

Health and Work Psychology

Measuring work motivation: The facets of the work values questionnaire and work success

ADRIAN FURNHAM,¹ IAN MACRAE² and JESSICA TETCHNER³

¹Department of Leadership and Organisation, Norwegian Business School (BI), Oslo, Norway

²Thomas International, Marlow, UK

³School of Human Sciences, University of Greenwich, London, UK

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The current study investigates the factor structure of the Work Values Questionnaire (WVQ) which measures how important each of 44 different features of a job are to the respondent. Over 750 international working professionals, primarily from the UK, completed a survey which included the WVQ, and measures of self-perceived success. Factor analysis (both exploratory and confirmatory) was conducted to extract factors and facets. Structural equation modeling was used to compare model fit, and the extracted facets were regressed on subjective work success. The results show that the scales fit a coherent and interpretable model with two factors and six facets, fitting an intrinsic–extrinsic factorial structure, consistent with previous research. Work values and demographics accounted for between 13% and 17% of the variance in subjective work success. Three facets were significant predictors of work success: the intrinsic facets Affiliation and Recognition were positive predictors, and the extrinsic facet Security was a negative predictor, of perceived work success. Limitations and implications of this research are considered.

Key words: Extrinsic, intrinsic, motivation, values, work success.

Adrian Furnham, Department of Leadership and Organisation, Norwegian Business School (BI), Nydalsveien 37, 0484 Oslo, Norway. E-mail: adrian@adrianfurnham.com

INTRODUCTION

Values at work are individual judgments about the importance or relevance of actions and outcomes. They are, according to Latham and Pinder (2005) rooted in needs, acquired through experience, and the basis of transitional life goals. Ascertaining personal values is often thought as the best way to measure motivation as they reduce problems of dissimulation found in more standard work motivational questionnaires (Furnham, 2008; Hogan & Hogan, 1997). Measuring things like higher order motives, such as, need for achievement has been shown to suffer from impression management problems, whereas asking people to rate equally desirable options, in part overcomes some of these problems.

This study is about what people most value from their job. We agree with Hogan and Hogan (1997) who argue that the best way to tap into motivation is through values (i.e., what people say is important to them in specific spheres) because people are motivated to achieve and obtain that which they value. In the measure described in this study, we ask people to rate how important (and therefore valuable and motivational) a number of work-related factors are to them personally when seeking (or changing) a particular job. The study also seeks to determine the association of motivation with self-perceived success as there is a rich literature on the association between the two, particularly in the work-place (Teodorescu, Furnham & MacRae, 2017). Whilst nearly all studies find an, albeit small, correlation between motivation, productivity and success correlations are positive

though there are competing theories for the processes underlying this relationship (Latham & Pinder, 2005).

Values are important because they can significantly influence motivational goal setting and decision making (Parks & Guay, 2009). Whilst there are many old and new work motivational scales, there are many fewer measures of work values (Gagné, Forest, Gilbert et al. 2010; Gagné, Forest, Vansteenkiste et al., 2015). However, both work motivation and values measures have similar themes or structures. There has been extensive work on attempting to map and measure general values (Schwartz, 1992) and further attempts to map these onto work values (Cable & Edwards, 2004). The current study seeks to confirm the factorial structure of a measure of values at work that can be used to inform future research. This is thus a confirmatory study examining the factor structure of our motivational measure, as well as examining correlates of the factors and facets. We were particularly interested in whether we could find evidence of the facets of intrinsic and extrinsic motivation, as specified by the widely accepted work of Deci and Ryan (1985) and updated to autonomous and controlled motivation (Ryan & Deci, 2020).

There are no shortages of measures of general and specific motivation, most heavily reliant on early motivation theories like that of Murray and Maslow. In fact, over a dozen years ago in an important review of 75 years of motivational measurement, Mayer, Faber and Xu (2007) identified hundreds of measures though they did highlight 11 designed for use in the world of work such as that by Amabile, Hill, Hennessey and Tighe (1994). These tests differ enormously in terms of their length, format, purpose and supportive psychometrics. Further, it is not always clear why some retain and others lose their popularity as measurement tools in research over

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time. Other recent reviews have been on motivation measurement in very specific areas likely Clancy, Herring and Campbell (2017) careful review of six sport motivational measures. Clearly as the world changes and psychometrics advances there is the need for the development and validation of new instruments of work motivation.

