

The Influence of Job Characteristics on the Motivation and Satisfaction of Mid-Career Professionals

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Abstract

The Job Characteristics Model (JCM), which postulates that effective job design can foster internal work motivation and satisfaction through the inducement of positive affect, has been abundantly researched since its origination almost five decades back. Yet, little is known about which of the five job dimensions and three psychological states within the JCM bear significance for mid-career professionals, who are at a crucial point of transition in their careers, known to be marked by self-discovery. Hence, the objective of this study is to assess the extent to which the core job dimensions influence the internal work motivation and satisfaction of mid-career professionals and to evaluate whether the critical psychological states mediate these relationships. Data has been collected from a convenience sample of 221 mid-career professionals working in Bangladesh and analyzed using structural equation modeling (SEM). Results indicate that autonomy is the job dimension with the strongest positive impact on both outcomes. In addition, the critical psychological state of experienced meaningfulness not only mediates the relationship between both outcomes and their antecedent job dimensions (skill variety, task identity, task significance), but also emerges as the only predictor with a large effect size on both motivation and satisfaction. The study, therefore, indicates that job redesign interventions should be structured with an emphasis on helping mid-career professionals connect the dots between their personal values and priorities and work experiences, which is the essence of meaningfulness. From a theoretical standpoint, the study underscores why the widespread practice of overlooking the mediating role of critical psychological states in studies utilizing the JCM may be ill-advised. From a methodological standpoint, it highlights the superiority of the SEM method, which has been underutilized in JCM research.

Keywords

Job Characteristics Model, Critical Psychological States, Internal Work Motivation, Satisfaction, Mid-Career Professionals

1. Introduction

Since its formulation in 1976 by Hackman and Oldham, the Job Characteristics Model (JCM) has stood the test of time as a framework for understanding how the design of a job may be a key factor in shaping the internal work motivation of individuals performing that job (Humphrey et al., 2007; Serhan & Tsangari, 2022). According to the JCM, five dimensions lie at the core of a job. Three of these dimensions, namely, skill variety, task identity, and task significance are postulated to lead individuals to find their work more meaningful, captured in a critical psychological state known as experienced meaningfulness. The other two dimensions, namely, autonomy and feedback, are postulated to lead, respectively, to two other critical psychological states, namely experienced responsibility and knowledge of results. Hackman & Oldham (1976) suggest that when all three critical psychological states are felt due to the presence of the five core job dimensions, individuals experience positive affect. This positive affect has a self-reinforcing impact on the internal motivation to work. It also enhances other personal outcomes, such as job satisfaction, work outcomes, and job performance (Hackman & Oldham, 1976).

The JCM is one of the most widely researched models in the field of organizational psychology (Behson et al., 2000), with a plethora of studies employing it to understand how job design influences motivation (Hadi & Adil, 2010; Zaman et al., 2020), job satisfaction (e.g. (Haque & Hossain, 2010; Ali et al., 2014)), performance (e.g. (Djastuti, 2010; Hanh et al., 2022)), and a host of other variables. A lot of these studies have focused on specific groups of employees, such as those working in a given sector like banking (e.g. (Anjum et al., 2014; Hanh et al., 2022)), teaching (e.g. (Islam et al., 2021; Salaudin et al., 2022)) or sales (e.g. (Bhuidan & Mengu, 2002; Katsikea et al., 2011)) while others have focused on individuals belonging to specific demographic groups (e.g. (Singh et al., 2016; Cavanagh et al., 2020)). However, few studies, if any, have explored how far the JCM explains attitudinal and behavioral outcomes for employees belonging to specific career stages such as early, middle, or late careers.

The above represents a critical gap in the extant literature since research has consistently shown that career stage is a vital factor in shaping how work is experienced (Vilela & Casado, 2023). Mid-career, in particular, constitutes an important point of transition, where individuals engage in deeper exploration of their values and interests and seek to align these with work experiences to achieve a stronger sense of self (Grady & McCarthy, 2008; Maddox-Daines, 2016). It can, therefore, be argued that mid-career is a stage where the experience yielded by the

nature and design of the job itself rather than factors external to it may assume salience, thus making the JCM a potentially useful model for eliciting positive personal and work outcomes at this stage. Hence, the purpose of this paper is to assess the extent to which the five core job dimensions of the JCM influence the internal work motivation and satisfaction of mid-career professionals, both with and without the mediating effect of the critical psychological states. Data has been collected for this research from a convenience sample of 221 mid-career professionals working across different industries in Bangladesh. The structural equation modeling (SEM) approach has been used for data analysis.

In addition to employing the JCM in a domain where it has been understudied as discussed above, this study promises to make three additional contributions. First, majority of studies on the JCM have examined the direct effect of the core job dimensions on work/personal outcomes, completely ignoring the mediating role of the critical psychological states (Behson et al., 2000; Serhan & Tsangari, 2022). Renn & Vandenberg (1995) contend that there is little theoretical or empirical support for this omission, and it seems, instead, to be attributable to the analytical challenges associated with studying the mediation effect. Hence, by studying not just the direct effect of the core job dimensions but also the mediating role of the critical psychological states, the present study aims to address this gap and deepen theoretical understanding of the model in its originally intended form.

Second, researchers have noted that few studies on the JCM have used sophisticated statistical techniques such as SEM (Behson et al., 2000). By responding to this call for utilizing SEM, the present study promises to make a methodological contribution. Finally, from a practical standpoint, the study can provide insights to organizations on how job design may be employed to sustain the motivation and satisfaction of mid-career professionals. Such insight may be quite useful since mid-career professionals, who represent a rich source of accumulated experience, are considered to be highly valuable and difficult-to-replace resources for organizations (Bird, 1994).

The rest of the paper is structured as follows. The conceptual framework and hypotheses are presented next, followed by a description of the methodology. Then the results are presented, followed by a detailed discussion of the same. The paper concludes with a reflection on its implications for theory and practice and directions for future research.

2. Conceptual Framework

The JCM, as originally proposed by Hackman & Oldham (1976) constitutes the theoretical framework for this study. When formulating this model, the authors were seeking to explore what job characteristics may be capable of fostering a sense of internal work motivation within people, such that they would strive for better performance simply because of the positive feelings activated therefrom (Oldham & Hackman, 2010). Their research yielded the JCM (Figure 1).

As shown in **Figure 1**, the JCM has three main components. First come the core job dimensions (CJDs), whose presence increases the motivating potential of a job. The CJDs include: 1) *skill variety*—the extent to which the job requires individuals to engage in a variety of activities, drawing upon a number of different skills and talents; 2) *task identity*—the extent to which the job involves the completion of a whole and identifiable piece of work; 3) *task significance*—the extent to which the job has a broader impact, either within the organization itself, or on the lives/work of others; 4) *autonomy*—the extent to which the job allows independence and discretion to individuals in performing their work; 5) *feedback*—the extent to which performing the work activities entailed by the job allows individuals to gain direct and clear information on the effectiveness of their performance (Hackman & Oldham, 1976; Garg & Rastogi, 2005; Park, 2017).

