW as the DV and age (model 1), the predictor variables and PF (model 2) and interactions between PF and the main predictor variables (model 3) as the IVs

Predictor variables	Regression Model					
	Model 1	ΔR^2	Model 2	ΔR^2	Model 3	ΔR^2
Age	.214**	.046**	.037	.689**	.039	.003
Strength of purpose			.209**		.198**	
Transcendent purpose			.092**		.095**	
Self purpose			-.042		-.042	
Strengths use			.160**		.173**	
Work role fit			.563**		.559**	
Psychological flexibility			.036		.026	
PF * Strength purpose					-.041	
PF * Transcendent purpose					.019	
PF * Self purpose					-.018	
PF * Strengths use					.015	
PF * Work role fit					-.015	

Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2

Dependent variable: MIW. $p < 0.05^$, $p < 0.01^{**}$.*

As with the TL interactions, none of the potential PF*predictor moderators explained a significant amount of variance and model 3 was not significantly different to model 2. PF did not prove to be a significant predictor in either model. However, PF proved to be a significant main effect when the WAMI meaning scale was used as the DV (see Appendix 5).

Hypothesis 6: MIW mediates the effect of the main predictor variables on engagement.

Baron and Kenny's (1986) four-step procedure was used to establish the mediating role of MIW for both engagement and PWB. Model 1 establishes that there is an effect to be mediated, model 2 that there is an effect of the predictor variables on MIW and model 3 that MIW significantly impacts the outcome when controlling for the main predictor variables. For each model, age was used as a control variable (step 1), with the main predictor variables added at step 2, and (in model 3) MIW at step 3.

Table 5

Hierarchical regression model for testing the mediation of strength and type of Purpose, strengths use and work role fit onto engagement via MIW

	Predictor variables	Regression model					
		Model 1 (Engagement)	ΔR^2	Model 2 (MIW)	ΔR^2	Model 3 (Engagement)	ΔR^2
Step 1	<i>Control variable:</i>		.034**		.046**		.034**
	Age	.183**		.214**		.183**	
Step 2	<i>Predictor variables:</i>		.361**		.688**		.361**
	Age	.069		.041		.069	
	Strength of purpose	.316**		.216**		.316**	
	Transcendent purpose	.062		.089**		.062	
	Self-related purpose	-.008		-.043		-.008	
	Strengths use	.153**		.168**		.153**	
	Work role fit	.222**		.562**		.222**	
Step 3	<i>Predictors with MIW:</i>						.060**
	Age					.050	
	Strength of purpose					.214**	
	Transcendent purpose					.020	
	Self purpose					.012	
	Strengths use					.073	
	Work role fit					-.045	
	MIW					.474**	

*Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2
Dependent variable: Employee engagement. $p < 0.05^*$, $p < 0.01^{**}$.*

At model 1, each of the predictor variables except self and transcendent purpose predicted engagement, thereby establishing that there is an effect to be mediated. In model 2, all of the predictors were found to predict MIW except self-related purpose. Finally, in model 3 MIW was found to affect the outcome variable of engagement whilst controlling for the effect of the predictor variables, so a mediating effect was found.

To establish whether MIW completely mediates these relationships, the effect of the initial variables on engagement whilst controlling for MIW should be zero. Strength of purpose remained significant, though its β score reduced markedly, but the strengths use and work role fit variables became non-significant. Therefore, MIW completely mediates the relationship between strengths use and work role fit and engagement, and partially mediates the relationship between strength of purpose and engagement (Baron & Kenny, 1986).

As a formal test of the mediation model, and because the sample size permitted it, a Sobel test for indirect effects (Sobel, 1982) was conducted. The mediating role of MIW was significant for strength of purpose (Sobel = 4.50, $p < .01$), strengths use (Sobel = 3.88, $p < .01$) and work role fit (Sobel = 6.14, $p < .01$).

Hypothesis 7: MIW mediates the effect of the main predictor variables on PWB.

Baron and Kenny's (1986) procedure was repeated using PWB as the outcome variable.

Table 6

Hierarchical regression model for testing the mediation of Strength and Type of Purpose, Strengths Use and Work Role fit onto PWB via MIW

	Predictor variables	Regression Model					
		Model 1 (Engagement)	ΔR^2	Model 2 (MIW)	ΔR^2	Model 3 (Engagement)	ΔR^2
Step 1	<i>Control variables</i>		.034**		.046**		.034**
	Age	.185**		.214**		.185**	
Step 2	<i>Predictor variables</i>		.353**		.688**		.353**
	Age	.062		.041		.062	
	Strength of purpose	.243**		.216**		.243**	
	Transcendent purpose	.019		.089**		.019	
	Self purpose	-.006		-.043		-.006	
	Strengths use	.246**		.168**		.246**	
	Work role fit	.225**		.562**		.225**	
Step 3	<i>Predictors plus MIW</i>						.025**
	Age					.050	
	Strength of purpose					.176**	
	Transcendent purpose					-.008	
	Self purpose					.008	
	Strengths use					.194**	
	Work role fit					.052	
	MIW					.308**	

Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2 ;

Dependent variable: PWB. $p < 0.05^$, $p < 0.01^{**}$.*

Strength of purpose, strengths use and work role fit significantly predicted PWB in model 1, but self-related and transcendent purpose did not. In model 2, only self-related purpose did not predict the mediator MIW. Finally in model 3, MIW was found to affect the outcome variable of PWB whilst controlling for the effect of the predictor variables. Strength of purpose and strengths use remained significant indicating partial mediation, whereas work role fit became non-significant, indicating full mediation (Baron & Kenny, 1986). The mediating role of MIW was significant for strength of purpose (Sobel = 3.42, $p < .01$), strengths use (Sobel = 3.12, $p < .01$) and work role fit (Sobel = 3.99, $p < .01$).

Hypothesis 8: Psychological flexibility and transformational leadership will form a moderated mediated model of engagement and PWB.

The hypothesis was that the effect of the main predictor variables on the MIW mediator differs as a function of the moderating variables PF and TL. Self-related and transcendent purpose were excluded from the model as they had been non-significant in the mediation models. The model itself was tested using the three-step hierarchical linear regression equations specified by Muller et al (2005).

None of the PF interactions were significant at step 2 or 3 with either engagement or PWB as the outcome, so a moderated mediated model was not found. PF was found to be a main predictor of PWB, but interactions with other variables were not found. Similarly, none of the TL interactions were significant. Full details are at Appendix 6, tables 13-16. A full summary of hypothesis findings can be found at Appendix 1, Table 7.

