

# Chapter 2

## The Demands–Resources–Individual Effects (DRIVE) Model: Past, Present and Future Research

**George Margrove**  
*Workday, London*  
ORCID: 0000-0002-3950-3196

**Andrew P Smith**  
*Cardiff University, UK*  
ORCID: 0000-0001-8805-8028

### ABSTRACT

*The first part of the present chapter describes the Demands-Resources-Individual-Effects (DRIVE) model development. This approach maintained the features of earlier models but emphasized individual differences and personal resources. The second part of the chapter reviews recent DRIVE research, focusing on investigating both positive and negative aspects of work. The third part of the chapter discusses psychosocial factors in practitioner research, which could adapt the DRIVE model to employee experience and engagement. Suggestions for future fundamental research and using DRIVE to individualize industry research are then made.*

Keywords: Demands-Resources-Individual Effects (DRIVE) model, Well-being at Work, Say-Stay-Strive model, Employee Experience, Employee Engagement

### PART 1: DEVELOPMENT OF THE DRIVE MODEL

1. *Psychosocial factors in the workplace.*

The interaction between psychological and social factors in predicting individual and societal outcomes has been studied for many years, with a host of different models having been developed to understand how different personal and workplace factors interact, buffer, or exacerbate positive and negative experiences and outcomes for different people (Mark, 2008; Mark & Smith, 2008).

Job characteristics, such as workplace control, demands, support, rewards, and individual factors like motivation, ways of coping, attributional style, and self-efficacy, have all been implicated in the prediction of outcomes, such as stress-related illness, job satisfaction, sickness absence, and many physical and mental health problems (Karasek, 1979; Siegrist, 1996; Folkman & Lazarus, 1980; Mark & Smith, 2008; Cox & Griffiths, 1995; Gianakos, 2002). Indeed, sickness absence has been estimated to cost many billions of pounds per year worldwide. Over 140 million working days are lost per year in the UK alone, with stress being one of the most significant contributors (CBI, 2018).

## 2. *Models of psychosocial factors and stress at work.*

Many models have been developed within academia to focus on workplace stress, which is defined not as an outcome, but usually, as a psychological process that occurs when individuals encounter stressors in their environment and seek to cope with them, with failure potentially leading to stress-related illness and poor organizational outcomes (Cox, Griffiths & Rial-Gonzales, 2000; Cox & Mackay, 1981; Mark & Smith, 2008). Many models have focused on environmental workplace factors, while others have looked at psychological processes, but rarely have both been considered in the same conceptualization. However, it is argued that both up-to-date models of stress and industrial implementations around employee engagement should include such individual difference factors to improve understanding and prediction of outcomes. A short historical review of key models is provided below.

## 3. *Person-Environment fit, Job Characteristics, & Vitamin model.*

Lewin (1951) observed that individuals' personal characteristics interacted with their work environment to determine "strain" and consequent behavior and health. This concept was developed into the Person-Environment Fit model (French, 1973), which suggests that the match between a person and their work environment is key in influencing their health. For healthy conditions, it is necessary that employees' attitudes, skills, abilities and resources match their job demands. Work environments should meet workers' needs, knowledge and skills potential. Lack of fit in either of these domains can cause problems, with the size of the gap determining the degree of strain and ultimately the impact on health and productivity (Sonnentag & Frese, 2003).

Hackman and Oldham's (1980) job characteristics model focuses on essential aspects of job characteristics, such as skill variety, task identity, task significance, autonomy and feedback. These characteristics are proposed to lead to 'critical psychological states' of experienced meaningfulness, responsibility and knowledge of outcomes. It is suggested that positive or negative work characteristics give rise to mental states, leading to corresponding cognitive and behavioral outcomes, e.g. motivation, satisfaction, absenteeism, etc.

The Vitamin Model (Warr, 1987) proposes that specific job characteristics affect mental health that is analogous to the way that vitamins work in the human body. Simply put, some job characteristics have "constant effects" where health increases linearly with increasing "dose" up to a threshold, after which increased dose has no positive or negative effect. These may include salary, safety and task significance (Buunk et al. 1991). Affective well-being is expressed in the model on three dimensions of discontent-content, anxious-comfortable and depressed-pleased. Individual characteristics can moderate the effect of job characteristics on health.

## 4. *Demand-Control-Support (DCS).*

The Demands-Control model (Karasek 1979) is highly influential, and the original model focused on the two psychosocial job characteristics of job demands and job control. Karasek's research (1979) revealed that those exposed to high levels of demand and low levels of job control (high-strain situation) were disproportionately more likely to show increased levels of depression, fatigue, cardiovascular disease and mortality. However, the lowest levels of illness were in individuals with moderate or even high demands if

they also had high levels of job control (challenge situation). Thus, there was a proposed interaction between these factors where control would moderate the effect of demands on outcomes. The model was expanded (Johnson & Hall, 1988) to include social support (DCS) as evidence suggested that support may act as a buffer in high demand situations. A hallmark of this type of “job characteristics model” is that environmental stressors are treated objectively, and that different individuals are expected to respond in similar stimulus-response type patterns. Models of this type have become quite dominant in many areas of industry and practice.