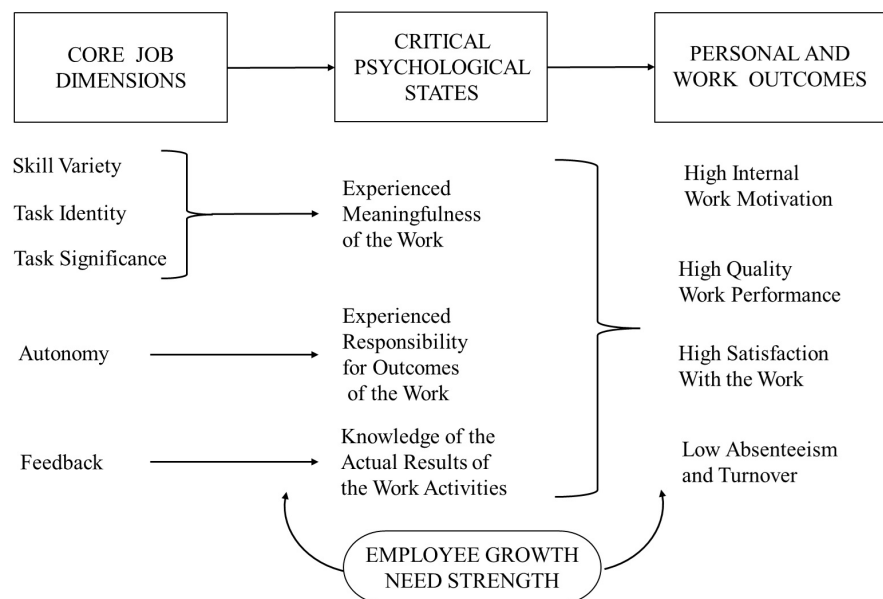


Figure 1. The job characteristics model (Source: Hackman & Oldham, 1976).

To the extent that the CJDs activate the critical psychological states (CPSs), a number of outcome variables are expected to be influenced positively. Foremost among these is *internal work motivation*. Internal work motivation comes from within a person and is driven by his/her sense of inner satisfaction rather than external reinforcements (Zaman et al., 2020). This is arguably the most critical outcome variable in the JCM since, in the words of Hackman & Oldham (1976), it directly taps the contingency between effective performance and self-administered effective rewards. In other words, the experience of positive affect due to the combined effect of the CJDs and the CPSs, is expected to set off a virtuous cycle where the desire to continue experiencing positive affect from performing well on a task that one finds worthwhile and for which one feels responsible, serves as the basis for sustained motivation. The three other outcome variables are *satisfaction with the work* (more generally known as job satisfaction), *quality of work*

performance, absenteeism and turnover. Among these, only internal work motivation and job satisfaction have been considered in the present study, since the predictive accuracy of the JCM is much stronger for these two variables (Oldham & Hackman, 2010).

It is also pertinent to mention that although *growth need strength*, defined as the extent to which individuals desire personal growth and development is considered to serve as a moderator between the CJDs and the CPSs, and also between the CPSs and outcome variables in the original formulation of the JCM, subsequent research has offered strong evidence against its inclusion (e.g. (Tiegs et al., 1992; Boonzaier et al., 2001)). Hence, it has not been examined in the current study.

3. Formulation of Hypotheses

3.1. The Core Job Dimensions and General Satisfaction

Job satisfaction is a multidimensional construct (Poulin, 1996) which has been variously defined in the literature. One of the most popular definitions is that by Locke (1969), who defines job satisfaction as the pleasurable emotional state arising from the appraisal of one's job. In their operationalization of the outcome variables in the JCM, Hackman & Oldham (1974) refer to job satisfaction as *general satisfaction* (GS) and define it as an overall measure of the degree to which the employee is happy with the job. This definition is most relevant to the present study.

The relationship between the five job characteristics and job satisfaction has been abundantly researched and found to be significant across a wide variety of organizational, professional, and cultural contexts. In a meta-analysis conducted in 1985, Loher and colleagues found this relationship to be positive and moderate in strength. This has been supported by a subsequent meta-analysis conducted in 2007 by Humphrey and colleagues. In addition, several empirical studies have found results consistent with these two meta-analyses. Examples include Yen-Ju et al. (2007) studying pharmacists in Taiwan Region, Said & Munap (2011) studying mid-level managers in Malaysia, Ali et al. (2014) studying fast food managers in Malaysia, Anjum et al. (2014) studying banking sector employees in Pakistan, and Khalil (2017) studying radio station employees in Syria, to name just a few.

It is pertinent to mention that while the JCM, in its entirety, has been shown to exert significant positive influence on job satisfaction, the extant literature contains mixed findings where the degree of influence of the individual CJDs is considered. For instance, while Hadi & Adil (2010) and Anjum et al. (2014) found task identity to be the strongest predictor of job satisfaction for banking sector employees in Pakistan, Ali et al. (2014) and Hassim & Bakar (2017) found autonomy to be the strongest predictor of job satisfaction for employees in the Malaysian fast-food sector and city council respectively. Notably, in one of the few studies investigating the relationship between the CJDs and job satisfaction in Bangladesh, Haque & Hossain (2010) found that when the relation between the five job dimensions and job satisfaction is considered together, all are found to be

significant. However, when partial correlations are considered, only task significance, autonomy, and feedback remain significant. In contrast, in another study conducted in Bangladesh in 2019, Lashari and colleagues found only task identity, task significance, and skill variety to be significant predictors of satisfaction, with no influence of either autonomy or feedback.

In line with the conceptual framework and a considerable volume of existing literature (e.g. (Loher et al., 1985; Humphrey et al., 2007; Yen-Ju et al., 2007; Said & Munap, 2011; Ali et al., 2014; Anjum et al., 2014; Khalil, 2017)), this study hypothesizes that there is a significant positive relationship between each of the CJDs and general satisfaction of mid-career professionals. The first set of hypotheses may therefore be stated as follows.

H_{1a}— There is a significant positive impact of skill variety (SV) on GS.

H_{1b}— There is a significant positive impact of task identity (TI) on GS.

H_{1c}— There is a significant positive impact of task significance (TS) on GS.

H_{1d}— There is a significant positive impact of autonomy (A) on GS.

H_{1e}— There is a significant positive impact of feedback (F) on GS.

3.2. The Core Job Dimensions and Internal Work Motivation

Much like job satisfaction, motivation has been defined variously. A common thread in these definitions is the view of motivation as a drive or a force, which is necessary to direct and sustain behavior towards goal attainment (e.g. (Bent et al., 1999; Analoui, 2000)). Of relevance to this study is the notion that motivation varies not only in intensity but also in its orientation. When motivation is driven by the desire to obtain an outcome separable from the task, it is known as extrinsic, whereas when motivation is driven by the nature of the task itself, it is known as intrinsic (Ryan & Deci, 2000). Since the JCM is rooted in the premise that the task itself is key to an individual's motivation, internal work motivation (IWM) may be seen as corresponding closely to intrinsic motivation. In their operationalization of the outcome variables in the JCM, Hackman & Oldham (1974) define IWM as the degree to which individuals are self-motivated to perform effectively on the job due to the positive feelings associated with good performance and the negative feelings associated with poor performance. This is the definition that is best aligned with the present study.

Two separate meta-analyses conducted by Fried & Ferries (1987) and Humphrey et al. (2007) found that each CJD exerts a significant positive influence on IWM as postulated by the JCM. These results have been supported by several empirical studies such as Sultan (2012) studying banking sector employees in Pakistan, Zabihi et al. (2012) studying public and private sector employees in Iran, Zaman et al. (2020) studying gig workers in Pakistan, Hanh et al. (2022) studying banking sector employees in Vietnam, among others. However, there is some evidence to the contrary as well. For instance, Hadi & Adil (2010), studying the Pakistan context, found only task identity and task significance to be valid predictors of IWM. Likewise, Lashari et al. (2019), while studying the Bangladesh context,

found that skill variety, task identity and task significance predict IWM, with no influence of either autonomy or feedback. Bassy (2002) contends that the relative importance of the CJDs in driving IWM may depend on demographic characteristics such as age, and more importantly, on the number of years spent in an organization, with a spike in the motivating potential of skill variety, task identity and task significance observed after the ten-year mark.

In line with the conceptual framework and the meta-analytic findings of Fried & Ferries (1987) and Humphrey et al. (2007), this study hypothesizes that there is a significant positive relationship between each of the CJDs and internal work motivation of mid-career professionals. The second set of hypotheses may therefore be stated as follows.