TWO FACTORS OF MOTIVATION

One of the most well-known theories regarding motivation at work is Herzberg, Mausner and Snyderman's (1959) two motivational dimensions: *hygiene* and *motivator* variables. Hygiene is more often referred to as *extrinsic* motivation which describes external pressures to obtain rewards or avoid punishment. Motivator variables, often referred to as *intrinsic* motivators are an internal drive to complete a task for its own sake or for personal enjoyment.

The theory generated a great deal of interest and whether particular contextual variables suggested different types of motivation. There were, however, a number of critiques of the theory in the 1970s which slowed down research into the topic (Schneider & Locke, 1971).

It should also be noted that there are other measures of work values and motivation that have more than two factors (Cook Hepworth, Wall & Warr, 1981). Further, these have received different labels like primary, latent, or growth motivation.

Intrinsic and extrinsic motivation has been seen to relate to both job dissatisfaction, as well as job satisfaction (Carroll, 1973; Wernimont, 1966). However, not all subsequent studies confirmed the two-factor structure, finding alternate explanations for the two motivational factors and relationships with work satisfaction and dissatisfaction (Waters & Waters, 1972) Kerr, Harlan and Stogdill (1974) suggested that Herzberg's theory is actually an attribution error where workers tend to attribute their satisfaction to internal factors and project their dissatisfaction onto external factors (Locke, 1976).

Research efforts have continued to investigate the factorial structure of motivational values, and Herzberg's two-factor structure persists with minor variations in factorial structure and language (Knoop, 1994a, 1994b) variables (dissatisfiers). However, studies employing factor analysis have found different interpretations of Herzberg's two factors. Many studies find two to four factors, although often these can be classified according to the two-factor theory. It is possible that studies finding more factors are actually indicating facets of Herzberg's two factors. Research has confirmed the importance of motivator does influence its' effect on employee job satisfaction (Knoop, 1994c; Rice, Gentile & McFarlin, 1991).

Other reviewers of the literature concerning values and motivation have also suggested that motivation be classified into broad intrinsic and extrinsic types (Cotton, Bynum & Madhere, 1997; Gagné & Vansteenkiste, 2013; Nord, Brief, Atieh & Doherty, 1990). Georjel and Jones (1997) described how intrinsic work values, which come from valuing the process or the affective end-states, are dependent on the content of the work, while extrinsic values are dependent on attaining reward or averting punishment. They suggest people will react very differently to job enrichment, organizational change, and work opportunities.

Further research has shown intrinsic and extrinsic motivators are not always functions of the job task, nor are they always

mutually exclusive. Many studies (Deci, Koestner & Ryan, 1999; Lepper & Greene, 1975) have demonstrated how introducing extrinsic motivators can reduce intrinsic motivation: in other words, external rewards deprive tasks of any internal meaning or personal significance. However, the effect is not always so clear-cut. Vansteenkiste, Niemiec and Soenens (2010) suggested there have been over 100 studies on the effects of extrinsic rewards on intrinsic motivation, and meta-analyses on the topic show mixed effects at best. Deci et al. (1999) conducted a meta-analysis to account for the reward effects of different conditions on intrinsic motivation. They found that unexpected rewards had no negative effect on subjective well-being or intrinsic motivation and that negative effects were less potent when extrinsic rewards that were dependent on performance. This is explained by cognitive evaluation theory (Deci & Ryan, 1985; Gagné & Vansteenkiste, 2013) with three central concepts: Autonomy, Competence and Relatedness. These have proved to be important, related but distinguishable, facets of intrinsic motivation.

Some of the most innovative and sophisticated research in the area is around self-determination theory (Ryan & Bradshaw, 2019; Ryan & Deci, 2019a, 2019b; 2020). Central to the theory is the distinction between autonomous and controlled motivation. Autonomous motivation is self-determined: it is engaging in a behavior because it is perceived to be consistent with intrinsic goals or outcomes and emanates from the self. Controlled motivation reflects engaging in behaviors for externally referenced reasons such as to gain rewards or perceived approval from others.