Discussion

There are three main contributions of this study. The first is that four predictors of MIW were identified, with clear theoretical reasons for why this should be the case. Second, MIW was itself shown to be a mediator of desirable organisational and individual outcomes. Overall, the main hypotheses for the model were supported, and practical applications for its subsequent use are suggested. Finally, although the measures of MIW used in this study correlated highly and proved reliable (and supported the main hypotheses), some notable inconsistencies in their unique predictors were found. The measurement of MIW therefore needs to improve if further progress is to be made in understanding the concept. The lack of effect by the moderating variables TL and PF is also discussed in this context.

Predictor variables

The main predictor variables were all strongly associated with MIW. Perhaps the most significant finding was the clarification of how purpose and comprehension might fit together in a single model of meaning. In this study, purpose is conceptualised as the mechanism by which comprehension (or meaning) is increased. By having a strong purpose which extends beyond the self, meaning is likely to be greater than if a narrower purpose is pursued. A transcendent purpose will lead to exposure to a wider range of stimuli, which over time will lead to more connections, coherence and eventually comprehension.

As with work as a calling (Wrzesniewski et al, 1997), a transcendent purpose can apply to any job. For example, a call centre worker with a self-related purpose may try to deal with each call as quickly as possible and simply get through the day. One with a more transcendent purpose is more likely to try to genuinely help each caller, whatever their problem. Over time, the former is likely to learn little about the world and may experience meaning only with satisfied or compliant callers, or when talking with colleagues. The latter

is likely to learn more about the callers and will be more open to learning what works when helping to solve their problems. Over time, comprehension of callers and their problems (and how to resolve them) will grow and the world will seem more understandable. An outward-focused, transcendent purpose therefore encourages learning. This has the added benefit that the rate of dissatisfied callers should fall, which should in turn create more enjoyable work.

One item within the self-related purpose scale merits further attention. Not only did 'making money' negatively predict MIW, but it was also associated with lower engagement at work. Noticeably, there was no association of making money with PWB. However, the transcendent scale *did* significantly predict PWB. The implication is clear: if you want to be happy and engaged at work, then you need to find a job or identify a purpose which is about more than making money or self-advancement.

Two further predictor hypotheses were only partially supported, and these deserve comment. PF was expected to moderate the other predictor variables in predicting MIW, but no moderation effect was found. It is not clear why PF did not interact with the other predictor variables, as it has previously acted as a powerful moderator with variables such as job control (e.g. Bond, Flaxman & Bunce, 2008). PF did predict MIW as a main effect, but only when using the WAMI meaning scale as the DV. The ability to act in accordance with one's chosen values based on the situation is valuable both in terms of goal achievement and learning. The central hypothesis of this study is that learning is essential to comprehension, so is a powerful meaning creator. However the dependence of this effect on the choice of meaning scale used was not expected. Given that when either strengths use or strength of purpose was excluded from the regression PF *did* significantly predict MIW, this is perhaps reflective of inconsistencies in the measurement of MIW.

Contrary to Arnold et al's 2007 findings, TL did not interact with other predictor variables to predict MIW and (similar to PF) proved to be a main effect only with one of the meaning scales used. There are three potential reasons for this. Firstly, the role of work role fit may be significant. When that variable was removed from regression analyses, TL significantly predicted MIW. That work role fit and TL play a similar role within MIW makes intuitive sense. If a transformational leader makes an organisation's mission and values clearer, then it is feasible that the effect of this is experienced through a feeling that one fits one's job. Therefore, the majority of the variance is likely to 'belong' to work role fit. A second explanation is that the second Arnold study took place using 'stigmatized work roles' (i.e. funeral directors). The implication here is that it might be easier for a leader to have a positive impact on meaning in this type of role. In a mixed population these effects may be less salient and may have been masked. The effects of TL may be most valuable in helping to mitigate a job which lacks meaning but is difficult to leave. Finally, it was noticeable that with the meaning scale used in the Arnold study TL *did*

predict MIW. It is difficult to explain why this might be the case as there was seemingly no difference between items across the MIW scales.

The role of work role fit is worth further discussion. In all analyses it was a powerful predictor of MIW, adding weight to the theory that the notion of congruence is important to MIW. However, it also has a strong effect on other variables: when work role fit is excluded from the regression TL significantly predicted MIW (but PF became less significant). The bivariate correlations between work role fit and TL and PF did not suggest multicollinearity, therefore questions arise over exactly what work role fit is measuring, and in particular how this fits with other variables. It may be that in future studies a more precise definition of work role fit is chosen. As Kristof-Brown, Zimmerman, & Johnson (2005) note, there are multiple types of fit, and in this case it might be that the scale chosen was too similar to the definition of meaning (or indeed the other variables) used in the study.

Outcomes

That MIW predicts engagement and PWB had already been established in the literature. This study replicates these findings by finding a strong association between MIW and the outcome variables, adding robust evidence that MIW is a desirable state to achieve for both individual and organisation. Those who experience work as meaningful, are also more likely to be more engaged and happier. In turn these outcomes have themselves been empirically associated with productivity (Harter, Schmidt & Hayes, 2002), lower burnout (Pines, 2004) and profitability (Gallup, 2008).

This study also contributes to understanding why and how MIW has these beneficial effects. MIW was shown to be a partial mediator of the relationship between strength of purpose and engagement and strength of purpose and strengths use with PWB. MIW completely mediated the relationship between strengths use and work role fit and engagement, and work role fit and PWB. These findings are suggestive of Frankl's belief that humans have a fundamental will to meaning. But MIW's role as a mediator (i.e. by people comprehending more about themselves and their relation to the world) is also a potential step forward in understanding the processes by which concepts like work as a calling (Wrzesniewski et al, 1997) and self-expression at work (Shamir, 1991) are linked to positive outcomes.

Control variables

Neither time in career nor time in organisation was related to MIW, which seemingly confounds the meaning-as-comprehension hypothesis. However, although theoretically MIW will increase as a person understands themselves and their job or career better; the role of the organisation itself must not be forgotten. Comprehension of one's job might increase, but whether this translates into meaningful work depends on the organisation in a way that the predictor variables do not. If someone works for an organisation where (for example) strengths use is not encouraged, then MIW will remain relatively static.

If the organisation itself does not engage in meaningful work and has a relatively narrow focus, then MIW will also have a ceiling. Both of these explanations would relate to the time in organisation control variable, and it is easy to imagine this extending to time in career.