H_{2a}— There is a significant positive impact of skill variety (SV) on IWM.

H_{2b}— There is a significant positive impact of task identity (TI) on IWM.

H_{2c}— There is a significant positive impact of task significance (TS) on IWM.

H_{2d}— There is a significant positive impact of autonomy (A) on IWM.

H_{2e}— There is a significant positive impact of feedback (F) on IWM.

3.3. The Mediating Role of the Critical Psychological States

The original JCM was arguably centered on the three critical psychological states (CPSs) since Hackman & Oldham (1976) identified these as being key to the generation of positive affect. Subsequent literature has consistently overlooked this importance attributed to the CPSs, as reflected in the meagre number of studies examining their mediating role. However, the mediating effect has been largely supported by the few studies that have chosen to examine it. For instance, in a meta-analysis conducted in 2007, Humphrey and colleagues found strong support for the proposition that experienced meaningfulness mediates the relationship between the three core job dimensions proposed as its antecedents (skill variety, task identity, task significance) and IWM/GS. In the same study, partial support was found for the mediating role of experienced responsibility, although no support was found for the mediating role of knowledge of results. These results are quite consistent with an earlier meta-analysis conducted by Behson et al. (2000), who found the mediating role of experienced meaningfulness to be the strongest of all.

Other studies (e.g. (Johns et al., 1992; Renn & Vandenberg, 1995; Serhan & Tsangari, 2022)) have likewise suggested that although all three CPSs may not need to co-exist to induce positive affect and may serve as partial, rather than complete mediators, there is little doubt that inclusion of the CPSs enables us to explain variance in affective outcomes beyond that explained by the CJDs. Hence, the present study hypothesizes that the CPSs mediate the relationship between specific job dimensions and IWM/GS. The final set of hypotheses may therefore be stated as follows.

H_{3a}— Experienced meaningfulness (EM) mediates the relationship between SV and GS.

H_{3b}—Experienced meaningfulness (EM) mediates the relationship between TI and GS.

H_{3c}—Experienced meaningfulness (EM) mediates the relationship between TS and GS.

H_{3d}—Experienced responsibility (ER) mediates the relationship between A and GS.

H_{3e}—Knowledge of results (KR) mediates the relationship between F and GS.

H_{4a}—Experienced meaningfulness (EM) mediates the relationship between SV and IWM.

H_{4b}—Experienced meaningfulness (EM) mediates the relationship between TI and IWM.

H_{4c}—Experienced meaningfulness (EM) mediates the relationship between TS and IWM.

H_{4d}—Experienced responsibility (ER) mediates the relationship between A and IWM.

H_{4e}—Knowledge of results (KR) mediates the relationship between F and IWM.

4. Methodology

4.1. Sampling Method

Since this study focuses on the application of the JCM to mid-career professionals, it was necessary to identify an empirically supported definition of the target population. According to Arthur et al. (1989), career is the sequential unfolding of a person's work experiences, which is marked by distinct stages. Researchers have taken different approaches in categorizing these stages, with the use of people's chronological age, tenure within an organization, and overall job tenure identified respectively as the three most common approaches (Bedeian et al., 1991). While each approach has its own merit, this study uses chronological age for defining "mid-career" since Gostautaitė et al. (2020) have shown that the high correlation between an individual's age and length of professional work experience makes age a valid criterion for operationalizing career stages. This approach is also widely used as shown in a recent meta-analysis by Vilela & Casado (2023). Hence, in line with studies such as Scheepers et al. (2017), this paper defines mid-career professionals as those belonging to the 31 - 45 age group.

Non-probabilistic convenience sampling has been used to collect data. The data collection process was initiated in May 2024 and concluded in the first week of June 2024. A structured questionnaire based on the Job Diagnostic Survey (discussed in Section 4.2) was emailed to over 400 professionals based in Dhaka, the capital of Bangladesh, taking care to ensure that respondents from both genders and a variety of industries were represented (Table A1 in the Appendix). Initially, the authors circulated the questionnaire amongst their current and former graduate students who are known to be employed. Subsequently, these initial set of respondents were requested to circulate the questionnaire in their professional network. The purpose of the study was mentioned in the email and recipients were

assured that anonymity would be maintained. 306 responses were received, representing a response rate of 76.5%. Of these, 85 had to be discarded since the age of the respondents did not match that of mid-career professionals. The final sample size thus obtained was 221. According to [Soper \(2021\)](#)'s method, the required minimum sample size is 190 assuming an anticipated medium effect size of 0.3, a statistical power of 80%, 10 latent variables, and a significance level of 5%. The final sample size exceeds this number and can be considered adequate ([Cohen, 1988](#); [Kock, 2018](#)).

4.2. Measures and Instruments

The revised Job Diagnostic Survey (JDS) has been used to measure the CJDs, IWM, and GS. The rationale behind using the revised JDS rather than the original JDS is that the former is more parsimonious and avoids reverse scored items which have been shown to cause inconsistencies (e.g. ([Idaszak & Drasgow, 1987](#))). In addition, evidence suggests that the revised JDS supports the five-factor structure of the JCM better than the old version ([Boonzaier et al., 2001](#)). Hence, the instrument has been employed in its entirety, excluding only the four indicators that measure "Growth Satisfaction" since this variable is not included in the present study. The CJDs were measured using three indicators each, IWM was measured using six indicators, and GS was measured using five indicators. However, where the three CPSs are concerned, items from the old JDS had to be used since the revised JDS does not include measures for these. Hence, EM and KR were measured with four indicators each, while ER was measured using six indicators. All questions required responses on 7-point Likert scales. The questionnaire is shown in **Appendix B**.

4.3. Analytical Procedure

Data analysis and hypothesis testing were done using Structural Equation Modeling (SEM). In addition to responding to the call made in past papers for application of SEM in JCM studies, there are two key reasons why this method was chosen. First, compared to traditional regression which is a univariate technique, SEM is a multivariate technique, apt for the testing of complex models which consist of several endogenous and exogenous variables that may be connected through multiple direct/indirect pathways ([Zyphur et al., 2023](#)). Second, SEM allows these endogenous and exogenous variables to be modeled as latent variables that cannot be directly observed but must instead be estimated based on observed data ([Bollen, 2002](#)). This is a major advantage in organizational research where most variables, such as motivation, satisfaction, engagement, well-being, etc. take the form of latent variables that cannot be observed directly ([Zyphur et al., 2023](#)). Partial least squares structural equation modeling (PLS-SEM) was used instead of covariance-based SEM since several studies attest to its superior predictive capability and higher accuracy in estimating path coefficients ([Hair et al., 2011](#)). Some recent studies on the JCM have also used this technique (e.g. ([Zaman et al., 2020](#))).

5. Data Analysis and Results

5.1. Measurement Model Analysis

Figure 2 demonstrates the measurement model with factor loadings of each item and composite reliability of the constructs. The lower-order latent constructs— IWM and GS and their predictors SV, TI, TS, A, and F are assessed for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity based on the evaluation of the measurement model. The results are shown in **Table 1**.