Despite varying terminology and factorial structures, the literature clearly shows a multidimensional factor structure to all motivational measures. This is most frequently described as two primary dimensions that can be broadly categorized as extrinsic/intrinsic (Barkoukis, Lazuras, Tsozatzoudis & Rodafinos, 2011; Gagné & Vansteenkiste, 2013; Hauber & Bruininks, 1986; Knoop, 1994a; Wakefield, Curry, Mueller & Price, 1987). However, the exact nature and structure of motivators remains an open question. We were particularly interested in whether we could find the 2×3 factor structure outlined by Deci and Ryan (1985) above. We were also interested in the correlates of these two factors, attempting to examine these in terms of self-ratings of success. We predicted, in terms of the previous literature, that those who were more intrinsically motivated overall would rate their work and life success higher.

The complex, and sometimes contradictory findings, within the values and motivation literature are likely confounded when the facets of broad factor structures are combined. This study examines the latest 44 item version of the Work Values Questionnaire (WVQ) which initially had 24 items (Furnham, Petrides, Jackson & Cotter, 2002) and then 37 items (Furnham, Eracleous & Chamorro-Premuzic, 2009; Furnham, Petrides, Tsaqousis, Pappas & Garrod, 2005). A few items were slightly reworded and seven extra items added to the previous 37 items. These seven new items were based on reviews of the new literature on intrinsic motivation as well as interviews with three test constructors knowledgeable about values and motivation measurement (Kohn, 1993; Pink, 2009). The measure evaluated here has thus, been altered and expanded based on research in different organizations and different countries in an attempt to make it more sensitive and comprehensive (Furnham & MacRae, 2020). Our primary interest

in in the structure of this instrument. Moreover, we are particularly interested in the identification of the three facets of intrinsic motivation identified by Ryan and Deci (2020) and the extrinsic factors identified by Furnham et al., (2009).

Furnham et al. (2005) found a two-factor structure of values with significant associations between values and personality traits. In a subsequent study of over 200 working professionals, Furnham et al. (2009) found a three-factor structure: although the three factors could essentially be classified according to intrinsic – extrinsic dimensions because two were extrinsic and one intrinsic. Furnham et al. (2009) confirmed there were significant relationships between the WVQ and personality traits. However, it is impossible to determine the real strength of relationships between personality and the WVQ without confirming the factorial structure of the measure. Confirming the factors and facets of the WVQ is helpful in conducting more nuanced analyses of relationships between individual differences and the WVQ.

A model comparison using structural equation modeling can be used to test the best fitting factorial model and then subsequently the facets' relationship will be compared with perceived success.

We had four research questions:

1. Whether the factorial structure of the revised WVQ (Furnham et al., 2009), will have two higher order factors that reflect Herzberg et al.'s (1959) two-factor theory confirming Furnham, Forde and Ferrari (1999) and Furnham et al. (2002, 2005, 2009).
2. Whether the intrinsic factor will exhibit three facets, similar to autonomy, competence and relatedness for intrinsic motivation, in line with the theoretical framework described by Deci and Ryan (1985).
3. Whether the extrinsic factor will exhibit three facets, including security, financial rewards, and conditions/security roughly corresponding to Furnham et al.'s (2009) findings.
4. Based on previous studies (Furnham et al., 2009; Igalens & Roussel, 1999), whether intrinsic motivation will be positively associated with perceived success and extrinsic values will be negatively associated with perceived success.

METHOD

Participants

In all, 762 individuals took part in the study, of whom 527 (69%) were male and 223 (31%) female (2 unreported). The ages ranged from 17 to 64 (mean age was 39.01 years, SD = 8.1 yrs.). All were drawn from a range of occupations. All completed high school (grade 12/A levels) and over 50% were university graduates with 20% having post graduate qualifications. Of the 434 in education, law, and social and government services, 295 were officers from branches of the UK Armed Forces, and the remainder were in private business. As all the statistical procedures to be used in this study all rely on the underlying pattern of correlations, an a priori power analysis in G*Power (Faul, Erdfelder, Lang & Buchner, 2007) revealed that an $N = 716$ is sufficient to detect a population Pearson bivariate correlation = 0.10 with power = 0.85. This was essentially opportunistic sampling based on the consultancy work of the two authors.

Instruments

Work values questionnaire. Variations of the WVQ have been used in past studies which has involved essentially extending the questionnaire to

make it more comprehensive. The current, modified, version of the WVQ asks participants to rate 44 items on a ten-point Likert scale ranging from 1 (not important) to 10 (important). Examples of items being rated include: "flexibility – a job that allows me to work flexible hours to suit my personal needs"; "recognition – a job that leads to clear and wide recognition of my achievements; and "stimulation – a job that I personally find very interesting." The instructions read: "Below are listed different work-related factors that may be important to you when you look for, or change, jobs. Please indicate how much you personally value each one of them by circling the appropriate number. Give higher ratings to factors that are more important to you and lower ratings to factors that are less important to you."