#### 5. *Effort-Reward imbalance.*

The Effort-Reward imbalance model (ERI: Siegrist, 1996) is a widespread view of stress at work. It emphasizes subjective perceptions of the environment; however, the role of individual differences and the explication of internal processes is not well developed compared to “transactional” models, such as those by Folkman and Lazarus (1980) and Cox (1987). The critical concept of ERI is one of reciprocity, where suitable rewards should compensate for effort at work, and a mismatch between these will lead to stressful experiences (Peter & Siegrist, 1999). According to Peter and Siegrist (1999), the DCS model is only concerned with extrinsic job factors. In contrast, the ERI uses extrinsic factors (work demands) and intrinsic factors (internal motivation and desire to achieve).

#### 6. *Cognitive Relational approach.*

Lazarus and Folkman’s transactional theory of psychological stress and coping (1980), sometimes known as the Cognitive-Relational approach, is highly influential. The model outlines two key concepts in “appraisal” and “coping” (Folkman, Lazarus, Gruen & DeLongis, 1986). Primary appraisal is the first stage, where encounters are subjectively evaluated to see what is at stake in terms of potential risk (Perrewe & Zellars, 1999), which can differ for different individuals (hence is in contrast to job characteristics models). If a situation is evaluated as potentially stressful, secondary appraisal occurs to evaluate if harm can be avoided or prevented by coping (Park & Folkman, 1997). Potential coping methods are assessed and then initiated, with successful coping minimizing harm and vice versa. Cox and Ferguson (1991) expanded on Lazarus et al.’s model by outlining the critical nature of individual differences at all stages and added a feedback stage to show that we learn from successful and unsuccessful coping episodes, which affect future appraisals and coping strategies.

#### 7. *Demand-Induced Strain Compensation model, & Job Demands-Resources model.*

The Demand-Induced Strain Compensation model (de Jonge & Dormann, 2003) included factors from both the Demands-Control and Effort-Reward imbalance models and proposed that psychosocial factors could be grouped into categories of demands and resources. The Job-Demands Resources model (JDR: Llorens, Bakker, Schaufeli, & Salanova, 2006) provided more detail, where demands are said to be physical or social aspects of a job that require efforts and cost, and resources as the workplace or organizational elements that help with the achievement of work goals and demands, or crucially lead to growth and development. In this view, outcomes also include work engagement and burnout, which are conceived as opposing psychological states. The former leads to commitment and motivation, and the latter to disengagement and health impairment.

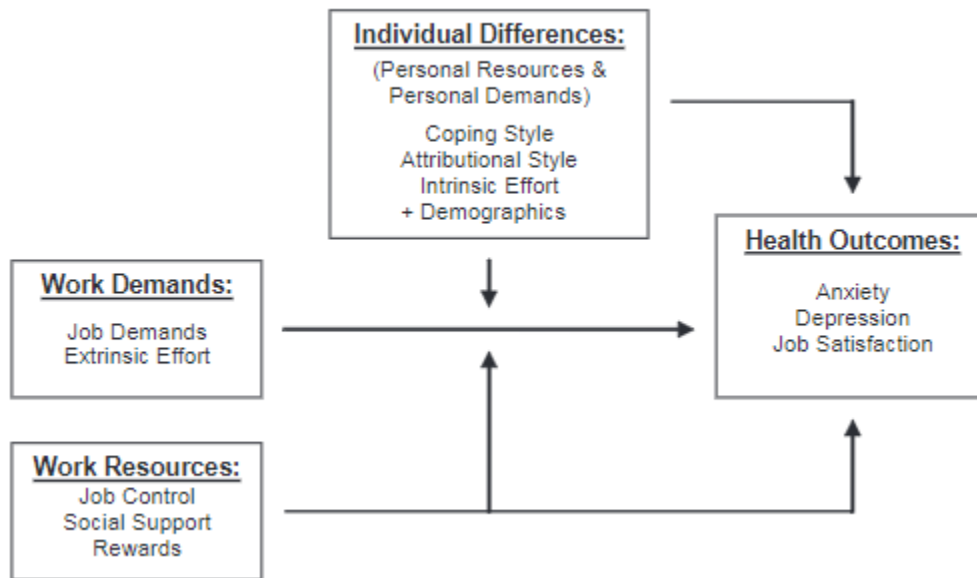
#### 8. *Individual differences & the DRIVE model.*

It is clear from this brief review that numerous different models look at workplace psychosocial factors and stress with a focus on job characteristics, and others that consider individual difference factors and the psychological processes that they inform, few try and do both at once, or only include limited types of individual variables. This is despite an extensive range of individual difference variables (IDs) that are

likely involved in the stress process, such as trait anxiety, personality type, self-esteem, locus of control, coping styles, hardiness, attributional style, demographics, expectations, preferences, goals and aims, health-related factors and abilities and skills (Payne, 1988; Parkes, 1994).