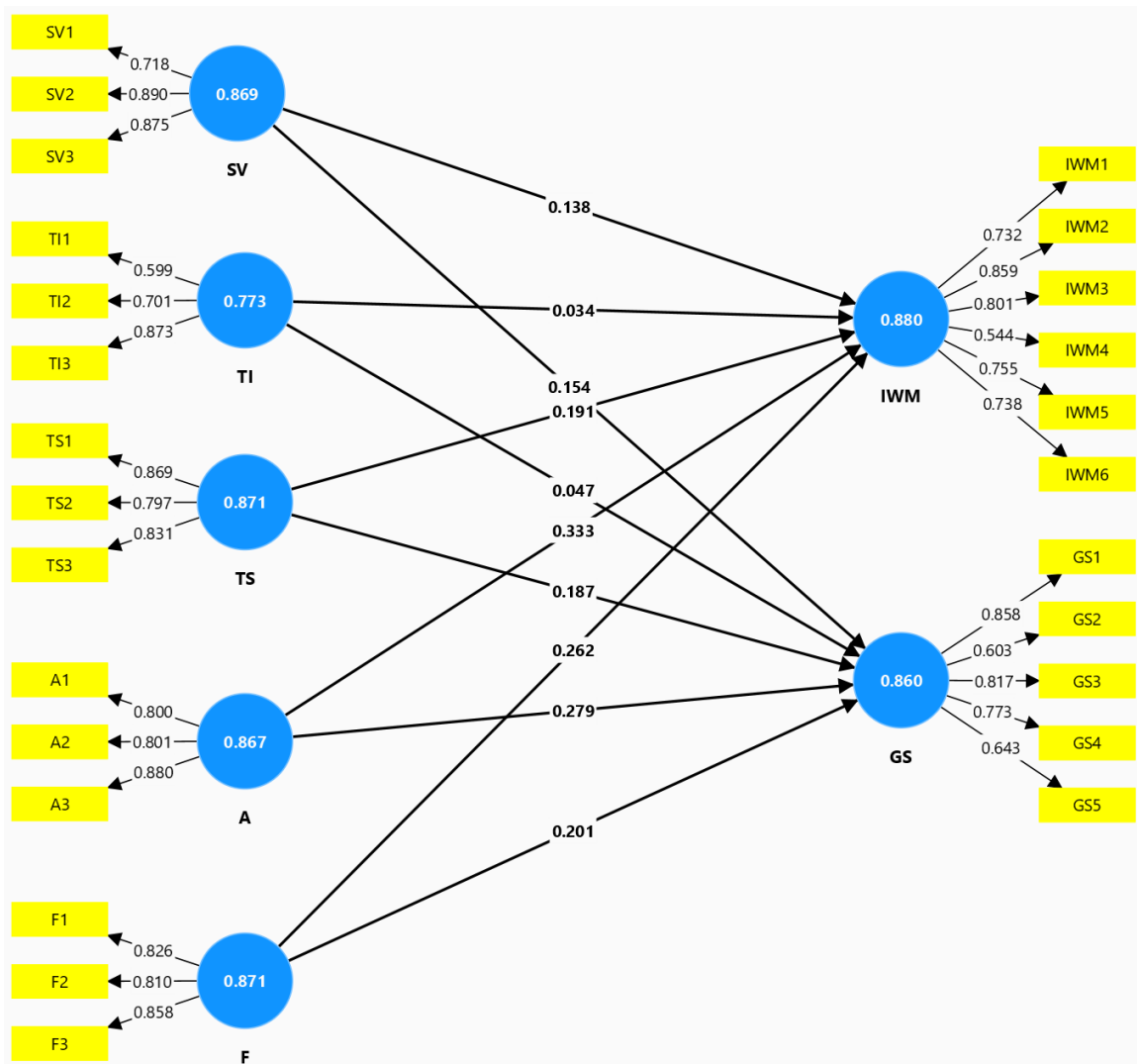


Figure 2. Internal measurement model.

As shown in **Table 1**, none of the indicators in the study had a factor loading below the minimum recommended value of 0.5 (Hair et al., 2022). While factor loadings greater than 0.7 are ideal, weaker outer loadings (<0.7) are frequently observed. In such situations, it is necessary to carefully examine how removing items affects the construct's content validity and composite reliability. Generally,

an indicator with outer loading between 0.4 and 0.7 should only be eliminated if its removal significantly improves the composite reliability (Hair et al., 2022). However, this was not found to be the case here. Lastly, no discernible difference was found in the model estimates when more items were removed to raise the average variance extracted (AVE). Hence, no items were removed.

Table 1. Assessment of indicator reliability, internal consistency and convergent validity.

Construct	Item	Loading	Cronbach's alpha	CR	AVE	Convergent validity (AVE > 0.5)
Skill Variety (SV)	SV1 ← SV	0.718	0.770	0.869	0.691	Yes
	SV2 ← SV	0.890				
	SV3 ← SV	0.875				
Task Identity (TI)	TI1 ← TI	0.599	0.577	0.773	0.538	Yes
	TI2 ← TI	0.701				
	TI3 ← TI	0.873				
Task Significance (TS)	TS1 ← TS	0.869	0.780	0.871	0.693	Yes
	TS2 ← TS	0.797				
	TS3 ← TS	0.831				
Autonomy (A)	A1 ← A	0.800	0.771	0.867	0.686	Yes
	A2 ← A	0.801				
	A3 ← A	0.880				
Feedback (F)	F1 ← F	0.826	0.778	0.871	0.692	Yes
	F2 ← F	0.810				
	F3 ← F	0.858				
Internal Work Motivation (IWM)	IWM1 ← IWM	0.732	0.836	0.880	0.554	Yes
	IWM2 ← IWM	0.859				
	IWM3 ← IWM	0.801				
	IWM4 ← IWM	0.544				
	IWM5 ← IWM	0.755				
	IWM6 ← IWM	0.738				
General Satisfaction (GS)	GS1 ← GS	0.858	0.806	0.860	0.556	Yes
	GS2 ← GS	0.603				
	GS3 ← GS	0.817				
	GS4 ← GS	0.773				
	GS5 ← GS	0.643				

Next comes the establishment of construct reliability and construct validity. **Table 1** depicts that Cronbach's alpha exceeded the required upper threshold of 0.7 (Hair et al., 2011) for all constructs except TI. However, composite reliability (CR)

values for all constructs outdid the recommended value of 0.708 (Hair et al., 2019). Hence, construct reliability is established. Next, all the constructs have AVE greater than 0.5 (Table 1), implying that items converge to measure the underlying construct (Hair et al., 2019). Hence, convergent validity is established. Finally, discriminant validity was assessed by the heterotrait-monotrait (HTMT) ratio as presented in Table 2. It is evident that all HTMT ratios are below the conservative threshold of 0.85 (Henseler et al., 2015). Therefore, discriminant validity is established.

Table 2. Assessment of discriminant validity – HTMT ratio.

Construct	A	F	GS	IWM	SV	TI	TS
A							
F	0.514						
GS	0.623	0.605					
IWM	0.745	0.723	0.777				
SV	0.667	0.662	0.584	0.689			
TI	0.761	0.734	0.596	0.697	0.748		
TS	0.561	0.721	0.628	0.694	0.679	0.684	

5.2. Structural Equation Model Analysis

The first step of structural model analysis is to assess multicollinearity through the variance inflation factor (VIF). The VIF values for all the path relations are below 5 (Table A2 in the Appendix) and hence, do not lead to any multicollinearity issue (Hair et al., 2021).

Since multicollinearity is not a problem for the model, the proposed hypotheses are tested by evaluating the structural path coefficients (β) and their statistical significance. Table 3 reveals that the effect of all core job dimensions is significant on general satisfaction and internal work motivation, the only exception being task identity. Thus, the hypotheses that are not supported are H_{1b} : $TI \rightarrow GS$ ($\beta = 0.047$, $p = 0.237$) and H_{2b} : $TI \rightarrow IWM$ ($\beta = 0.034$, $p = 0.344$). However, SV, TS, A, and F significantly and positively impact GS and IWM. Especially, H_{1c} ($TS \rightarrow GS$: $\beta = 0.187$, $p = 0.004$), H_{1d} ($A \rightarrow GS$: $\beta = 0.279$, $p = 0$), H_{1e} ($F \rightarrow GS$: $\beta = 0.201$, $p = 0.001$), H_{2c} ($TS \rightarrow IWM$: $\beta = 0.191$, $p = 0.01$), H_{2d} ($A \rightarrow IWM$: $\beta = 0.333$, $p = 0$), and H_{2e} ($F \rightarrow IWM$: $\beta = 0.262$, $p = 0$) are robustly supported.