Perceived success. To examine associations between WVQ and perceived success, participants were asked to rate on a seven-point Likert scale "I am generally very successful" ($M = 4.49$, $SD = 1.08$) to measure general success and "I am very successful in my line of work" ($M = 4.78$, $SD = 1.86$) to measure success at work. These simple questions can be answered in many ways but appear to be good correlates of actual success (Teodorescu et al., 2017).

Procedure

Questionnaires were completed online. Participants were contacted via a group email which described the purpose of the questionnaire, requirements for taking part and the objectives of the research. They were attending work-related training courses and this topic was relevant to the course content. They were all fluent English speakers with 90% being British. They were recruited by all three authors when consulting various different organizations. Because of this method there was a higher than average amount of missing data. We got around a 50% response rate. Each received a detailed report on their motivational patterns directly after completing the survey. Ethical permission was sought and received.

All analyses were completed using R version 3.3.3 with the packages "psych" and "lavaan."

RESULTS

Factor Analysis on the WVQ

An initial principal components factor analysis suggested that there was no multicollinearity among the factors, no Squared Multiple Correlations was greater than 0.8. This means the two factors were not highly correlated. We followed this with both a VARIMAX and EQIMAX (orthogonal and oblique) rotation which yielded surprisingly similar results. The scree plot clearly indicated two factors. In all 14 items that did not load onto either of the two factors, but on other minor factors with low Eigenvalues (below 0.45), were removed. We chose the 0.45 cutoff for clarification of interpretation.

These results shown in Table 1 demonstrate the data can be explained by two factors and the two factors can be categorized according to the intrinsic–extrinsic dimension: factor 1: extrinsic values accounted for 22% of the variance; factor 2: intrinsic values accounted for 20% of the variance.

Thirty items which can broadly be classified into two factors accounted for 42% of the variance, only slightly less than the 44% variance (25 items) accounted three factor structure of the WVQ identified in Furnham et al. (2009). The two-factor model is more parsimonious and Furnham et al.'s (2009) three factors align closely with the intrinsic–extrinsic dimensions.

The pattern matrix describes how each item fits within the respective factors. Subsequent confirmatory factor analyses were performed separately on the intrinsic and extrinsic factors to

Table 1. Two-factor pattern matrix for the work values questionnaire

	Intrinsic	Extrinsic
Item and classification		
Extrinsic/Hygiene (Factor 1)		
Clarity		0.59
Effortlessness		0.66
Regularity		0.72
Security		0.72
Tranquility		0.75
Benefits		0.59
Bonuses		0.63
Insurance		0.51
Pay		0.62
Perks		0.66
Comfort		0.74
Conditions		0.72
Flexibility		0.49
Location		0.58
Safety		0.62
Intrinsic/motivator (Factor 2)		
Creativity	0.52	
Intellectuality	0.59	
Personal growth	0.71	
Personal relevance	0.71	
Self-expression	0.54	
Fame	0.45	
Power	0.70	
Promotion	0.65	
Recognition	0.60	
Status	0.57	
Visibility	0.46	
Responsibility	0.70	
Social interaction	0.53	
Teaching	0.51	
Teamwork	0.61	

Note: N = 762; Loadings less than 0.45 are suppressed.

explore possible facets within the factors and the results are shown in Table 2. A factor analysis on the 15 extrinsic items found three factors explaining 64% of the variance. Extrinsic facet 1: security 21%, facet 2: compensation 24%; and facet 3: conditions 19%. A factor analysis on the 15 intrinsic items found three factors explaining 60% of the variance: intrinsic facet 1: autonomy 20%; facet 2: recognition 24%; and facet 3: affiliation 16%

Scale reliabilities

Table 3 shows Cronbach's alpha values for each of the two main factors and six subscales. All subscales have acceptable alpha levels (greater than 0.70 for initial scale development) indicating sufficient reliability (Yang & Green, 2011). Both main factors and five of the six subscales have alpha levels greater than 0.80. This indicates high correlations between the different motives within each factor.

Structural equation model comparison

Structural equation modeling (SEM) was used to compare a simple two-factor model, Furnham et al.'s (2009) three factor model, and a 2 × 3 factor model. By all measures, the 2 × 3 factor model was the best fit for the data (shown in Table 4).

