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Working toward a purpose: Examining the cross-sectional and longitudinal effects of work characteristics on sense of purpose

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Abstract

Objective: Employment appears to influence employees' sense of purpose, insofar as work roles can provide life direction and allow individuals to fulfill meaningful aims or have regular goal-related activity engagement. However, research is needed on which specific characteristics of the work predict employees' sense of purpose. The current study sought to quantitate the degree to which specific work characteristics, including skill variety, autonomy, coworker support, and supervisor support, were associated with initial levels and changes in purpose. Additionally, we examine positive and negative work-home spillover as moderators of these relationships.

Methods: We examined hypothesized relationships in a subsample ($N = 4{,}963$) of a nationally representative panel study which included between two and three assessments of work characteristics, spillover, and sense of purpose, each roughly 10 years apart.

Results: Using multilevel models to assess within-person associations and lagged effects, we found that greater skill variety and coworker support but not autonomy or supervisor support, were associated with higher levels of purpose. Moreover, increases in purpose were associated with higher initial levels of skill variety. These relationships were not moderated by spillover.

Conclusion: Individuals with skill variety and coworker support at work appear to experience the strongest levels of sense of purpose.

KEYWORDS

purpose, skill variety, spillover, well-being, work characteristics

1 | INTRODUCTION

> Work gives you meaning and purpose, and life is empty without it.—Stephen Hawking, in a 2010 interview with Diane Sawyer

As noted by Hawking, among several others, there is an apparent connection between employment and sense of purpose. Consistent with this popular perception, researchers have found a positive link between working status and sense of purpose, such that individuals who are working report higher levels of sense of purpose (for a meta-analytic review, see Pinquart, 2002)—defined as the perception one has life goals in place that serve to organize one's sense of self, direct daily activities, and chart a direction for life (McKnight & Kashdan, 2009; Ryff, 1989). Additional indirect support for the link between employment and sense of purpose comes from "lottery studies"; these studies show that a majority of participants would continue working even if they did not need to do so for financial reasons (Arvey, Harpaz, & Liao, 2004; Vecchio, 1980). This suggests that working benefits employees in ways beyond income.

Although much research has focused on working status as a predictor for sense of purpose, little research to our knowledge has focused on whether specific features of work may play a role in developing a sense of purpose. Moreover, while scholars have linked unique work characteristics to whether individuals feel that their *work* is meaningful (see Barrick, Mount & Li, 2013; also see Rosso, Dekas, & Wrzesniewski, 2010 for a review), it is less known whether specific work characteristics have an impact that transcends the work domain to have a broader impact on the individual's broader *life* direction. This is an important oversight given that people differ widely in their experiences of work and work contexts (see Morgeson & Humphrey, 2006 for a review), and thus simply suggesting that people seeking purpose in life should work is unlikely to apply to all individuals. Missing is a discussion of what specific features of work may play a role in helping working people achieve a sense of purpose in life. Identifying the work characteristics that predict an increased sense of purpose can provide clearer directives for how to design a work environment that promotes employee well-being, given the widespread benefits associated with sense of purpose in adulthood. Indeed, sense of purpose prospectively predicts mortality risk (Boyle, Barnes, Buchman, & Bennett, 2009; Cohen, Bavishi, & Rozanski, 2016), risk for cardiovascular incidents (Kim, Sun, Park, Kubzansky, & Peterson, 2013), and more positive daily well-being (Hill, Sin, Turiano, Burrow, & Almeida, 2018). Accordingly, understanding the role of work characteristics on sense of purpose may provide insights not only for managers focused on motivating employees, but also for considering the pathways by which work environments hold lasting impacts on individuals' health and well- being.

To provide a more nuanced investigation into the influence of work on sense of purpose, the current study examined the cross-sectional and longitudinal effects of four specific work characteristics—skill variety, autonomy, supervisor support, and coworker support—on sense purpose in life. Moreover, because individuals vary in the degree to which they experience work as transcending the work domain to have an influence at home, and vice versa (e.g., Grzywacz & Marks, 2000; Williams & Alliger, 1994), we examined work-home and home-work spillover as moderators of these relationships. The current work, thus, advances the literature by (a) examining whether and which work characteristics are associated cross-sectionally and prospectively with sense of purpose, (b) considering potential moderators of the associations, and (c) using a multi-year study to examine longitudinal effects, which captures whether these work characteristics hold lasting influence on participants' life direction over several years.