Age is significantly if modestly related to MIW, which supports Allport's (1955) contention that as people mature, they incorporate ever-expanding interests into their identities. Under this study's definition of meaning this expansion of interest represents an increasingly more transcendent viewpoint, which did predict MIW. That this was a modest correlation which disappeared in the presence of the predictor variables was also interesting: MIW clearly does not just happen by itself.

Practical applications

This model was designed to be use in practice, and the application of these results would suggest that interventions focusing on the main predictor variables could increase MIW. Focusing on these variables in any intervention would enable practitioners to help their clients or employees to find meaningful work and organisations to provide it. This supports Steger and Dik (in press) who argued that understanding of self, organisation and fit with organisation is essential to creating greater MIW. For example, if an individual is seeking MIW, they should focus firstly on understanding themselves. A strengths-based perspective is increasingly used in practice to try and shift focus away from what can't be done to what can (Seligman & Csikszentmihalyi, 2000). In this context, understanding one's own strengths appears to offer an excellent route for career coaches to encourage such self-reflection. Second, those seeking MIW should try to identify and nurture a transcendent purpose. By identifying a life goal that extends beyond one's own experience, people would be encouraged to think in terms of how their skills uniquely meet the needs of the world. Finally, people should think carefully about their fit with particular organisations, particularly in the role they will fulfil and the values the organisation operates by. If the fit between one's role and identity is strong, and especially if the organisation has a clear and (preferably transcendent) purpose, MIW is likely to be enhanced. It may bear note that after completing the survey many participants spontaneously commented that it had helped them to think more clearly about their career and provided greater perspective. Using a meaning-based approach therefore seems a promising route to improving career decision-making and development.

Acceptance and Commitment Therapy (ACT), which improves levels of PF, may also be beneficial. ACT also includes work to identify one's values and priorities, which means it marries uniquely well with any review of MIW. Although some aspects of strength of purpose may be innate, working to clarify important life goals would likely be worthwhile in helping to enhance MIW, primarily by strengthening self-understanding and purpose.

For organisations, this study's results lend support to Steger and Dik's argument (in press) that managers should recruit employees who are able to articulate clear connections between themselves and the mission of the organisation. In future it may be that organisations that allow their employees to understand them and which have clear organisational or brand values will overtake organisations whose purpose and values are more opaque. It is important to emphasise that MIW can be created irrespective of how the job is objectively defined and organised. As Wrzesniewski (2003) argued, crafting one's job to create MIW is inherently subjective, and does not depend on altering objective job characteristics.

Limitations

Owing to the research design, causal inferences cannot be made. It may be for example that happier people find work more meaningful, or those who experience MIW perceive that they use their strengths more. Indeed, there is theoretical support for the idea that PWB leads to meaning. According to Fredrickson's (1998) 'broaden and build' theory, positive affect leads to a broadened attentional focus which King et al (2006) suggested helps link one's daily activities to a larger framework of meaning.

However, there is some empirical and theoretical evidence to suggest that the direction implied by the model is correct. For example, in a longitudinal study Bond and Bunce (2003) found that PF unidirectionally predicted mental health. This lends weight to the finding of a causal link between PF and PWB in this study and, though not a formal hypothesis, MIW was found to partially mediate this link. Research shows that neural activity increases when we make *connections* between things and detect some stimulus as meaningful (Singer, 1999). This supports the notion that meaning is a *product* of comprehension, and can presumably be stimulated through routes that enhance understanding of the world. In the same vein, King and Hicks (in press) argued that positive affect may be the affective reward that accompanies relatively costly 'meaningful' behaviours such as flow or altruism, demonstrating the importance of the experience of meaning to human survival.

A second design limitation relates to the self-selection of participants. Participants are more likely to respond to questionnaires which interest them or which affect them (Eysenbach and Wyatt, 2002), so there may be differences between those who responded to the survey and those who did not. The third possible limitation relates to the measurement of MIW itself, which is discussed below.

Future research

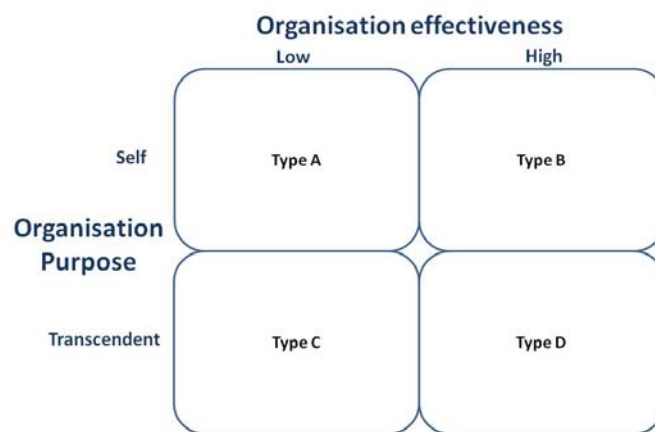
There are clear directions for future research into MIW. Not least, using experimental or quasi experimental research methods to identify what works and what doesn't in terms of some of the interventions discussed above. Specific hypotheses derived from this study could be tested, for example whether helping someone to identify a clear, transcendent purpose leads to higher MIW. Longitudinal studies would also allow cause and effect to be clarified.

Research into the types of people who experience MIW is also needed, even if only to act as control variables. The data in this study may merely represent patterns in individual differences which are relevant to the experience of MIW. New MIW measures such as the WAMI include scales which help identify the role of ‘search for meaning’, which would also be a useful control variable. Future work could confirm whether the promising results in this study indicate that an intervention model aimed at the predictor variables would indeed prove effective for specific types of people in specific situations.

One suggestion for specific, testable hypotheses would be to research the interaction of different types of people and different types of organisations with respect to MIW. Personality traits and ‘search’ for meaning have already been mentioned. Alternatively, people could be deemed to be either high or low in self comprehension and to have either self or transcendent purpose. This would create four ‘types’ of people:

- Type 1: Low comprehension, self-related purpose
- Type 2: Low comprehension, transcendent purpose
- Type 3: High comprehension, self-related purpose
- Type 4: High comprehension, transcendent purpose

It would be interesting to compare these types, perhaps including personality and performance data as controls, in the type of designs already discussed. It would also be useful to understand how these types of worker fare in different types of organisation. Several researchers allude to differences in meaning-making practices within organisations (e.g. Wrzesniewski, 2003). Bains (2007) outlined how organisations vary in terms of possessing narrow or transcendent objectives, and in terms of how effective or ineffective they are at meeting these objectives. This creates four different types of organisation:



It would be interesting to compare how the different types of people fare in each type of organisation. For example, would a ‘type 4’ person working in a ‘type D’ company show the highest MIW of all? Would a ‘type 3’ person be uniquely badly suited to a ‘type C’ company through frustration at the organisation’s comparative lack of effectiveness and by the difference in purpose and values?