Table 2. Factor analysis of intrinsic and extrinsic factors

Extrinsic/Hygiene	Intrinsic			Extrinsic		
	1	2	3	1	2	3
Clarity						0.53
Effortlessness						0.80
Regularity						0.66
Security						0.84
Tranquility						0.74
Benefits					0.68	
Bonuses					0.66	
Insurance					0.57	
Pay					0.86	
Perks					0.79	
Comfort				0.81		
Conditions				0.82		
Flexibility				0.55		
Location				0.60		
Safety				0.80		
Intrinsic/motivator						
Creativity	0.57					
Intellectuality	0.80					
Personal growth	0.80					
Personal relevance	0.78					
Self-expression	0.49		0.49			
Fame		0.77				
Power		0.67				
Promotion		0.71				
Recognition		0.72				
Status		0.76				
Visibility		0.74				
Responsibility			0.46			
Social interaction			0.76			
Teaching			0.65			
Teamwork			0.82			

Table 3. Cronbach's alpha of scales and subscales

Scale	Cronbach's alpha
Intrinsic	0.87
I1: Autonomy	0.80
I2: Recognition	0.84
I3: Affiliation	0.71
Extrinsic	0.89
E1: Security	0.85
E2: Compensation	0.84
E3: Conditions	0.83

Table 5 shows the fit statistics for the subscales of the 2 × 3 model.

RMSR values lower than 0.08 is considered good fit (Hu & Bentler, 1999). CFI values greater than .90 are considered good fit. Cut-off RMSEA values up to 0.10 have been deemed acceptable, although more stringent recent cut-off guidelines have been proposed at 0.8 or 0.7 (Hooper, Coughlan & Mullen, 2008). Stringent cut-off guidelines may not be necessary for an early validation, particularly when the model is a better fit than previously used models. However, future studies must improve RMSEA and SRMR values. Steiger (2000) emphasizes rule-of-thumb cut-offs are useful guidelines but should not be applied too

Table 4. SEM model comparison

	x ²	d.f.	x ² /d.f.	SRMR	CFI	TLI	RMSEA
3-Factor Model	2652.51	426	11.74	0.12	0.71	0.67	0.12
2-Factor Model	4851.53	433	11.20	0.11	0.61	0.58	0.12
2x3 Factor Model	2611.98	427	6.12	0.085	0.81	0.79	0.085

Table 5. Fit indices for six facet scales

	x ²	d.f.	x ² /d.f.	SRMR	CFI	TLI	RMSEA
Intrinsic 1: autonomy	73.28	5.00	14.66	0.05	0.95	0.90	0.14
intrinsic 2: Recognition	279.74	9.00	31.08	0.20	0.85	0.75	0.20
intrinsic 3: Affiliation	41.09	5.00	8.22	0.04	0.96	0.92	0.10
Extrinsic 1: Security	68.10	5.00	13.62	0.04	0.96	0.92	0.13
extrinsic 2: compensation	44.38	5.00	8.88	0.03	0.97	0.94	0.10
Extrinsic 3: conditions	62.86	5.00	12.57	0.04	0.97	0.94	0.13

arbitrarily. This is the first proposed 2 × 3 factorial structure for the WVQ, so the inductors suggest potentially good model fit, although minor modifications to the subscales may need to be made. SRMR values can be acceptable up to a value of 0.08 (Hooper et al., 2008), and all subscale values are below 0.08 in this study. CFI cut-off values are recommended to be greater than 0.90, nearly all facets have CFI values greater than 0.90 and overall model fit is approaching 0.90. Furthermore, all fit indices suggest the 2 × 3 structure is superior to either two- or three-factor structures.

Clearly the adjustment indexes for the proposed model did not reach the adequacy levels, suggesting that there may be other untested structures. According to Brown (2015), values below 0.06 are considered adequate for RMSEA and SRMR and values greater than 0.95 for CFI and TLI. Although we did investigate other models, none improved these metrics.

Although future studies must improve model fit values, the 2 × 3 factorial structure clearly has significantly better model fit than the Herzberg's popular two-factor structure, and the 3-factor structure found by Furnham et al. (2009). Because most SEM fit indices favor simpler models, the much greater model fit of the 2 × 3 model indicates its' superior model fit over 2 and 3 factor models without facets. Nevertheless, that fact that versions of this instrument presented slightly different structures in different studies suggests more work needs to be done in this area.