2 | WORK CHARACTERISTICS AND SENSE OF PURPOSE

Prior to describing the literature on work characteristics and sense of purpose, it is worth first differentiating our key concepts of sense of purpose and work characteristics from related terms. To start, living a purposeful life or having a purpose in life has been suggested to be one route toward producing greater meaning in life (Crescioni & Baumeister, 2013; McKnight & Kashdan, 2009), which has led some to consider it as a component of meaning in life (e.g., Martela & Steger, 2016). However, previous research has demonstrated that sense of purpose is empirically distinct from meaning in life (Costin & Vignoles, 2020). One reason appears to be that while purpose in life describes having life goals and a sense of what one wishes to accomplish in life, meaning in life also involves the feeling that one's actions have significance and worth (George & Park, 2016; Martela & Steger, 2016). Meaningful work captures a combination of these elements—the sense that work is purposeful and significant (Pratt & Ashforth, 2003), but is, of course, unique in that it is specific to the domain of work not the broader life domain.

Work characteristics refer to task, knowledge, social, and contextual features of work design (Morgeson & Humphrey, 2006). Though researchers sometimes use the terms job characteristics and work characteristics interchangeably, recently scholars of have advocated for the use of the broader term work characteristics because it acknowledges both the characteristics of the job and the link between jobs and the broader environment (Morgeson & Campion, 2002; Morgeson & Humphrey, 2006; Parker & Wall, 1998), and because it promotes the consideration that more fine-grained changes to work can be made (Morgeson & Campion, 2002). Furthermore, the term work characteristics are aligned with the terminology used in previous studies using the current dataset, (e.g., Grzywacz & Marks, 2000).

Though prior research has not tested the link between work characteristics and sense of purpose, extant research has highlighted that certain characteristics of work have a greater connection with whether work is considered meaningful—that is, whether work is considered to be purposeful and significant (Pratt & Ashforth, 2003; Rosso et al., 2010). For example, researchers have consistently found that characteristics such skill variety, autonomy, task identity, and task significance are associated with greater experienced work meaningfulness (see Hackman & Oldham, 1976, 1980; Fried & Ferris, 1987; also see Rosso et al., 2010 for a review). In this vein, researchers have paid substantial attention to the effect of various work characteristics on the more proximal outcome of work meaningfulness. However, research has been limited with respect to how specific characteristics of work associate with sense of purpose, assessed at a broader, non-contextualized level. This distinction is important, as individuals may also derive a sense of purpose through non-work life domains, including pro-social activity (Koshy & Mariano, 2012), familial engagements (Kiang, 2012), and religious activity (VanderWeele, 2017). Accordingly, it is not known whether the same work characteristics will also predict sense of purpose at a broader level, even though they appear valuable for understanding work meaningfulness (Rosso et al., 2010).

Scholars of work design have noted that most work consists of task, knowledge, and social characteristics (Grant, Fried, & Juillerat, 2011; Humphrey, Nahrgang, & Morgeson, 2007; Morgeson & Humphrey, 2006). Task characteristics—such as autonomy—are the most commonly investigated work design characteristics and are primarily concerned with how the work itself is accomplished; knowledge characteristics—such as skill variety—reflect the kinds of knowledge, skill, and ability demands placed on an individual as a function of his/her work; social characteristics—such as coworker and supervisor support—reflect the degree to which a job provides opportunities for advice and assistance from work-relevant others (see Morgeson & Humphrey, 2006 for a review).

Consistent with these common types of work characteristics, we selected skill variety, autonomy, supervisor support, and coworker support as our focal variables. We selected these work characteristics for analysis for theoretical and practical reasons. From a theoretical standpoint, it has been suggested that having a purpose provides a self-motivating force that encourages productivity and ability to manage environments (McKnight & Kashdan, 2009), and that individuals need to move beyond themselves to achieve purposeful goals, insofar as few life purposes fail to involve or influence others (Damon, Menon, & Bronk, 2003). Therefore, our choice of work characteristic variables was intended to capture the extent to which individual experience their work tasks as stimulating and challenging (i.e., complex; Morgeson & Humphrey, 2006), as well as the extent to which employees perceive supportive relationships at work when predicting which ones feel purposeful in life. From a practical standpoint, these specific task, knowledge, and social work characteristic variables were those available in our secondary dataset.

2.1 | Skill variety and sense of purpose

Skill variety refers to the degree to which a job requires the employee to utilize multiple skills (Morgeson & Humphrey, 2006). Note that skill variety is distinct from task variety in the Job Characteristics Model (Hackman & Oldham, 1976). As Morgeson and Humphrey (2006) describe: "It is important to distinguish skill variety from task variety because the use of multiple skills is distinct from the performance of multiple tasks. The use of multiple skills is often challenging and thereby engaging to perform" (pp. 1323–1324). The definition and operationalization of skill variety as we use it here is consistent with its measurement in the Work Design Questionnaire (WDQ; Morgeson & Humphrey, 2006).