No variable, other than perhaps TL, related to the power of relationships in enhancing MIW, yet relationships are consistently rated as key predictors of MIW (Pratt & Ashforth, 2003). Relationships were deliberately excluded from this study on the basis that they were only partially under the control of the individual and that they are more relevant to meaning *at work*. For MIW as defined in this study, relationships are conceptualised as stimuli (or feedback) which either enhance or detract from MIW by confirming or disconfirming existing hypotheses of identity (i.e. self-knowledge), context and comprehension. It would be interesting to factor in and compare purely relationship-focused variables in future studies. Such analysis may also help shed further light on what type of role MIW fulfils as a mediator. Tabachnik and Fidell (2007) point out that there are many forms of mediation; there may for instance be more than one mediator in a sequence, or mediators may be operating in parallel. Bringing other variables into play (such as relationships or job design) would present a fuller picture of what causes MIW and clarify the relative importance of subjective and objective predictors.

Future research could also explore this study's definition of meaning in other contexts. For example, could the decline in levels of happiness in rich western nations be connected to the explosion of information which now reaches us in the information age? With more stimuli reaching us, the job of maintaining MIW - and self-related purpose in particular - may be getting progressively harder, which creates a greater longing for coherence. Is this also why Generation Y is said to possess less drive for monetary rewards and to place more emphasis on transcendent goals?

It would also be interesting to extend the theoretical underpinnings of MIW used here to include the notion of salience. This study has used somewhat a reductionist view of MIW, arguing that *any* aspect of comprehension creates MIW. Whilst this is true - as non-salient but comprehended information will still create meaning - it is likely that some information is likely to hold greater meaning than others because it is closer to the individual's self-concept.

Finally, it is clear that research into the measurement of meaning is only at the outset of its journey. This study revealed some important similarities between measures, but some unexplained differences. Two specific questions arose from this study in this area. The first relates to why TL is a predictor using Arnold et al's Psychological Meaningfulness scale but not any of the other scales, and similarly why PF predicts MIW with only two of the meaning scales used. Teasing out the subtleties of the construct of meaning further would be valuable. The use of existing MIW scales here was pragmatic, designed to operationalise a construct that is still developing. The composite scale was designed simply to represent the existing measures as powerfully as possible, not necessarily the precise definition of MIW and its predictors. In future, separating MIW predictors from MIW outcomes more clearly should provide a further step forward in what is a hugely promising area of research in occupational psychology and beyond.

References

- **Aktouf, O. (1992).** Management and theories of organizations in the 1990s: Toward a critical radical humanism? *Academy of Management Review*, 17(3), pp. 407-431.
- **Allport, G., (1955).** *Becoming: Basic considerations for a psychology of personality*. New Haven : Yale University Press.
- **Arnold, K., Turner, N., Barling, J., Kelloway, K., McKee, M., (2007).** Transformational Leadership and Psychological Well-Being: The Mediating Role of Meaningful Work. *Journal of Occupational Health Psychology*, 2007, Vol. 12, No. 3, 193–203
- **Bains, G., (2007).** *Meaning Inc. The blueprint for business success in the 21st century*. London. Profile Books.
- **Baron, R., & Kenny, D., (1986).** The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- **Bass, B., (1990).** From transactional to transformational leadership: Learning to share the vision. *Organizational dynamics*, 18(3), 19 - 32.
- **Bass, B., Avolio, B., (1995).** *Multifactor Leadership Questionnaire for Research*, Mind Garden, Palo Alto, CA.
- **Baumeister, R. F. (1991).** *Meanings of Life*. New York. GuilfordPress.
- **Bond, F., & Bunce, D., (2003).** The role of acceptance and job control in mental health, job satisfaction, and work performance. *Journal of Applied Psychology*, 88, 1057-1067.
- **Bond, F., and Flaxman, P., (2006).** “The Ability of Psychological Flexibility and Job Control to Predict Learning, Job Performance, and Mental Health.” *Journal of Organizational Behavior Management*, 26, No. 1/2, pp. 113-130
- **Bond, F., Flaxman, P., & Bunce, D. (2008).** Mediated moderation of a work reorganization intervention: The effect of an individual characteristic on the success of work redesign. *Journal of Applied Psychology*, 93, 645-654.
- **Bond, F., Hayes, S., Baer, R., Carpenter, K., Orcutt, H., Waltz, T. & Zettle, R., (Submitted).** Preliminary psychometric properties of the Acceptance and Action Questionnaire – II: A revised measure of psychological flexibility and acceptance.
- **Brief, A., & Nord, W., (1990).** Work and nonwork connections. In Brief & Nord (Eds.), *Meanings of occupational work*. Lexington, MA: Lexington Books.

- **Britt, T., Adler, A., & Bartone, P. (2001).** Deriving Benefits from Stressful Events: The Role of Engagement in Meaningful Work and Hardiness. *Journal of Occupational Health Psychology*, Vol. 6, No. 1.
- **Cohen, J. (1988).** *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- **Cohen, J., Cohen, P., West., S., & Aiken, L., (2003).** *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). NJ, US: Lawrence Erlbaum.
- **Csikszentmihályi, M., (1996).** *Creativity: Flow and the Psychology of Discovery and Invention*. New York: Harper Perennial.
- **Damon, W., Menon, J., & Bronk, K., (2003).** The development of purpose during adolescence. *Applied Developmental Science*, 7, 119-128.
- **Davis, C., Wortman, C., Lehman, D., & Silver, R., (2000).** Searching for meaning in loss: are clinical assumptions correct? *Death studies*, 24, 497-540.
- **Dawis, R., & Lofquist, L., (1984).** *A psychological theory of work adjustment*. Minneapolis: University of Minnesota Press.
- **Demerouti, Bakker, De Jonge, Janssen and Schaufeli,(2001).** Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment and Health*, 27(4) 278-286.
- **Emmons, R., (2005).** Striving for the sacred: Personal goals, life meaning and religion. *Journal of Social Issues*, 61, 4, 731-745.
- **Eysenbach, G., & Wyatt, J., (2002).** Using the Internet for Surveys and Health Research. *Journal of Medical Internet Research*, 4(2).
- **Finegan, J., (2000).** The impact of person and organizational values on organizational commitment. *Journal of Occupational and Organisational Psychology*, 73, 149-169
- **Frankl, V., (1963).** *Man's Search for Meaning*. Simon & Schuster.
- **Fredrickson, B., (1998).** What good are positive emotions? *Review of General Psychology*, 2, 300-319.
- **Gallup Organisation (2008).** accessed on 15th August at <http://www.gallup.com/consulting/52/Employee-Engagement.aspx>
- **Goldberg, D., (1972).** *The detection of psychiatric illness by questionnaire*. London: Oxford University Press.