Next, the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2) of exogenous variables for the endogenous variables are determined. According to the results presented in Table 3, the R^2 values of GS and IWM are 0.46 and 0.564 respectively, denoting that the exogenous variables explain 46% of the variation in GS and 56.4% of the variation in IWM. Hence, the model offers weak predictive accuracy for GS and moderate predictive accuracy for IWM (Henseler et al., 2009; Hair et al., 2011). The only exogenous latent variable that has a medium effect size is autonomy ($f^2 > 0.15$) with respect to IWM. The

exogenous variables SV, TS, and F have weak effect sizes on IWM and GS. Likewise, A has a weak effect size on GS since all these f^2 values are in the range of 0.02 - 0.15 (Cohen, 1988). Furthermore, it is observed from **Table 3** that the Stone-Geisser test (Q^2 -value) exceeds zero for both endogenous components, at 0.425 for GS and 0.517 for IWM. This implies significant predictive accuracy of the structural model for GS and IWM (Castro & Roldán, 2013; Hair et al., 2019).

Table 3. Hypotheses testing.

Hypotheses	Path relation	Path coefficient (β)	Standard deviation (STDEV)	Effect size, f^2	t-value	p-value	Decision
H _{1a}	SV → GS	0.154	0.086	0.025	1.785	0.037	Supported
H _{1b}	TI → GS	0.047	0.066	0.002	0.718	0.237	Not supported
H _{1c}	TS → GS	0.187	0.070	0.038	2.651	0.004	Supported
H _{1d}	A → GS	0.279	0.064	0.090	4.339	0	Supported
H _{1e}	F → GS	0.201	0.065	0.042	3.111	0.001	Supported
H _{2a}	SV → IWM	0.138	0.080	0.025	1.732	0.042	Supported
H _{2b}	TI → IWM	0.034	0.084	0.001	0.4	0.344	Not supported
H _{2c}	TS → IWM	0.191	0.082	0.049	2.341	0.010	Supported
H _{2d}	A → IWM	0.333	0.074	0.159	4.517	0	Supported
H _{2e}	F → IWM	0.262	0.066	0.089	3.985	0	Supported
		R ²				Q ²	
	GS	0.46				0.425	
	IWM	0.564				0.517	

Moreover, the study employed a PLSpredict-based assessment of the model's predictive power. Since the prediction error distribution is highly non-symmetric, the mean absolute error (MAE) is used as the appropriate prediction statistic (Shmueli et al., 2019). The MAE values of PLS-SEM are compared with those of linear regression models (LM). The results are presented in **Table A3** in the **Appendix**. Notably, majority of the indicators of GS produce lower MAE in PLS-SEM than that produced by LM. Hence, the model yields medium predictive power for GS. On the other hand, none of the indicators of IWM has higher MAE values compared to the LM benchmark, indicating high predictive power for IWM.

5.3. Mediation Analysis

To test the mediation hypotheses, a model is developed with the mediator variables EM, ER, and KR, and the measurement model is assessed for these newly included constructs. While the factor loadings of EM and KR exceed the required value of 0.708, four indicators of the construct ER are below the recommended threshold. Although the composite reliability of ER was greater than 0.7, the AVE

of ER was only 0.44. Removing the first indicator of ER (ER1) improved the situation. However, AVE was still below 0.5. Next, the second indicator ER2 was deleted along with ER1, upon which $AVE > 0.5$ was obtained. Hence, in the final model of mediation analysis, ER is composed of four indicators as opposed to six. **Figure 3** demonstrates the model with mediating psychological factors. The p -values of the inner and outer models and the R-square values of the constructs are shown.

It can be seen from **Table 4** that EM significantly mediates SV, TI, and TS in their relationships to both endogenous variables. Hence, H_{3a} ($SV \rightarrow EM \rightarrow GS$: $\beta = 0.115$, $p = 0.032$), H_{3b} ($TI \rightarrow EM \rightarrow GS$: $\beta = 0.135$, $p = 0$), H_{3c} ($TS \rightarrow EM \rightarrow GS$: $\beta = 0.174$, $p = 0$), H_{4a} ($SV \rightarrow EM \rightarrow IWM$: $\beta = 0.136$, $p = 0.021$), H_{4b} ($TI \rightarrow EM \rightarrow IWM$: $\beta = 0.16$, $p = 0$), and H_{4c} ($TS \rightarrow EM \rightarrow IWM$: $\beta = 0.206$, $p = 0$) are supported. However, ER does not significantly mediate the relationship between A and any of the endogenous factors. Likewise, KR does not significantly mediate F's connection with GS; rather it solely does so with IWM (H_{4c} : $F \rightarrow KR \rightarrow IWM$; $\beta = 0.085$, $p = 0.025$).

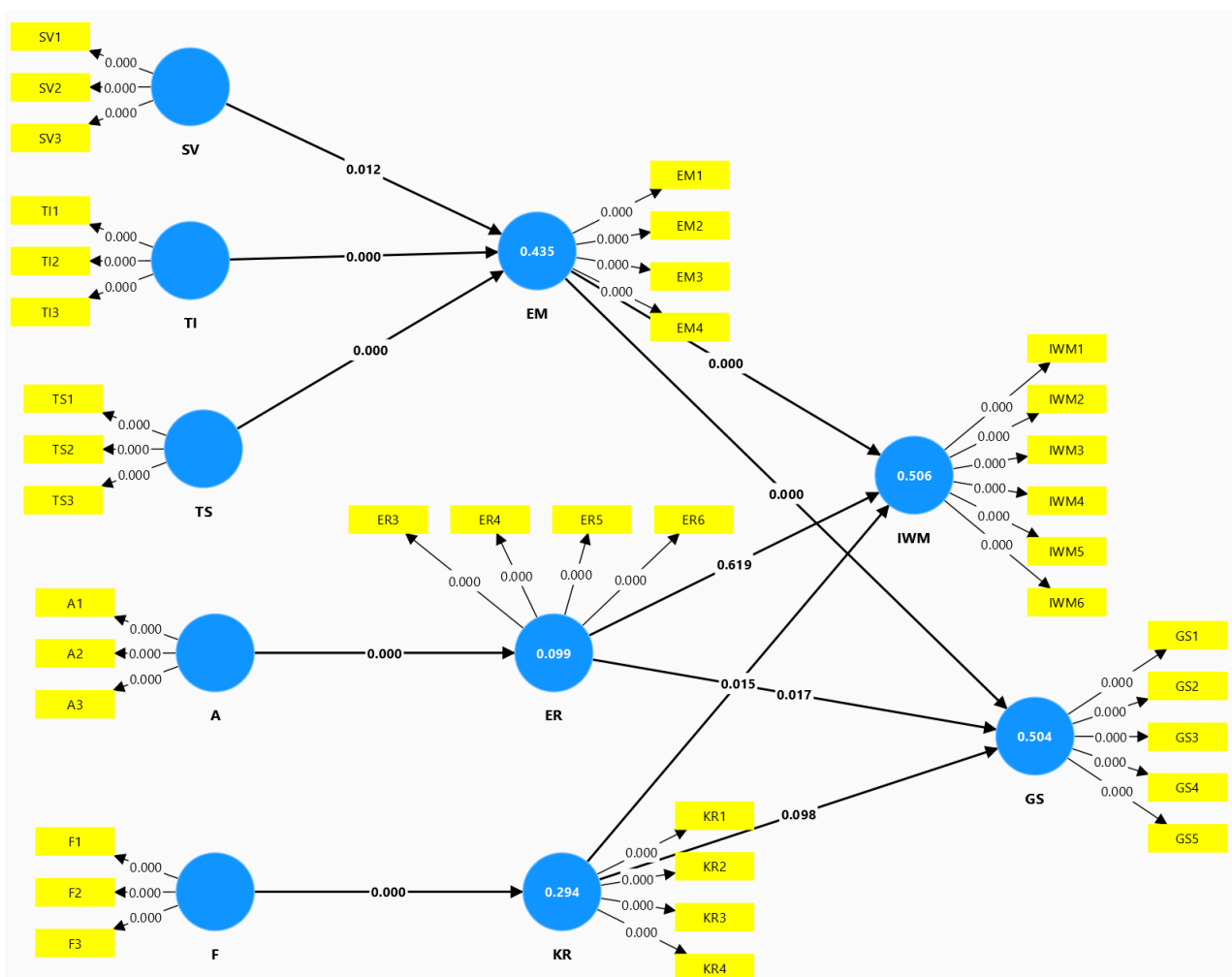


Figure 3. Structural equation model with mediation.