In response to this gap, Mark and Smith (2008) developed a model - DRIVE (Demands, Resources, and Individual Effects) that used a “transactional” type approach, which focuses on individual experience and subjective perceptions, but also seeks to measure and predict the role of more objective job characteristics. Variables are framed in terms of both workplace demands and resources and individual demands and resources (see Figure 1). Independent variables include job demands, social support, job control, extrinsic and intrinsic effort, environmental rewards, ways of coping (40 behaviors), attributional/explanatory styles, age, gender, and other demographic and control variables. This was used to predict anxiety, depression, and job satisfaction, in an adult working population.

**Figure 1:** Simple DRIVE model



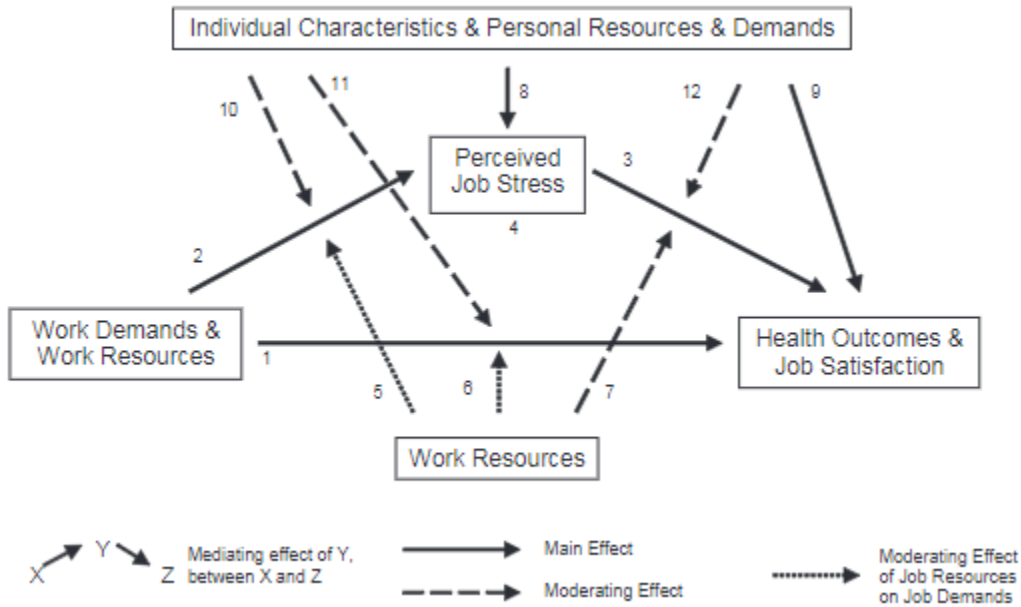
It also predicted that individual differences and work resources would moderate the relationships between work demands and health outcomes (as well as individual differences having a direct effect on outcomes). For example, “positive” ways of coping and attributional style would buffer or reduce the effect of negative demands on outcomes and vice versa. Several studies in working populations supported many aspects of the above model, and an enhanced model was developed as outlined below.

9. Updated DRIVE model and supporting research.

In the updated DRIVE model, perceived job stress is proposed to mediate the relationship between work demands and health outcomes. In other words, perceived stress is the mechanism by which workplace psychosocial demands (and vice versa for resources) impact outcomes. However, if the person does not perceive the demands as stressful, they will have no negative impact, regardless of those demands’ apparent objectively “stressful” nature. Further, it is proposed that individual differences (in the form of personal resources and demands) can have main effects on perceived job stress and health outcomes. They can also

moderate the relationship between environmental factors and perceived stress and the relationship between perceived stress and outcomes.

**Figure 2: Enhanced DRIVE model**



Proposed relationships and effects are outlined below:

- 1) Work demands and work resources will significantly relate to outcomes.
- 2) Work demands and resources will significantly relate to perceived job stress.
- 3) Level of perceived job stress will significantly relate to outcomes.
- 4) Level of perceived job stress will significantly mediate the relationships between Job Demands/Resources and outcomes.
- 5) Work resources will significantly moderate the effect of work demands in predicting perceived job stress.
- 6) Work resources will significantly moderate the effect of work demands in predicting health outcomes.
- 7) Job resources will significantly moderate the effect of perceived job stress in predicting health outcomes.
- 8) Individual differences in the form of personal demands and resources will be significantly related to perceived job stress.
- 9) Individual differences will be significantly related to outcomes.
- 10) Individual differences will moderate the effect of job demands on perceived stress.
- 11) Individual differences will moderate the effect of job demands on outcomes.
- 12) Individual differences will moderate the effect of perceived stress on outcomes.