- **Govindji, R., & Linley, A., (2007).** Strengths use, self-concordance and well-being: Implications for Strengths. Coaching and Coaching Psychologists. *International Coaching Psychology Review*, Vol. 2 No. 2 July 2007
- **Hackman & Oldham (1980).** *Work redesign*. Reading, MA: Addison-Wesley.
- **Harter, J., Schmidt, F., & Hayes, T., (2002).** Business-Unit-Level Relationship Between Employee Satisfaction, Employee Engagement, and Business Outcomes: A Meta-Analysis. *Journal of Applied Psychology*, Vol. 87, No. 2, 268–279
- **Hayes, S., Strosahl, K., Wilson, K., Bissett, R., Pistorello., Toarmino, D., Polusny, M., Dykstra, T., Batten, S., Bergan, J., Stewart, S., Zvolensky, M., Eifert, G., Bond, F., Forsyth J., Karekla, M., & McCurry, S. M. (2004).** Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record*, 54, 553-578.
- **Khan, W., (1990).** Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 4, 692-724.
- **King, L., & Hicks, J., (in press).** Positive affect and meaning in life: The intersection of hedonism and eudaimonia. Invited chapter to appear in P. T. T. Wong's (Ed.), *The Human Quest for Meaning*.
- **King, L., Hicks, J., & Krull, J., & Del Gaiso, A., (2006).** Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology*, 90, in press.
- **Klinger, E., (1998).** The Search for Meaning in Evolutionary Perspective and its Clinical Implications. In *The Human Quest for Meaning*, Wong, P., & Fry, P., Eds. Lawrence Erlbaum, New Jersey.
- **Kristof-Brown, A., Zimmerman, R., & Johnson, E., (2005).** 'Consequences of Individuals' Fit at Work: A Meta-analysis of Person-job, Person-organization, Person-group, and Person-supervisor Fit ', *Personnel Psychology*, 58 (2), 281–342.
- **Kristof, A., (1996).** Person-organisation fit: an integrative review of its conceptualisations, measurement and implications. *Personnel Psychology*, 49, 1-50.
- **Konrad, A., (March 2006).** Engaging employees through high-involvement work practices. *Ivey Business Journal*, March/ April pp1-6.
- **Lapierre, S., Dubé, M., Bouffard, L., Alain, M., (2007).** Addressing Suicidal Ideations Through the Realization of Meaningful Personal Goals. *Crisis*; Vol. 28(1):16–25
- **Linley, P., & Harrington, S., (2006a).** Playing to your strengths. *The Psychologist*, 19, 86-89.
- **Loscocco, K., (1989).** The interplay of personal and job characteristics in determining work commitment. *Social Science Research*, 18:370-394.

- **May, D., Gilson, R., and Harter, L., (2004).** The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11–37
- **Muller, D., Judd, C., & Yzerbt, V., (2005).** When Moderation is Mediated and Mediation is Moderated. *Journal of Personality and Social Psychology*, Vol. 89, No.6, 852-863.
- **Peterson, C., & Seligman, M., (2004).** Character strengths before and after September 11. *Psychological Science*, 14, 381-384.
- **Pines, A., (2004).** Why Are Israelis Less Burned Out? *European Psychologist*. Vol.9 (2) pp. 69-77.
- **Pratt & Ashforth (2003).** Fostering meaningfulness in working and at work. In K.S. Cameron, J.E. Dutton, and R.E. Quinn (Eds.), *Positive organizational scholarship* (pp. 309-327). San Francisco: Berrett-Koehler Publishers, Inc.
- **Purvanova, R., Bono, J., & Dzieweczynski, J., (2006).** Transformational Leadership, Job Characteristics, and Organizational Citizenship Performance, *Human Performance*, 19(1), 1–22.
- **Reker, G., & Wong, P., (1988).** Aging and the individual process: Toward a theory of personal meaning. In Birren, J., & Bengston, V., (Eds.), *Emergent theories of aging*. New York: Springer.
- **Ryan, R., & Deci, E., (2001).** On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. In S. Fiske (Ed.), *Annual Review of Psychology*, 52, pp. 141-166). Palo Alto, CA: Annual Reviews, Inc.
- **Ryff, C., (1989).** Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069- 1081.
- **Ryff, C., & Singer, B. (1998a).** The contours of positive human health. *Psychological Inquiry*, 9, 1-28.
- **Seligman, M., & Csikszentmihalyi, M., (2000).** Positive Psychology: An introduction. *American Psychologist*, 55, 5-14.
- **Shamir, B., (1991).** Meaning, self and motivation in organisations. *Organisation Studies*, 12/3, 405-424.
- **Singer, W., (1999).** Neuronal Synchrony: A versatile code for the definition of relations? *Neuron*, 24.
- **Sobel, M., (1982).** Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology*, 290-312. San Francisco: Jossey-Bass.
- **Stanford Center for Adolescence (2008).** Personal Communication, Seana Moran, 31st March 2008.

- **Steger, M. , & Dik, B., (in press).** Work as meaning. In Linley, P. A., Harrington, S., & Page, N. (Eds.), *Oxford handbook of positive psychology and work*. Oxford, UK: Oxford University Press.
- **Steger, M., Frazier, P., Kaler, M., & Oishi, S., (2006).** The Meaning in Life Questionnaire: Assessing the Presence of and Search for Meaning in Life. *Journal of Counseling Psychology*, Vol. 53, No. 1, 80–93.
- **Tabachnik, B., & Fidell, L., (2007).** *Using Multivariate Statistics*. Boston: Pearson Education Inc.
- **Thakor, M., & Joshi, A., (2005).** Motivating salesperson customer orientation: insights from the job characteristics model. *Journal of Business Research*, 58, 584-592.
- **Thompson, N., Coker, J., Krause, J., Henry, E., (2003).** Purpose in Life as a Mediator of Adjustment After Spinal Cord Injury. *Rehabilitation Psychology*. Vol.48 (2) pp. 100-108.
- **Wong, P., (1998).** Implicit theories of meaningful life and the development of the personal meaning profile. In P. T. P. Wong & S. P. Fry (Eds.) *The human quest for meaning: A handbook of psychological research and clinical applications* (pp. 111-140). Mahwah, NJ: Lawrence Erlbaum
- **Wrzesniewski, A., (2003).** **Finding positive meaning in work.** In K.S. Cameron, J.E. Dutton, and R.E. Quinn (Eds.), *Positive organizational scholarship* (pp. 296-308). San Francisco: Berrett-Koehler Publishers, Inc.
- **Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B., (1997).** Jobs, careers, and callings: people's relations to their work. *Journal of Research in Personality*, 31, 21-33.