Table 4. Mediation analysis.

Hypotheses	Path relation	Path coefficient (β)	Standard deviation (SD)	t-value	p-value	Decision
H _{3a}	SV → EM → GS	0.115	0.054	2.147	0.032	Supported
H _{3b}	TI → EM → GS	0.135	0.036	3.714	0	Supported
H _{3c}	TS → EM → GS	0.174	0.042	4.134	0	Supported
H _{3d}	A → ER → GS	0.05	0.027	1.849	0.065	Not supported
H _{3e}	F → KR → GS	0.068	0.043	1.605	0.109	Not supported
H _{4a}	SV → EM → IWM	0.136	0.059	2.313	0.021	Supported
H _{4b}	TI → EM → IWM	0.16	0.045	3.54	0	Supported
H _{4c}	TS → EM → IWM	0.206	0.042	4.932	0	Supported
H _{4d}	A → ER → IWM	-0.01	0.021	0.469	0.639	Not supported
H _{4e}	F → KR → IWM	0.085	0.038	2.237	0.025	Supported

Table 5. Explanatory power and predictive power of predictors in mediation model.

Predictor	Outcome	R ²	f ²	Q ²
SV			0.053	
TI	EM	0.435	0.078	0.409
TS			0.130	
A	ER	0.099	0.109	0.078
F	KR	0.294	0.416	0.278
EM			0.347	
ER	GS	0.504	0.033	0.349
KR			0.018	
EM			0.488	
ER	IWM	0.506	0.001	0.414
KR			0.028	

With mediators, the explanatory power (R²) of GS and IWM is raised to 0.504 and 0.506 respectively. This implies that EM, ER, and KR engender moderate (R² > 0.5) predictive accuracy (Henseler et al., 2009; Hair et al., 2011) for each endogenous construct (Table 5). It is evident from Table 5 that EM imposes a medium effect on GS since the f² of 0.347 is greater than 0.15 and large effect size on IWM since the f² of 0.488 is greater than 0.35. These threshold values for determining small, medium and large effect size are derived from Cohen (1988). F creates a large effect on KR as well (f² = 0.416 > 0.35). Table 5 also reflects that Q² values are positive for all predictors, indicating substantial predictive accuracy of the structural model for the outcomes EM, ER, KR, GS, and IWM (Castro & Roldán, J.L., 2013; Hair et al., 2019).

6. Discussion

First, it is pertinent to discuss the direct effect of the five CJDs on IWM and GS. While all effect sizes are arguably small, autonomy has the strongest influence on both outcomes, with the f^2 for IWM approaching medium effect size. It also has the highest path coefficient (β) with respect to both outcomes. This result is in line with the meta-analyses of [Loher et al. \(1985\)](#) and [Behson et al. \(2000\)](#) who found that of all five CJDs, autonomy has the strongest positive relationship with GS and IWM respectively. It is also supported by several empirical studies (e.g. [Ali et al., 2014](#); [Hassim & Bakar, 2017](#)). The present study therefore attests that this general finding regarding the salience of autonomy in shaping affective outcomes holds true in the specific context of mid-career professionals. According to [Webb \(2016\)](#), mid-career is a time when individuals are expected to become their own managers and find opportunities to demonstrate their talent. Hence, it is not surprising that autonomy, by lending greater control to such professionals over how to perform their work, and by extension to demonstrate their capabilities to the organization, serves as an important antecedent of IWM, and to a lesser extent, of GS.

Following autonomy, feedback has the highest path coefficient and effect size with respect to both IWM and GS. Similar results have been reported by studies such as [Behson et al. \(2000\)](#) and [Steyn & Vawda \(2014\)](#). Feedback is considered a valuable resource since it helps individuals to gain an assessment of their performance and reduce uncertainty over the same ([Anjum et al, 2014](#)). Further, self-generated feedback such as that specified in the JCM has the additional merit of being elicited from the performance of the job itself, without requiring validation from any external party. Considering that mid-career is a time when individuals are increasingly expected to function independently and rely on self-direction ([Webb, 2016](#)), the significant, albeit weak influence of feedback on IWM makes intuitive sense.

In contrast, task identity is not found to influence either IWM or GS. This finding is contrary to some studies (e.g. [Hadi & Adil, 2010](#)) and aligned with others (e.g. [Behson et al., 2000](#)). Researchers in the latter category have identified some plausible reasons for this. For instance, in a study conducted in Bangladesh, [Haque & Hossain \(2010\)](#) suggest that task identity does not have a direct influence on GS, but instead has an indirect effect on the same, with task significance acting as a mediator. In a different vein, [Singh et al. \(2016\)](#) suggest that task identity may be an elusive construct in today's interconnected workplaces, where job boundaries are becoming blurred and more work is being accomplished by individuals working in teams than by individuals working on their own. It is possible that since this study was conducted on mid-career professionals who invariably need to engage in teamwork and multitasking, the participants found the concept of having a whole and identifiable piece of work attributable to themselves a less relatable concept. This could have negated the impact of TI on IWM and GS.

Finally, although SV and TS are significant, their effect size is too small to be considered substantive. A possible explanation for this is offered in the discussion of the mediation analysis, which follows shortly.

It is also noteworthy that the model as a whole and each of the CJDs have stronger predictive accuracy with respect to IWM than with respect to GS. Although both IWM and GS are considered as affective outcomes in the JCM, satisfaction is a multi-dimensional construct, which is affected not just by job content factors but by a host of external, contextual factors. In contrast, IWM closely resembles intrinsic motivation and exists, by definition, in the nexus between the person and the task (Ryan & Deci, 2000). Hence it is not surprising that the CJDs, representing job design, account for a much larger proportion of the variation in IWM (56.4%) compared to GS (46%).

Turning to the mediation analysis, it is seen that SV, TI, and TS each have a significant impact on EM and the latter, in turn, mediates the relationship between these three job dimensions and the two outcome variables. In fact, EM is the only construct that is found in this study to have a large effect size with respect to both IWM and GS, with f^2 of 0.488 and 0.347 respectively. This large effect size (Table 5) stands in sharp contrast to the non-substantive influence of TI, SV and TS (Table 3) on IWM and GS, thus highlighting that the psychological state of EM is far more powerful in eliciting positive affective outcomes than its corresponding job dimensions. In other words, it may be said in line with Hackman & Oldham (1976), that SV, TI, and TS are not capable of fostering higher motivation and satisfaction on a standalone basis; rather they foster higher IWM and GS, only to the extent that they lead to the experience of meaningfulness. According to Maddox-Daines (2016), mid-career is a time of self-discovery, where individuals engage in deeper exploration of their values and interests and strive to integrate these into a unified system of experiences in the pursuit of meaningfulness (Hall, 1986). The findings of the present study attest to this importance of meaningfulness for mid-career professionals, with significant implications for strategies aimed at sustaining their motivation and satisfaction.