Mark and Smith (2008) comprehensively tested the enhanced DRIVE model in two working populations of nurses and university employees, with almost 1200 participants. Using a series of interactive regression analyses and mediation calculations, all of the proposed relationships in the model in Figure 2 were tested. Strong evidence was found for many predictions with explicit support for effects 1, 2, 3, 4, 9 and 11 with mixed support for predictions 6 and 8. No support was found for predictions 5, 7, 8, 10 and 12. More research is required to support these findings.

A large number of interactive effects were found between personal characteristics, and work demands and resources as depicted above by relationship 11, and these results support the case for the key role that

individual differences can have in moderating the strength or direction of the relationship between workplace conditions and mental health outcomes and satisfaction. Of particular interest was the finding that workplace demands and resources were good predictors of health outcomes and perceived work stress. Also, positive and negative coping and attributional styles (i.e. self-protecting, or self-blaming when attributing cause to positive and negative events) were shown to be important predictors of health outcomes, with intrinsic motivation the most important predictor of anxiety and depression, and rewards and attributional behaviors for job satisfaction.

A key observation from the results was the finding that perceived stress mediated the relationship between work demands and resources and outcomes. This indicates that how people feel about their work environment's stressful (or non-stressful) nature can be just as important a pathway towards health outcomes as the direct perceived effect of those work environments. Finally, a key finding was that personal characteristics had main effects on health outcomes and had moderating effects on the relationship between workplace demands/resources and health outcomes.

#### 10. *Limitations of the model*

The original DRIVE model is simple and like previous models such as Demands Control Support, supporting research is not too difficult to carry out, and that simplicity makes it compelling. However, its simplicity means that there are issues of validity and how accurately it represents the reality of highly complex human cognition and experience. Similarly, the factors included in the research were limited, and a significantly wider range of variables could have been used, but retaining the simple structure.

By contrast, the enhanced DRIVE model is extremely complex and less likely to encourage wide supporting research, and its implications for practice are therefore reduced. However, strong support was found for some hypotheses, along with mixed support and no support for others. Confirmatory research would assist in refining the model further, with potential reductions in complexity.

Moderation or buffering effects are at the heart of both versions of the model and indeed form the basis of many interventions, such as stress management and resilience training, and while there was some support for these effects, they were not as widespread as anticipated. Future research should address this as a key focus.

## **PART 2: APPLICATIONS OF THE DRIVE MODEL: FUNDAMENTAL RESEARCH**

### **Literature Review**

There have been over 300 citations of the initial article describing the DRIVE model ([https://scholar.google.co.uk/scholar?oi=bibs&hl=en&cites=15665881703493867462&as\\_sdt=5](https://scholar.google.co.uk/scholar?oi=bibs&hl=en&cites=15665881703493867462&as_sdt=5)). About 10% of the articles are in a language other than English, which demonstrates that the original paper has had a global impact. The articles cover a wide range of topics which can be summarized as shown below:

- Workplace adversity
- Burnout
- Sleep
- Technostress
- Change management
- Supervision
- Violence and bullying
- Stress reduction interventions
- Personality and job stress
- Safety Climate

- Job retention/intention to quit
- Customer aggression
- Musculoskeletal disorders
- Mindfulness
- Performing artists
- Spirituality
- Professional caregiving

Many of these have come from the Cardiff Wellbeing at Work program, which is described in detail in the next section.

### *The Cardiff Wellbeing at Work Program:*

The starting point for this research was an IOSH funded project which aimed to address the question of “What is a good job?” (Smith et al., 2011). This research included positive outcomes and predictors and led to a link with extensive research on positive psychology and well-being. This research also led to the development of a holistic approach showing that one should initially consider the combined effects of the predictor variables (McNamara, Wellness and Smith, 2020) and use a simple outcome, such as the difference between positive and negative scores (Wadsworth et al., 2010; Smith and Wadsworth, 2015; Smith, 2021a; Smith, 2022).