Correlational analyses

Table 6 shows correlations between perceived success, demographic characteristics and values facets. Perceived work success and general success were significantly correlated

($p < 0.05$), although the effect size was small. Perceived general success had no significant associations with values, except a very small, but significant negative relationship with the affiliation facet ($r(712) = -0.12$, $p < 0.05$). Age was positively associated with perceived general success $r(712) = 0.14$, $p < 0.001$ and negatively associated with work success $r(712) = -0.18$, $p < 0.05$. Perceived work success was significantly correlated with nearly all work values except the conditions facet. Significant correlations between work values and perceived work success ranged from 0.11 (compensation) to 0.34 (affiliation).

Regression analyses for perceived success

Regression analysis was performed using work values and demographic variables (independent variable) to predict subjective work success (dependent variable). The relationships between perceived general success ranged from small effect sizes to no significant correlations. Thus, values and demographic variables were only regressed on work success.

A stepwise regression (Table 7) showed that all demographic and motivation facets predicted 13% of the variance in perceived work success, rising to 17% when non-significant variables were removed from the regression equation. Three values facets were significant predictors of perceived success at work, while the demographic factors age, gender, and income had no significant relationship with perceived work success. The intrinsic values facets recognition and affiliation were positively related to perceived work success, while the extrinsic facet Security was significantly negative related to perceived work success.

DISCUSSION

The primary purpose of the study was to investigate factors and facets of motivation at work. As predicted by Q1 and consistent with Herzberg (1966), work values exhibit two primary factors that map onto the intrinsic-extrinsic classification. The two-factor structure accounted for nearly equivalent variance (42%) to previous WVQ three-factor structures 44% (Furnham et al., 2009), suggesting a two-factor structure is a more parsimonious explanation of the data. In this sense, this study replicates previous studies but what it adds is the clear second order factors which have also been found in some studies (Teodorescu et al., 2017). That is, we can accurately measure facets of both major factors.

Consistent with Q2, each of the factors exhibited three facets and structural equation modeling demonstrated the 2 × 3 factorial structure was a better fit of the data than either two or three factor explanations of work values. Furthermore, each of the three intrinsic facets, were consistent with the autonomy, competence (recognition) and relatedness (affiliation) dimensions, and extrinsic facets were essentially contrasting values. Consistent with Q3, extrinsic facets clustered into security, compensation, and conditions facets. Hopefully, a future facet analysis can take the work motivation literature forward.

Although values largely fit the intrinsic-extrinsic dimensions, the facets show more complex relationship manifest by significant correlations between the intrinsic and extrinsic facets such as security and recognition, affiliation and compensation, autonomy

Table 6. Correlations among work values, perceived success and demographics

	1	2	3	4	5	6	7	8	9	10	11
1. General success	–										
2. Work success	0.12*	–									
3. Gender	0.04	–0.01	–								
4. Age	0.14***	–0.10*	–0.18***	–							
5. Income	–0.04	0.12**	–0.31**	0.45***	–						
6. Extrinsic 1: security	–0.06	–0.13***	0.07	–0.19***	–0.34***	–					
7. Extrinsic 2: compensation	0.01	0.11*	0.00	–0.23***	–0.22***	0.49***	–				
8. Extrinsic 3: conditions	0.06	0.01	0.30***	*–0.14**	–0.34***	0.63***	0.57***	–			
9. Intrinsic 1: autonomy	–0.02	0.31***	0.00	0.04	–0.11**	0.00	0.25***	0.25***	–		
10. Intrinsic 2: recognition	0.02	0.28***	–0.07	–0.07	0.06	0.19***	0.47***	0.22***	0.38***	–	
11. Intrinsic 3: affiliation	–0.08*	0.34***	–0.03	0.06	0.08	0.08	0.21***	0.14***	0.57***	0.46***	–

Bold indicates correlation with the two major dependent variables.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 7. Regression analyses on perceived success

	Step 1: all predictors work success $F(9, 590) =$ 10.88*** Adj R ² = 0.13		Step 2: significant predictors work success $F(3, 712) =$ 48.11*** Adj R ² = 0.17	
	β	t	β	t
Intrinsic 1: autonomy	0.04	0.91		
Intrinsic 2: recognition	0.17	3.60***	0.21	5.37***
Intrinsic 3: affiliation	0.16	3.50***	0.25	6.23***
Extrinsic 1: security	–0.24	–4.47***	–0.19	–5.40***
Extrinsic 2: compensation	0.03	0.61		
Extrinsic 3: conditions	0.06	1.06		
Income	0.04	0.92		
Gender	0.04	0.99		
Age	0.02	0.41		

Note: Listwise deletion used for missing data.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

and compensation. Thus, while intrinsic motivation is important, extrinsic motivators should be seen as complementary, and not a replacement for intrinsic motivators. Providing personal development opportunities may not be motivating for an employee who feels underpaid.