Appendices

Appendix 1 – Summary of proposed model and results

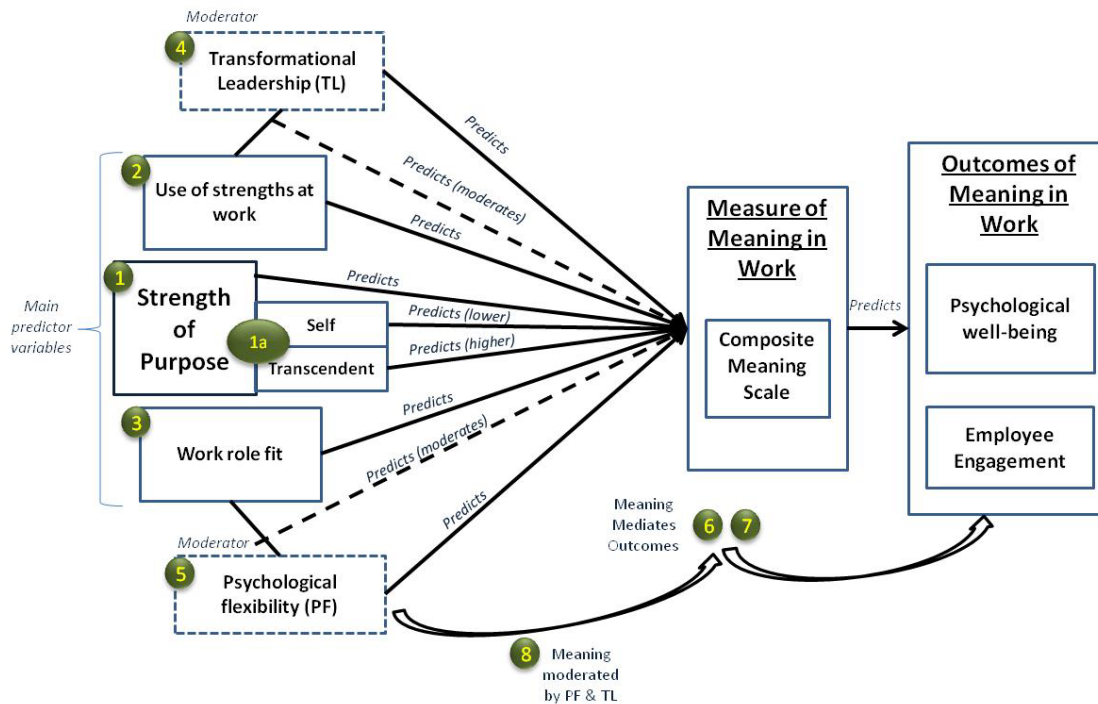


Table 7

Summary of findings

Hypothesis	Finding
1. A strong sense of purpose predicts MIW. 1a) self related purpose would predict significantly less MIW than transcendent purpose.	Ha proved Ha proved
2. Use of strengths at work predicts MIW.	Ha proved
3. Work role fit predicts MIW.	Ha proved
4. There will be a main and moderating effect of TL on MIW	Ha partially proved (Main effect of TL depended on MIW scale used, but no moderating effects found)
5. There will be a main and moderating effect of PF on MIW	Ha partially proved (Main effect of PF depended on MIW scale used, but no moderating effects found)
6. MIW mediates the effect of the main predictor variables on engagement.	Ha proved
7. MIW mediates the effect of the main predictor variables psychological well-being.	Ha proved
8. PF and TL form a moderated mediated model in predicting engagement and PWB	Ha disproved

Appendix 2 - Frequency statistics

Table 8

Table of frequency statistics for demographic variables.

Variable	Category	Frequency	Percentage (%)
Gender	Male	154	33.1%
	Female	311	66.9%
Age	30 or below	163	34.8%
	31-40	199	42.4%
	41-50	66	14.1%
	50+	41	8.7%
Years with current organisation	Under 1 year	99	21.1%
	1-5 years	215	45.7%
	5-10 years	105	22.3%
	Over 10 years	51	10.9%
Years in current career	Under 1 year	22	4.7%
	1-5 years	105	22.4%
	5-10 years	145	30.9%
	Over 10 years	197	42.4%
Earnings p.a.	Less than £15k p.a.	39	8.3%
	£15 – 30k p.a.	148	31.6%
	£31 – 50k p.a.	129	27.5%
	£50k +	134	28.6%
	Prefer not to say	19	4.1%
Hours worked p.w.	Less than 20	26	5.5%
	21 - 40	202	43.1%
	40 – 60	223	47.5%
	60 +	18	3.8%

Appendix 3 - Descriptive statistics

Table 9

Descriptive statistics for main study variables (raw data average scores).

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Kurtosis</i>
<i>Predictor Variables</i>					
Transcendent purpose	404	4.41	1.42	-.473	-.317
Self purpose	404	5.33	1.01	-.956	1.19
Strength of purpose	404	5.63	1.03	-.779	.302
Work role fit	404	3.52	.98	-.632	-.168
Strengths use	404	5.67	.93	-1.01	1.617
Transformational leadership	404	3.11	1.06	-.215	-.910
Psychological flexibility	404	5.07	.92	-.526	.271
<i>Meaning Variables</i>					
Meaning 1	404	3.84	.84	-.761	.656
Meaning 2	404	3.87	.78	-.830	.104
Meaning 3	404	5.47	1.29	-1.017	.556
Meaning Composite	404	4.08	.877	-.817	.367
<i>Outcome Variables</i>					
Engagement	404	3.60	.59	-.228	-.374
Psychological well-being	404	3.85	.61	-.581	1.160