The addition of other predictors and outcomes led to a practical problem in that the survey was now becoming very lengthy. This issue was addressed by developing short measures that were highly correlated with the original longer scales and showed the same predictive validity (Williams and Smith, 2012; Williams, 2015). The simple well-being process model replicated the basic assumptions of the DRIVE model, namely, negative job and personal characteristics predicted negative outcomes. In contrast, positive outcomes were mainly predicted by positive factors. There was little evidence of interactions between the predictors in these follow-up studies, but there was mediation through perceived stress and job satisfaction (Galvin, 2016; Nelson, 2017). These effects were observed in both cross-sectional and longitudinal studies (Galvin and Smith, 2015; Nelson and Smith, 2016). The model appears to be very robust in that it has been supported in studies of general working samples (Nor and Smith, 2018; Omosehin, 2021), working mothers (Smith & James, 2021), office workers (Smith & Smith, 2017; Langer, Taylor & Smith, 2019), university staff (Williams, Thomas and Smith, 2017), teachers (Smith and James, 2021), nurses (Smith, 2019; Williams, Pendlebury & Smith, 2021), blue collar workers (Smith & Smith, 2021), transport workers (Smith & Smith, 2017; Smith, 2019; Bowen, Budden & Smith, 2020), the coastguard (Kingdom & Smith, 2011), the police (Nelson, 2017), trainee mental health staff (Galvin, 2016), firefighters (Butler et al., 2021), call center staff (McFarlane, 2022), those working away from home for extended periods (Smith, 2021b), and sports organizations (Neil, McFarlane & Smith, 2016). The model has been used in studies in Italy (Capasso, Zurlo & Smith, 2016, 2018; Zurlo, Valone & Smith, 2018), China (Zhang & Smith, 2021), the USA (Ahmad et al., 2018a, b), Jamaica (Nelson, 2017), Kuwait (Alheneidi, 2020) and Nigeria (Omosehin, 2021).

Research has compared the DRIVE model with single measures of exposure to stressors. For example, Smith (2022) showed that the association between the Expanded Nurses Stress Scale and well-being was no longer significant when the established DRIVE predictors were included in the analyses. Other research has examined whether additional predictors (e.g., role conflict and ambiguity and dealing with change from the HSE management standards) added to the predictive power of the model (Williams, 2015). Other variables can be primarily accounted for by the established predictors in the DRIVE model (e.g. the Psychological Contract, Ahmad et al., 2018a, b). Some variables, such as satisfaction with the physical working environment, add to the model (Langer, 2021). A crucial individual difference that adds to the model is rumination. This has two components: affective rumination, which is largely negative and positive pondering, which increases positive well-being (Zhang & Smith, 2021). Work-life balance is also an important concept to add to the model (Omosehin, 2021), as is burnout (Omosehin & Smith, 2019).

Further studies have addressed methodological issues. For example, Smith & Smith (2018) showed that the model was still significant even when lie scale scores were included in the analyses. Research has also extended the outcomes considered and included traditional health and safety measures, such as accidents, performance efficiency, physical health, absenteeism and presenteeism (Nor & Smith, 2018; Smith & Smith, 2017). Health-related behaviors, such as smoking, alcohol consumption, diet, sleep and exercise, are also included in current survey versions. The DRIVE model has also been used in a telephone-based assessment of stress and well-being (Williams & Smith, 2018).

### *Implications for stress management*

Fundamentally DRIVE was conceived as a “stress model”, but in the transactional tradition, where stress is related to the cognitive appraisal of threat and impact on coping, as opposed to stress-related outcomes *per se*. That said, there are significant implications of DRIVE in this domain for practice in stress management. DRIVE research shows that both environmental and individual factors have an impact on positive or negative stress-related and satisfaction outcomes.

However, many modern “stress management” interventions relate to a wholly individualized approach, for example, training employees how to control emotions, manage their time better, make effective plans, execute plans, and move on stress challenging or stressful situations. However, it is clear from DRIVE that such an approach does not consider the whole picture. For maximum effect – whether this is additive or interactive, job characteristics and individual differences should be addressed simultaneously to maximize impact on outcomes. This includes, for example, organizational-level interventions and job level interventions (e.g. from data from *employee engagement* surveys around work conditions and experiences) as well as more individually focused efforts such as *Job Crafting* – the process involving employees in designing their roles and responsibilities, so that they match their needs, capabilities and ambitions. These approaches, coupled with stress management or coping training, would likely be highly effective. Indeed, it is likely that more research that specifically targets such interventions and pre-existing individual differences will be very valuable to support the model and applications in practice.

## **PART 3: PERSPECTIVES ON PSYCHOSOCIAL FACTORS IN PRACTITIONER RESEARCH**

Stress models are sometimes used in the industry by practitioners, for example, by consultants for “stress audits” or for “stress awareness” training which measure psychosocial workplace factors, to help organizations understand stressors at work, to address these through organizational interventions/or staff training.

A more formal example manifests in the UK Health and Safety Executive “Management Standards” approach (HSE, 2007). This methodology is based on psychosocial job characteristic models. It proposes to offer a simple, standardized framework to help organizations understand the sorts of characteristics that lead to stress-related outcomes. Data can be collected using the HSE “indicator tool” covering demands, control, support, relationships at work, job roles, and organizational change. Recommended outcome data is primarily based on organizational factors such as sickness, turnover, accidents, referrals to occupational health, and so on, rather than individual working experience outcomes.