In contrast, the other two CPSs, namely KR and ER, do not play a strong mediating role. The non-significance of KR as a mediator between F and GS is in line with the meta-analysis of Humphrey et al. (2007) who contend that there is no support for such a mediating role. The insignificance of ER as a mediator is supported by the original study of Hackman & Oldham (1976), who identify the low functionality of this mediator as one of the anomalies in their model. Subsequent studies such as Humphrey et al. (2007) have found partial support for the mediating role of ER. However, the absence of such mediation, as found in this study, may perhaps be seen as signifying that autonomy could be linked to IWM/GS through variables not considered in the JCM. In other words, while the JCM postulates that autonomy leads to higher experienced responsibility for work outcomes, recent theoretical and empirical evidence indicates that autonomy may elicit multiple other outcomes such as experienced mastery (Wong & Wee, 2019),

proactivity (Grant & Ashford, 2008), self-efficacy (Wong & Wee, 2019), and even meaningfulness (Ryan & Deci, 2000). It is possible that for mid-career professionals, autonomy by itself or any of these other outcomes produced by autonomy supersede the importance of ER, thus negating its mediating role.

7. Conclusion

This research has been conducted with the objective of gathering insights into the internal work motivation and satisfaction of mid-career professionals through the application of the JCM. Data was obtained from a sample of 221 mid-career professionals working across different industries in Bangladesh, with the chronological age of 31 - 45 years used to define the target population. Results obtained using structural equation modeling indicate that certain job characteristics and psychological states do exert significant influence on both outcome variables. Several important implications can be drawn for both theory and practice.

First, from an organizational standpoint, the study underscores the importance of providing autonomy to mid-career professionals since autonomy is the only job dimension that is found to have a substantive direct effect on both IWM and GS. While the JCM considers autonomy to be valuable because it lends greater discretion to individuals in performing their work, several other links may exist between autonomy and IWM/GS. For instance, jobs with greater autonomy create room for individuals to acquire new skills and master higher levels of responsibility, thus exerting a strong positive impact on internal work motivation (Wong & Wee, 2019). In addition, lending autonomy may be a way of signifying trust, which is helpful in increasing job satisfaction (Chang et al., 2021). Hence, organizations could benefit from job redesign interventions aimed at providing greater autonomy to mid-career professionals. Job enrichment, entailing the vertical expansion of jobs, is one intervention which has been found to be effective in this regard (Knight & Parker, 2021). The more recent approach of job crafting, which involves allowing employees to proactively initiate changes in the task and relational boundaries of their work, may also be leveraged to create autonomy (Vermooten et al., 2019).

Second, the study highlights the importance of organizational interventions in fostering experienced meaningfulness since this emerges as the strongest predictor of all. Traditionally, the JCM has led to job redesign approaches that emphasize the incorporation of skill variety, task identity and/or task significance in a job, based on the assumption that these will increase motivation/satisfaction. However, the present study underscores that such an assumption may be too simplistic since significantly higher motivation and satisfaction cannot be induced by these job dimensions unless meaningfulness is experienced. Hence, the focus of interventions should be on the latter and not on the former. According to Chalofsky (2003), the perception of meaningful work requires being able to connect the dots between one's values and priorities and the experience of work. Hence, for a mid-career professional who is seeking self-development, meaningfulness may be

achieved by incorporating more skill variety within the job design. On the other hand, for a mid-career professional who is seeking authenticity, emphasis on task significance may be more appropriate. It is therefore important to avoid taking a generalized, formulaic approach towards job redesign and to instead strive for an alignment of the same with individual values and priorities. Participatory, as opposed to top-down, non-participatory job enrichment may be helpful in this regard, as may be the practice of job crafting (Vermooten et al., 2019). Also, it is interesting to note that although the JCM does not postulate a link between autonomy and meaningfulness, subsequent research has shown that they are, in fact, connected (Kim & Allan, 2020). Hence, organizations could explore this linkage to magnify the impact on IWM and GS.

It is important to note, however, that exclusive focus on job redesign, to the exclusion of the job context, may not have the intended effect. In particular, the role of a conducive organizational culture and supportive leader behaviors in ensuring the success of efforts aimed at fostering autonomy and meaningfulness cannot be overemphasized. In addition, the relatively weaker predictive power of all endogenous and mediating variables for GS as compared to IWM indicates that while properly implemented job redesign interventions may have a robust impact on internal work motivation, the impact on job satisfaction might be much smaller. Hence, if the goal is to increase satisfaction, organizations should consider a broader spectrum of factors, within which job design may be a vital, but not necessarily dominant component.

From a theoretical standpoint, the study can be considered a much-needed addition to the scant body of literature that has examined the mediating role of the critical psychological states. Only one of the three CPSs is found to be significant in this study. However, the strong predictive power of this CPS and the relative weakness of its corresponding job dimensions attests that the omission of the psychological states from studies applying the JCM may lead to incorrect conclusions, and by extension, misguided interventions. Given the importance of experienced meaningfulness identified in the study, researchers interested in theory development/refinement might wish to explore what job characteristics serve as its antecedents besides those postulated in the JCM. Finally, from a methodological standpoint, the study attests to the superiority of SEM over linear regression since it enabled capturing the multidimensionality of the latent constructs, accounting for their non-symmetrical and non-normal nature, and estimating path relationships at a more nuanced level than would be possible through the latter. Hence, the adoption of SEM in future studies is recommended in the interest of ensuring the robustness of the findings.

It is pertinent at this stage to mention the limitations of this study. First, there are a host of variables beyond those included in the JCM, that can affect the motivation and satisfaction of mid-career professionals. Examples include career development opportunities, work-life balance, learning opportunities, and perceived organizational support, to mention just a few. The non-inclusion of such variables,

while intended to maintain focus on the CJDs and particularly the mediating role of the CPSs, can be construed as a limitation of this study. Future researchers could add these variables as moderators and/or mediators to provide a more nuanced understanding of how these affect the relationships examined in the present study. A second limitation is the relatively small sample size, which although adequate, could have benefitted from the inclusion of more participants, particularly women. In fact, gender could be added as a moderator in future studies to examine whether it has an impact on the investigated relationships.

Some other directions for future research also emerge from the study. First, although the study offers critical insights on which aspects of job design should be emphasized to foster the motivation and satisfaction of mid-career professionals, it would be interesting to see whether the nexus between job design and IWM/GS is contingent on career stage. Hence, cross-sectional research, utilizing a sample of early, middle, and late career professionals or longitudinal research, tracking the progression of a sample of individuals through these career stages can be extremely valuable. In addition, as suggested by Oldham & Hackman (2010), the world of work today is vastly different from the one that existed when they formulated the JCM. The definition of a job itself is evolving from that of a relatively fixed, self-contained unit, to a more amorphous, interconnected unit. Hence, while some research has been done on possible extensions to the JCM (e.g. (Garg & Rastogi, 2005; Serhan & Tsangari, 2022)), more work is needed to identify job dimensions and critical psychological states that reflect the changing realities of today's professionals.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix A

Table A1. Profile of respondents.

Gender	% of Respondents	Industry	% of Respondents
Male	77.8%	Banking	15.4%
Female	22.2%	Financial Institution (Other than banking)	8.6%
		Ready Made Garments & Textile	8.6%
Education	% of Respondents	Telecommunication	5.9%
Bachelors	38.5%	Food & Allied	5.4%
Masters	57.5%	Fuel & Power	4.5%
Doctorate	1.4%	ICT	3.6%
Other	2.7%	Pharmaceuticals & Chemicals	3.2%
		Miscellaneous	43%

Table A2. Assessment of collinearity statistics.

Path relations	VIF
SV → GS	1.776
TI → GS	1.754
TS → GS	1.717
A → GS	1.604
F → GS	1.769
SV → IWM	1.776
TI → IWM	1.754
TS → IWM	1.717
A → IWM	1.604
F → IWM	1.769

Table A3. Predictive power of endogenous variables.