Appendix 4 - Factor Analysis

Table 10

Rotated factor matrix for factor analysis on self and transcendent purpose

	Factor 1 (transcendent)	Factor 2 (self)
Make sense of the world	.616	.078
Have an impact on the world	.836	.073
Change the world	.797	.034
Improve the way the world works	.872	.059
Be personally successful	.132	.644
Make money	-.324	.513
Advance my career as far as possible	.038	.737
Increase my status in the world	.199	.618

Table 11

Pattern matrix for principal components analysis on the 3 meaning in work scales

	Component
The work I do on this job is very important to me	.851
My job activities are personally meaningful to me	.870
The work I do on this job is worthwhile	.822
My job activities are significant to me	.862
The work I do on this job is meaningful to me	.897
I feel that the work I do on my job is valuable	.809
I have found a meaningful career	.840
My work provides me with a clear sense of purpose	.795
I have discovered work that has a satisfying purpose	.832
I have a good sense of what makes my work meaningful	.706
The work I do in this job is fulfilling	.877
The work I do in this job is rewarding	.803

Appendix 5 – Review of regression results when using the Work as Meaning Index (WAMI)

Table 12

Summary of hierarchical regression results with the work as meaning index (WAMI) as the dependent variable and the main predictor variables as the independent variables controlling for participant age

Predictors	Step 1		Step 2	
	Standardised β values	R ² change	Standardised β values	R ² change
Age	.183**	.034**	.031	.563**
Strength of purpose			.281**	
Transcendent purpose			.200**	
Self-related purpose			-.076**	
Strengths use			.052	
Work role fit			.449**	

Dependent variable: MIW.

p < 0.05, p < 0.01**.*

Appendix 6 – Moderated mediated analyses

Table 13

Hierarchical Regression Models for Testing the Moderated Mediation of PF interactions onto engagement

Predictor variables		Regression Model					
		Model 1	ΔR^2	Model 2	ΔR^2	Model 3	ΔR^2
Step 1	<i>Control variable</i>		.034**		.046**		.034**
	Age	.183**		.214**		.183**	
Step 2	<i>Predictor variables</i>		.372**		.682**		.442**
	Age	.082*		.052		.056	
	Strength of purpose	.346**		.208**		.240**	
	Strengths use	.175**		.178**		.088	
	Work role fit	.226**		.576**		-.065	
	<i>Moderator variables</i>						
	Psychological Flexibility	-.066		.021		-.084	
	PF * Strength of purpose	.058		-.038		.103	
	PF * Strengths use	.046		.004		.058	
	PF * Work role fit	.003		-.008		.052	
	<i>Mediator variable</i>						
	Meaning in work (MIW)					.504**	
	<i>Mediator x Moderator</i>						
	MIW * PF					-.086	

Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2

Dependent variable: PWB.

p < 0.05*, p < 0.01**.

Table 14

Hierarchical Regression Models for Testing the Moderated Mediation of PF interactions onto PWB

Predictor variables		Regression Model					
		Model 1	ΔR^2	Model 2	ΔR^2	Model 3	ΔR^2
Step 1	<i>Control variable</i>		.034**		.046**		.034**
	Age	.185**		.214**		.185**	
Step 2	<i>Predictor variables</i>		.463**		.682**		.482**
	Age	.021		.052		.007	
	Strength of purpose	.173**		.208**		.118*	
	Strengths use	.176**		.178**		.127*	
	Work role fit	.247**		.576**		.095	
	<i>Moderator variables</i>						
	Psychological Flexibility	.340**		.021		.338**	
	PF * Strength of purpose	-.050		-.038		-.052	
	PF * Strengths use	-.017		.004		-.025	
	PF * Work role fit	.005		-.008		-.015	
	<i>Mediator variable</i>						
	Meaning in work (MIW)					.265**	
	<i>Mediator x Moderator</i>						
	MIW * PF					.040	

Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2

Dependent variable: PWB.

p < 0.05*, p < 0.01**.

Table 15

Hierarchical Regression Models for Testing the Moderated Mediation of transformational leadership (TL) interactions onto engagement

	Predictor variables	Regression Model					
		Model 1	ΔR^2	Model 2	ΔR^2	Model 3	ΔR^2
Step 1	<i>Control variable</i>		.034**		.046**		.034**
	Age	.183**		.214**		.183**	
Step 2	<i>Predictor variables</i>		.362**		.681**		.427**
	Age	.078		.056		.049	
	Strength of purpose	.316**		.220**		.212**	
	Strengths use	.175**		.170**		.093	
	Work role fit	.242**		.569**		-.029	
	<i>Moderator variables</i>						
	Transformational L'ship	.010		.019		.002	
	TL * Strength of purpose	-.025		.015		-.021	
	TL * Strengths use	.057		-.027		.083	
	TL * Work role fit	.039		-.003		.075	
	<i>Mediator variable</i>						
	Meaning in work (MIW)					.475**	
	<i>Mediator x Moderator</i>						
	MIW * TL					-.060	

Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2

Dependent variable: PWB.

$p < 0.05^*$, $p < 0.01^{**}$.

Table 16

Hierarchical Regression Models for Testing the Moderated Mediation of transformational leadership (TL) interactions onto PWB

	Predictor variables	Regression Model					
		Model 1	ΔR^2	Model 2	ΔR^2	Model 3	ΔR^2
Step 1	<i>Control variable</i>		.034**		.046**		.034**
	Age	.185**		.214**		.185**	
Step 2	<i>Predictor variables</i>		.366**		.681**		.393**
	Age	.073		.056		.056	
	Strength of purpose	.222**		.220**		.152**	
	Strengths use	.277**		.170**		.224**	
	Work role fit	.228**		.569**		.048	
	<i>Moderator variables</i>						
	Transformational L'ship	.036		.019		.030	
	TL * Strength of purpose	-.071		.015		-.085	
	TL* Strengths use	.139**		-.027		.14*	
	TL * Work role fit	.008		-.003		-.019	
	<i>Mediator variable</i>						
	Meaning in work (MIW)					.318**	
	<i>Mediator x Moderator</i>						
	MIW * TL					.050	

Values are standardized beta coefficients; ΔR^2 = Change in Adjusted R^2

Dependent variable: PWB.

p < 0.05*, p < 0.01**.

Appendix 7 – Survey details

Consent Form

My name is Rob Archer and I'm currently conducting research at Goldsmiths College, University of London.

I'm interested in how you see your job, and in particular in understanding how this affects the likely success and happiness you experience in your working life. After you complete the session you will be given a fuller explanation of the study.

By agreeing to participate in my study, you will be required to read and answer a number of questions about your current job. If you don't currently have a job or if you work on several jobs, think about your main job if that's possible.