These applications do not really consider individual difference factors as outlined in the DRIVE model and almost exclusively focus on job characteristics and health or epidemiological-type outcomes. However, there is a much more prevalent use of psychosocial research in industry, which has a different focus but covers a number of the same psychosocial independent variables and more. This is the commercial deployment of Employee Engagement surveys, which have exploded in interest over the past decade, into a multi-million-dollar industry, with many employers conducting – at first annual, but now increasingly regular surveys. Like many stress models, these focus on psychosocial workplace characteristics, such as



demands, control, support, career development, role, and add measures on the work environment, tools, equipment, training, workload, manager relationships, peer support, meaningful work, and accomplishment. Furthermore, instead of just a sole focus on the causes and antecedents of adverse health outcomes (as with much traditional stress model research), these surveys focus just as much on employee experience outcomes themselves, namely psychological and behavioral indicators of engagement and the actual experiences of workers, similar to DRIVE and transactional models.

Much of the antecedent research around engagement in academia is based on work on motivation such as Maslow's Hierarchy of Needs (1943) and Herzberg's (Herzberg & Hamline, 1961) Two-factor theory (i.e. motivators and hygiene factors) which were some of the first to consider what drives employees. These were followed by concepts such as Flow, popularized by Csikszentmihályi (1990), Personal Engagement Kahn (1990), and crucially Burnout – which is often considered the counterpoint to engagement (Maslach, Schaufeli & Leiter, 2001) as well as being a potential outcome from long-term failure to cope with stressors. Hence there are parallels between these academic and practitioner psychosocial models.

In 2004, Robinson, Perryman and Hayday, working for the Institute for Employment Studies, developed questions intended to measure observable behaviors that would show evidence of underlying employee engagement based on “organizationally prosocial behaviors”. Practitioners then took the principles that had been laid out by academics and applied them to industry. These included:

- Being proud to tell others where you work
- A belief that the organization provides good products/services and recommends these
- A willingness to behave altruistically and go beyond what is required (discretionary effort)
- Having a match between the organization and personal values

These concepts later developed into the so-called “Say, Stay, Strive” model of engagement, upon which almost all modern engagement surveys are based.

The trajectory of employee engagement methodology is fascinating, firstly as it has become so ubiquitous and has helped to put industrial and organizational psychology into mainstream HR functions. Secondly, while this work has a somewhat different theoretical root to stress research, it has ended up measuring similar psychosocial characteristics. Thirdly, these measures are more employee-centric and consider individual experiences in a way that are more reminiscent of transactional models, or indeed the DRIVE model, rather than traditional job characteristics models. It is proposed that applying DRIVE principles to employee engagement practice could be a possible direction for future research, which would enhance current employee engagement practice to become more holistic, and further differentiate from job characteristics models as used in stress research.

## **PART 4: THE WAY FORWARD: FUNDAMENTAL RESEARCH**

### **Methodological Issues**

One of the major problems of most models of stress and well-being is that they are based mainly on cross-sectional data. This leads to the problem of reverse causality, where the outcome may influence the perception of the predictor. This issue can be addressed by conducting longitudinal studies where analyses examine the association between the time one predictors and subsequent outcomes (a cross-lag analysis) or where change scores are analyzed. Intervention studies aiming to induce change are an even better way of looking at causal mechanisms.

Research using the DRIVE model has generally identified independent effects of the predictors rather than mediation or moderation. However, mediation may occur if one uses a variable that can be considered an outcome of the job and personal characteristics and a predictor of outcomes. Perceived stress, job satisfaction, work-life balance and rumination are good examples of this variable type. Moderation may occur when the negative and positive predictors are matched. An excellent example of this is stress and social support. If the source of stress is low self-esteem, then support that increases self-esteem will reduce the effect of the stress. However, other types of social support (e.g., tangible support or belonging support)

will not produce this buffering effect. The predictor variables used in the DRIVE and well-being process models are usually reasonably general, meaning matching positive and negative variables is often challenging. This explains the presence of independent effects and the less-frequent occurrences of moderation.

Another methodological issue in research using the DRIVE model is common method variance. The predictors and outcomes are both measured by self-report, so any biases in using the reporting scales could account for the associations. Ideally, objective measurement of either the predictors or outcomes is required. This has been achieved in other types of stress research. For example, Cohen, Tyrrell, and Smith (1991) examined associations between negative life events, perceived stress, negative affect, and infection with cold producing viruses. The stress variables were measured before the virus challenge using questionnaires, but objective measures of infection (virus shedding and antibody levels) were taken. The DRIVE model is now appropriate for use with objective outcomes. These could be physiological measures, disease parameters or even objective cognitive functioning tests.