Indicators	Q ² predict	PLS-SEM_MAE	LM_MAE	PLS-SEM_MAE < LM_MAE
GS1	0.441	0.737	0.748	Yes
GS2	0.061	1.285	1.331	Yes
GS3	0.343	0.714	0.75	Yes
GS4	0.18	1.164	1.15	No
GS5	0.036	1.461	1.477	Yes
IWM1	0.252	0.671	0.723	Yes
IWM2	0.413	0.621	0.66	Yes
IWM3	0.318	0.559	0.574	Yes
IWM4	0.085	0.746	0.807	Yes
IWM5	0.334	0.926	0.985	Yes
IWM6	0.29	0.722	0.756	Yes

Appendix B

Job Diagnostics Survey Questionnaire

The Job Diagnostic Survey is used to diagnose jobs and how people react to them. The questionnaire is useful in determining how jobs can be better designed, by obtaining information about how people react to different characteristics of jobs. On the following pages, you will find several different questions relating to your job. Specific instructions are given at the start of each section. The questions are designed to obtain your perceptions of your job and your reactions to it. There are no trick questions. Your answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your co-operation!

Section 1:

1. Current Designation: _____
2. Years of full-time work experience: Less than 1 year 1-4 years 4-8 years
 8-12 years 12-15 years 15-18 years
 More than 18 years
3. Number of years in current position: Less than 1 year Between 1 and 3 years
 Between 3 and 6 years Between 6 and 10 years
 More than 10 years
4. Industry in which you are currently working: Banking Insurance
 Financial Institution (other than Banking and Insurance) Food & Allied
 Fuel & Power ICT RMG
 Textile Telecommunication
 Pharmaceuticals & Chemicals
 Real Estate Cement Ceramics
 Travel & Leisure Other
5. Are you self-employed? (*A self-employed individual is one who works in his/her own business or one who works as a freelancer.*): Yes No
6. Gender: Male Female Other
7. Age (*Please choose the higher age bracket that applies to you. For example, if you are 35 years 7 months old, choose 36-45.*): Less than 30 years 31-35 years
 36-40 years 41-45 years
 46-50 years 51-55 years
 Above 55 years

8. Last academic degree obtained: SSC or Equivalent HSC or Equivalent
 Bachelors Masters Doctorate
 Other

Section 2:

This part of the questionnaire asks you to describe your job, as objectively as you can. Please do not use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and as objective as you possibly can.

1. On a scale of 1 to 7 - How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

Very little; the job gives me almost no personal 'say' about how and when the work is done.

Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.

Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

2. To what extent does your job involve doing a 'whole' and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

My job is a moderate sized 'chunk' of the overall piece of work; my own contribution can be seen in the final outcome.

My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

3. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

Very little; the job requires me to do the same routine things over and over again.

Moderately variety

Very much; the job requires me to do many different things, using a number of different skills and talents.

4. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

Not very significant; the outcomes of my work are not likely to have important effects on other people.

Moderately significant

Highly significant; the outcomes of my work can affect other people in very important ways.

5. To what extent does doing the job itself provide you with information about your work performance? That is, does the actual work itself provide clues about how well you are doing - aside from any 'feedback' co-workers or supervisors may provide?

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7

Very little; the job itself is set up so that I could work forever without finding out how well I am doing.

Moderately; sometimes doing the job provides 'feedback' to me; sometimes it does not.

Very much; the job is set up so that I get almost constant 'feedback' as I work about how well I am doing.

Section 3:

Listed below are a number of statements which could be used to describe a job. Please indicate whether each statement is an accurate or an inaccurate description of your job. Once again, please try to be as objective as you can in deciding how accurately each statement describes your job - regardless of whether you like or dislike your job.

1	2	3	4	5	6	7
Very Inaccurate	Mostly Inaccurate	Slightly Inaccurate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

1. The job requires me to use a number of complex or high-level skills.
2. The job is arranged so that I can do an entire piece of work from beginning to end.
3. Just doing the work required by the job provides many chances for me to figure out how well I am doing.
4. The job allows me to use a number of complex or high-level skills.
5. This job is one where a lot of other people can be affected by how well the work gets done.
6. The job gives me a chance to use my personal initiative and judgement in carrying out the work.
7. The job provides me with the chance to completely finish the pieces of work that I begin.
8. After I finish a job, I know whether I performed well.

9. The job gives me considerable opportunity for independence and freedom in how I do the work.
10. The job itself is very significant and important in the broader scheme of things.

Section 4:

Now please indicate how you personally feel about your job by indicating to what extent you agree with each of the following statements.

- | | | | | | | |
|----------------------|----------|----------------------|---------|-------------------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Disagree
Strongly | Disagree | Disagree
Slightly | Neutral | Agree
Slightly | Agree | Agree
Strongly |
1. My opinion of myself goes up when I do this job well.
 2. Generally speaking, I am very satisfied with this job.
 3. I feel a great sense of personal satisfaction when I do this job well.
 4. I rarely think of quitting this job.
 5. I feel good and happy when I discover that I have performed well on this job.
 6. I am generally satisfied with the kind of work I do in this job.
 7. My own feelings are generally affected by how well I do in this job.
 8. Most of the things I have to do on this job seem useless or trivial.
 9. The work I do on this job is very meaningful to me.
 10. It's hard, on this job, for me to care very much about whether or not the work gets done right.
 11. I feel a very high degree of personal responsibility for the work I do on this job.
 12. I feel I should personally take the blame or credit for the results of my work on this job.
 13. Whether or not the job gets done right is clearly my responsibility.
 14. I usually know whether or not my work is satisfactory on this job.
 15. I often have trouble figuring out whether I am doing well or poorly on the job.

Section 5:

Now please think of the other people in your organization who hold the same job that you do. If no one has exactly the same job as you, think of the job which is most similar to yours. Please think about how accurately each of the statements describes the feelings of those people about the job. It is quite all right if your answers here are different from when you described your own reactions to the job.

- | | | | | | | |
|----------------------|----------|----------------------|---------|-------------------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Disagree
Strongly | Disagree | Disagree
Slightly | Neutral | Agree
Slightly | Agree | Agree
Strongly |
1. Most people in this job feel a great sense of personal satisfaction when they do the job well.
 2. Most people in this job are very satisfied with the job.
 3. People in this job rarely think of quitting.
 4. Most people in this job feel good or happy when they find that they have performed the work well.

5. Most people in this job feel that the work is useless or trivial.
6. Most people on this job find the work very meaningful.
7. Most people on this job feel a great deal of personal responsibility for the work that they do.
8. Most people on this job feel that whether or not the job gets done right is clearly their own responsibility.
9. Most people on this job have trouble figuring out whether they are doing a good job or a bad job.
10. Most people on this job have a pretty good idea of how well they are performing their work.

The End

Scoring Key

Skill Variety	Section 2 Q3; Section 3 Q1, Q4
Task Identity	Section 2 Q2; Section 3 Q2, Q7
Task Significance	Section 2 Q4; Section 3 Q5, Q10
Autonomy	Section 2 Q1; Section 3 Q6, Q9
Feedback	Section 2 Q5; Section 3 Q3, Q8
Experienced Meaningfulness	Section 4 Q8 (Reverse), Q9; Section 5 Q5 (Reverse), Q6
Experienced Responsibility	Section 4 Q10 (Reverse), Q11, Q12, Q13; Section 5 Q7, Q8
Knowledge of Results	Section 4 Q14, Q15 (Reverse); Section 5 Q9 (Reverse), Q10
Internal Work Motivation	Section 4 Q1, Q3, Q5, Q7; Section 5 Q1, Q4
General Satisfaction	Section 4 Q2, Q4, Q6; Section 5 Q2, Q3