The facets had a high-indices of fit, suggesting the intrinsic and extrinsic dimensions with three facets each are a good way of explaining work values. Similarly, the correlation analysis and regression analysis indicated within the factors, different facets had very different relationships with subjective success at work. The facets provide a more nuanced way of investigating the complex relationships between values and other variables at work.

Q4 predicted work values would be significantly associated with perceived work success. Of the significant predictor facets, the two intrinsic facets were positively associated with subjective success and the extrinsic facet was negatively associated with

perceived success. This is useful, because to be of use to applied workplace investigations, values should tap directly into factors relevant to the workplace.

Perceived work success was associated with all but one facet. Intrinsic value facets were all correlated with perceived work success with medium effect sizes. Autonomy, competence and relatedness were significantly correlated, but once entered into the regression only competence and relatedness were significant predictors. Two of the extrinsic facets showed significant, but small correlations with subjective work success. Security was negatively correlated, while compensation was positively correlated (with subjective work success). In the regression, only security was a significant predictor.

As past research has found significant relationships between individual differences and motivators, future research could make use of these intrinsic and extrinsic facets to explore relationships with individual differences, such as personality, in more detail. Furnham et al. (2009) found that the personality trait conscientiousness was broadly associated both with intrinsic motivators (such as compensation) and intrinsic motivators (promotion, greater responsibility and autonomy). Based on these results and the facets described in this study, we would predict only certain facets would be positively associated with conscientiousness, namely, autonomy, competence, and compensation. Conscientiousness would likely be negatively associated with security and conditions. This would be important for individual differences in the workplace, because conscientiousness has been consistently found to be the most important personality predictor of success (MacRae & Furnham, 2014). Those who are motivated by security, and pleasant conditions at work may be less achievement-oriented.

Overall, this study is broadly consistent with previous findings, but offers a more nuanced explanation of intrinsic and extrinsic motivators. It offers a useful factorial structure for future studies to investigate the relationships between motivators and individual differences, as well as outcome measures such as performance and productivity.

These results have important implications for practitioners in both selecting and managing individuals. The more an individual is motivated by extrinsic factors the more organizations need to do to satisfy those needs. It seems that while extrinsic factors like the “total remuneration package” tend to attract people to jobs and organizations it does not have the power to retain them (Furnham, 2014).

However, it is argued that although most individuals are attracted to the extrinsic features of a job (salary, perks) it is the intrinsic features that keep them there (Ryan & Deci, 2019a, 2019b, 2020). More importantly it appears that good management can make a most important and relatively cost-efficient contribution to intrinsic motivation while increasing the extrinsic factors are less possible and more expensive. Hence the interest in the relationship between leadership styles and employee motivation and satisfaction. (Ryan & Deci, 2019a). Future research is required to specifically investigate relationships between values, training and development outcomes and other individual difference variables.

The current study is limited by the use of a self-report, cross-sectional design. Further, the measures of success were single item and subjective measures. Ideally, the study would have had robust and multidimensional measures of objective success which would have greater construct validity. We also had a poor gender balance with twice as many men as women, although there is no theoretical reason to assume sex differences in the structure and correlates of work motivation. It is also possible that the nature of this sample, with considerable professional stability contributed to the results.

We would also have liked to have had more details about each individual such as their education, job history and general satisfaction/well-being levels. It is intended to do convergent and divergent validity studies on different work populations attempting to replicate the factor structure. Finally, in future studies with a larger N it would be desirable to explore the data more by CFA that EFA, using more sensitive measures of internal consistency. This may require dropping some items from the next version of the questionnaire, and indeed adding others. As jobs change, particularly in the light of the COVID crisis it may be that work motivation changes to reflect these different circumstances.

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ETHICAL APPROVAL

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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