## **PART 5: THE WAY FORWARD: USING DRIVE TO INDIVIDUALIZE RESEARCH IN INDUSTRY**

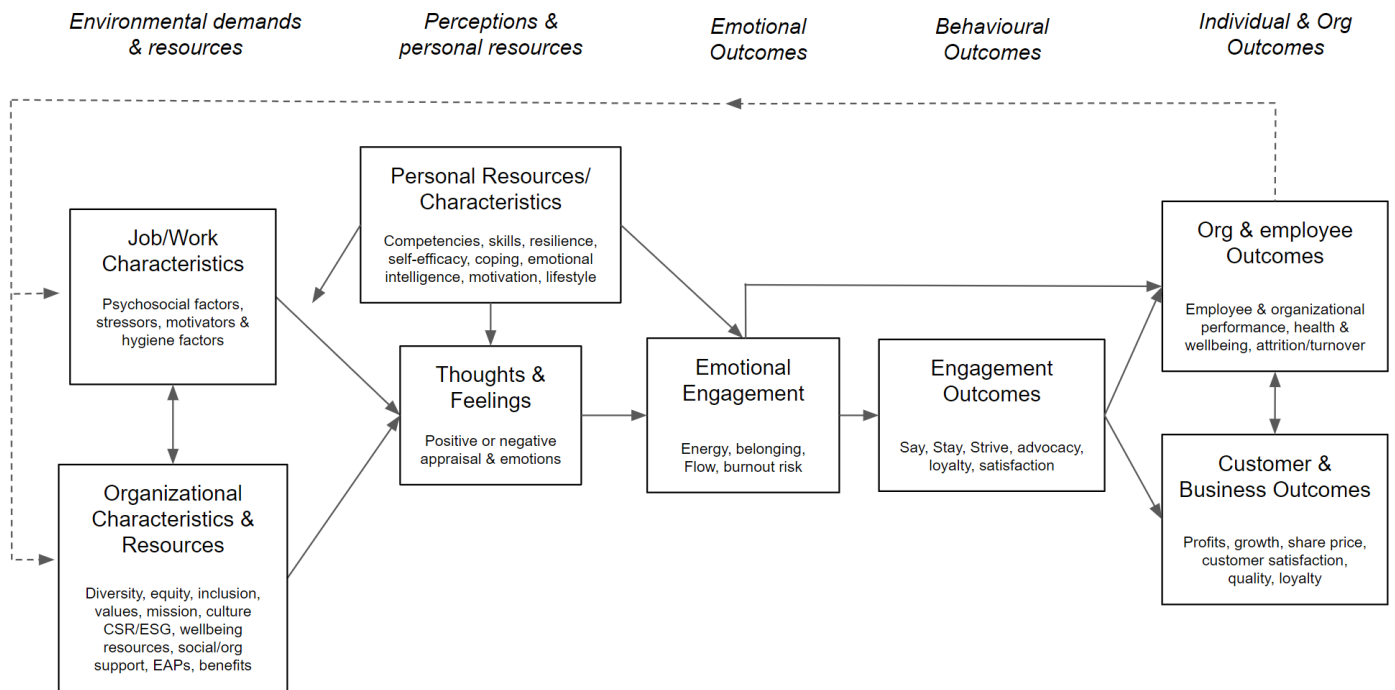
The researchers have discussed the background and applications of the DRIVE model in research and the importance of psychosocial factors in industry research as represented by employee engagement practice. Indeed, there is still somewhat of a schism between academic psychosocial models involving stress and health outcomes and psychosocial models used in the industry around employee engagement, which utilizes individual experience outcomes.

It is proposed that the principles behind the DRIVE model, including bringing individual difference factors into a transactional framework for the study of psychosocial stressors, could be expanded to apply to study and practice around employee engagement in the industry. A new version of the DRIVE model is outlined below, which uses the same principles as previously outlined, but is more holistic and integrated than any models currently in use in work around employee engagement or broader employee experience or in psychosocial stress research.

It is proposed that this could be a future direction of research both in industry and academia, advancing the validity and power of research across both domains. It would require access to a wider breadth of data than has ever been collected before, but this, however, is possible, for example, with collaboration between employee engagement providers and HR tech providers who capture data on many aspects of the below model (for example the HR database provider *Workday*, which owns the employee engagement survey provider *Peakon*).

**Figure 3: DRIVE model for employee engagement research**

DRIVE model applied to employee experience & engagement



In the model outlined above, the transactional-type approach combines individual and environmental demands and resources, emotional and behavioral engagement, and individual and organizational outcomes. The model represents the following features and relationships:

- The work environment and organizational demands and resources exist in the form of psychosocial job characteristics (demands, control, support, rewards, development, tools, training, development, environment, etc.) and organizational characteristics such as culture, equity, inclusion, etc. These directly impact individual thoughts and feelings in the form of positive or negative appraisals and emotional responses.
- Personal resources (and characteristics) in the form of competencies, skills, resilience, coping, and lifestyle factors (exercise, diet, etc.) have a direct effect on thoughts and feelings as well as a moderating effect on the impact of job characteristics/demands, on thoughts and feelings.
- As a result of these appraisals and transactions, emotional outcomes ensue, in the form of “Emotional Engagement”. We define these as being drawn from the academic research around *Flow* and *Burnout* (Csikszentmihályi, 1990; Maslach, Schaufeli & Leiter, 2001), which are largely ignored in current employee engagement practice, with a focus instead on visible behaviors rather than their emotional antecedents. Personal resources and characteristics are proposed to have a main effect on these emotional engagement outcomes directly.
- Emotional engagement is then hypothesized to directly impact levels of employee engagement, measured by organizationally prosocial behaviors (as used by most current employee engagement practitioners and survey companies, i.e. expressions of advocacy, satisfaction, loyalty, pride, commitment, and discretionary effort).