The questionnaire takes approximately 15 minutes to complete. Please be honest and thoughtful within each response and answer each question individually - this survey has been designed very deliberately.

If you're happy to participate please select the option below. Participation is voluntary and you have the right to withdraw from the study at any time; if you do so, your data will be immediately deleted. Your responses will be kept confidential, and they are completely anonymous; indeed, you are never asked to provide your name or other uniquely identifying characteristics.

This study is really important to me, so I'm really grateful for your participation. I'm also hoping the findings will be genuinely interesting to complete, so drop me a line at the end of the survey if you want to know

Do you agree to participate in the questionnaire?

Yes

No

Scale Items

Predictor Variables

1. *Type of Purpose (Stanford Center for Adolescence)*

- Make sense of the world
- Have an impact on the world
- Change the world
- Improve the way the world works
- Be personally successful
- Make money
- Advance my career as far as possible
- Increase my status in the world

2. *Purpose in life test (Stanford Centre for Adolescence - Ryff)*

- My daily work activities often seem trivial and unimportant to me.
- Setting goals for myself at work seems like a waste of time.
- I am an active person in carrying out the plans I set for myself at work.
- I don't have a good sense of what it is I'm trying to accomplish at work.
- I enjoy making plans for my future career and working to make them a reality

3. *Strengths use scale (Govindji & Linley 2007)*

- I am regularly able to do what I do best
- I always play to my strengths
- I always try to use my strengths
- I achieve what I want by using my strengths
- I use my strengths everyday
- My work gives me lots of opportunities to use my strengths
- I find it easy to use my strengths in the things I do
- I am able to use my strengths in lots of different situations
- Using my strengths is something I am familiar with
- I am able to use my strengths in lots of different ways

4. *Work role fit May, Gilson & Harter 2004*

- My job fits how I see myself
- I like the identity my job gives me

- The work I do on this job helps me satisfy who I am
- My job fits how I see myself in the future

5. *AAQ(Bond 2007)*

- It's OK if I remember something unpleasant.
- My painful experiences and memories make it difficult for me to live a life that I would value.
- I'm afraid of my feelings.
- I worry about not being able to control my worries and feelings.
- My painful memories prevent me from having a fulfilling life.
- I am in control of my life.
- Emotions cause problems in my life.
- It seems like most people are handling their lives better than I am.
- Worries get in the way of my success.
- My thoughts and feelings do not get in the way of how I want to live my life.

6. *Transformational Leadership Arnold et al 2007*

- Specifies the importance of having a strong sense of purpose
- Acts in a way that build my respect
- Talks enthusiastically about what needs to be accomplished
- Articulates a compelling vision of the future
- Gets me to look at problems from many different angles
- Suggests new ways of looking at how to complete assignments
- Spends time teaching and coaching
- Helps me to develop my strengths

Meaning Variables

7. *Meaningfulness - May, Gilson & Harter 2004*

- The work I do on this job is very important to me
- My job activities are personally meaningful to me
- The work I do on this job is worthwhile
- My job activities are significant to me
- The work I do on this job is meaningful to me
- I feel that the work I do on my job is valuable

8. *Steger, Dik (2007) Work as Meaning Index (WAMI)*

- I have found a meaningful career.
- My work really makes no difference to the world.
- My work is utterly meaningless
- My work provides me with a clear sense of purpose..
- I know my work makes a positive difference in the world.
- I have discovered work that has a satisfying purpose.
- I have a good sense of what makes my job meaningful.
- The work I do serves a greater purpose.
- My work is purposeless.
- I feel my job is pointless.

9. *Arnold et al (2007) Meaningful work*

- The work I do in this job is fulfilling
- The work I do in this job is rewarding
- I do not achieve important outcomes from the work I do in this job
- I am able to achieve important outcomes from the work I do in this job

Outcome Variables

10. *Engagement - May, Gilson & Harter 2004*

Cognitive

- Performing my job is so absorbing that I forget about everything else
- I often think about other things when performing my job
- I am rarely distracted when performing my job
- Time passes quickly when I perform my job

Emotional

- I really put my heart in my job
- I get excited when I perform well on my job
- I often feel emotionally detached from my job

Physical

- I exert a lot of energy performing my job
- I stay until the job is done

- I avoid working overtime whenever possible
- I take work home to do
- I avoid working too hard

11. *Psychological well-being (Arnold et al 2007).*

- Been able to concentrate on what you've been doing?
- Felt that you were playing a useful part in things?
- Felt capable of making decisions about things?
- Been able to enjoy your normal day-to-day activities?
- Been able to face up to your problems?
- Been feeling reasonably happy, all things considered?

Debrief

Thanks very much for taking part in my study.

I set out to investigate the concept of 'meaning' at work. Meaning in life is an established concept which predicts greater resilience (Arnold et al 2007), faster recovery from setbacks (Thompson, 2001), lower burnout (Pines 2004) and better mental flexibility (Lapierre 2007). This study hypothesises that these benefits are likely to have benefits in a work context – both for organisations (by increasing employee engagement) and for individuals (by increasing psychological well-being).

Meaning in work is a relatively new concept; therefore this study used three differing measures of the construct to measure it. I also created a new scale for purpose that has already shown to predict meaning in work.

However, the purpose of this study was not just to understand the concept of meaning in work better, but to understand how meaning can be increased. After all, I believe that many people at work ask themselves 'is this all there is to life?' I am seeking to deepen our understanding of how people can build meaningful working lives and prove that this is likely to be more rewarding (in every sense) if they do so. I predicted that 3 variables would be important in this respect, based on the existing literature and the definition of meaning used by Steger and Dik (in press) and Klinger (1998). These predictor variables were:

- 1) having a strong and outward looking purpose;
- 2) using your strengths during the course of your work; and
- 3) fit with organisational values.

In addition, I predicted that these predictors would be influenced by two further variables. Psychological flexibility (PF) is defined as “contacting the present moment as a conscious human being, and, based on what the situation affords, acting in accordance with one’s chosen values” (Hayes et al 2004). Therefore,

those high in PF will be more aware of the opportunities available to them to make progress towards their purpose, which over time will increase their levels of meaning. Unlike personality traits, PF can also be increased.

The second moderating variable relates to leadership. Arnold et al (2007) have already demonstrated a link between so-called transformational leadership and meaning, and I seek to replicate this finding.

Once again thank you for completing this study and please feel free to contact me if you want to discuss it further or have any problems or enquiries related to the study. Please also contact me if you wish to obtain a summary of the findings of the study.