- Engagement outcomes, along with a direct effect of emotional engagement, lead to organizational and employee outcomes, such as performance, health and well-being, and attrition/turnover. Also, employee engagement outcomes are proposed to link to business and customer outcomes, through profits, growth, customer satisfaction, etc., due to increased employee efforts and commitment (for which there is growing evidence in anecdotal provider research, Macleod & Clarke, 2009). Finally, there is a feedback loop from individual and organizational outcomes to impact the organization's long-term characteristics and culture.

It is proposed that introducing additional measures of the types outlined could have a revolutionary impact on our understanding of the drivers, transactions, and effects of individual and workplace demands and resources, on the popular area of employee engagement where research and theory have otherwise remained relatively static since the inception of the first “Say, Stay, Strive” model, almost 20 years ago.

### *Recommendations for the future*

As outlined above, there are a number of exciting avenues to further develop the DRIVE concept in the future. This includes more research on the enhanced version of the model in Figure 2. to confirm aspects of mediation and moderation effects, as well as to introduce new individual difference variables that have not so far been included. Secondly, controlled studies looking at the applications for stress management or both organizational level and individual level interventions would add greatly to the body of work around the model, which along with reductions in complexity would likely raise the utility and reach of the model.

Thirdly, and perhaps most exciting, is the application of the model to an area that already has a strong presence in industry worldwide, which is employee engagement and experience. DRIVE can help practitioners to organize and consolidate thinking around what matters in terms of the environment, culture, and individual differences when it comes to individual employee experiences, as well as what the implications are for organizational and customer outcomes. The next step of development for the model is to again attempt to capture a wider array of data than has previously been collected and to carry out detailed analyses to provide evidence to support or modify the model, and, if successful, the implications for research and practice could be substantial.

## **SUMMARY**

The first part of the present chapter described the Demands-Resources-Individual-Effects (DRIVE) model development. Mark and Smith (2008) reviewed models of occupational stress, covering the Demands-Control-Support model, the Effort Reward Imbalance Model and Transactional models of stress. They then developed the Demands-Resources-Individual-Effects (DRIVE) model, which maintained features of the earlier models but placed a greater emphasis on individual differences and personal resources. The basic model included factors from the Demand-Control-Support model (DCS) model, attributional explanatory styles, coping behaviors, and outcomes such as anxiety, depression, and job satisfaction. The model was intended as a general framework into which study relevant variables could be added. The simple DRIVE model proposed direct effects of the predictor variables on outcomes and moderation of the effects of demands by individual differences and resources. The enhanced DRIVE model included perceived stress and other interactive effects.

The second part of the chapter reviewed recent research using the model. This section started with a description of the development of the Wellbeing Process Questionnaire (WPQ), which was initially used to analyze both positive and negative aspects of work. Studies examining a range of occupations, specific occupations, such as teaching and nursing, and samples from other countries have supported the view that adverse outcomes like stress, anxiety, and depression are primarily predicted by high scores on job demands or stressors and negative coping styles. Low scores on positive characteristics, such as psychological capital and social support, are weaker predictors of the adverse outcomes but are strong predictors of positive

outcomes like job satisfaction and happiness. Generally, the predictor variables have independent and additive effects, with the combined score showing a dose-response with the outcomes.

The chapter also describes the addition of new variables. Most of them have been individual difference variables. However, some studies have extended the types of risk factors studied (e.g., role ambiguity, consultation about change, and interpersonal conflict such as bullying). The individual differences include variables such as rumination, where affective rumination about work-related issues leads to increased mental health problems, but positive pondering improves positive well-being. Other research has examined traditional safety outcomes, such as accidents, minor injuries and cognitive failures. Again, these negative outcomes are associated with unfavorable working conditions. The same profile is found with health-related outcomes, such as presenteeism, absenteeism and an illness caused or made worse by work. Recommendations for future fundamental research are also made.

The final section of the chapter discusses the future application of the DRIVE model to employee engagement. Work environment and organizational demands and stressors are identified. These then lead to positive or negative appraisals and emotional responses. Competencies, skills, resilience, coping, and lifestyle directly affect thoughts and feelings and can moderate the impact of demands and resources. Emotional engagement outcomes then occur, and these directly affect employee engagement. Engagement outcomes then influence performance, health and well-being, and attrition and turnover.

Overall, the chapter provides a comprehensive account of the DRIVE model's past, present, and future applicability to the occupational stress context.

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