The use of multiple skills is often challenging and thereby engaging to perform, and as a result, skill variety is linked with individuals' sense of learning and growing, and a sense of completing stimulating work (Kahn, 1990; Masten & Reed, 2002). Personal growth is consistently associated strongly with sense of purpose (e.g., Ryff, 1989; Ryff & Keyes, 1995). Moreover, sense of purpose is linked to the perception that one can navigate obstacles in life (Bronk, Hill, Lapsley, Talib, & Finch, 2009). Thus, varied and challenging work, such as that associated with greater skill variety, should allow for greater experience with overcoming obstacles, which may help lead individuals to feel purposeful in life.

2.2 | Autonomy and sense of purpose

Autonomy refers to experiencing a sense of volition and psychological freedom in work (Deci & Ryan, 2000; Vansteenkiste, Ryan, & Deci, 2008), which reflects both one's subjective and objective experience. Autonomy is related to whether one has greater personal ownership, responsibility and control over their work (Hackman & Oldham, 1976; Koestner, Ryan, Bernieri, & Holt, 1984; Zuckerman, Porac, Lathin, & Deci, 1978). There is strong support for the idea that people need to see themselves as capable of exercising free choice and successfully managing their environments (Baumeister, 1997; Deci, 1975). These cognitions related to free choice and self-determination satisfy human needs for agency by reassuring individuals that they have control over their lives (Baumeister & Vohs, 2002; Gecas, 1991; Wrzesniewski & Dutton, 2001). Because autonomy provides individuals with greater opportunity for control over daily tasks, it should provide greater opportunity for the fulfillment of personal aims and goals, thereby potentially enhancing a sense of purpose. Additionally, given that the ability to organize daily tasks toward personal aims is linked to a sense of purpose in life (McKnight & Kashdan, 2009), greater autonomy and ability to shape one's work roles would appear beneficial for promoting purposefulness. At a generalized, non-contextual level, autonomy, like sense of purpose, has been described as an important component of psychological well-being (Ryff, 1989; Ryff & Keyes, 1995). This work has demonstrated that though autonomy and purpose are distinct components, they consistently are shown to be positively correlated. As such, a sense of autonomy appears linked to feeling purposeful overall, and thus we would also expect work-related autonomy to play a role in promoting a sense of purpose.

2.3 | Coworker and supervisor support and sense of purpose

Social relationships are integral to employees' experiences of work. Social characteristics of work include the "interpersonal connections, interactions, and relationships that are

embedded in assigned responsibilities" (Grant et al., 2011, p. 429), and Morgeson and Humphrey (2006) consider social support as one the key social characteristics of work design. Their view of social support draws upon earlier research by Karasek and colleagues (Karasek, 1979; Karasek & Theorell, 1990), suggesting that work contexts vary in the extent to which employees receive assistance and support from workplace others, such as coworkers and supervisors.

Existing theory offers some insight into why supportive work relationships should be associated with a sense of purpose. When employees have close relationships with coworkers, and thus identify with others in their workplace, these relationships provide positive meaning by creating close-knit, family-like dynamics among organizational members (Pratt & Ashforth, 2003). A key mechanism through which social support contributes to this closeness is through fostering a sense of belongingness. Belongingness refers to the need to form and maintain continuous, positive, and significant interpersonal relationships (Baumeister & Leary, 1995), and features as a key contributor to sense of purpose (Baumeister & Vohs, 2002). Feelings of connections to social groups, such as coworkers, provide individuals with a sense of shared identity and should contribute to sense of purpose because employees feel that they belong to something unique and special (Hogg & Terry, 2000), a group which with they are working together to accomplish shared and valued life goals.

In summary, it is expected that skill variety, autonomy, and having supportive coworkers and supervisors should be positively associated with a sense of purpose; however, it is unclear whether these predictions will hold beyond cross-sectional associations. One reason why there has been limited research on the topic is that only relatively recently have researchers demonstrated that individuals can differ in their patterns of change for sense of purpose during adulthood, an important precursor to considering predictors of change. These recent studies have shown that individuals do differ in their trajectories of change for sense of purpose across multiple adult samples (Hill, Turiano, Spiro, & Mroczek, 2015; Hill & Weston, 2019); put differently, there is evidence of inter-individual variability in intraindividual patterns of change for sense of purpose. Accordingly, this prior work sets the stage for a discussion of which variables—including work characteristics—predict who becomes more purposeful over time.

2.4 | The moderating role of home/work spillover

Given that the work environment differs widely across individuals, it is relevant also to consider whether associations between work characteristics and sense of purpose too may differ. One potential moderator of interest is spillover, which refers to a within-person transmission of emotions or energies between domains (i.e., work to home, home to work; Bolger, DeLongis, Kessler, & Wethington, 1989; Grzywacz & Marks, 2000). Numerous studies have shown that individuals differ in the degree to which they experience pressure from one domain (work or home) spilling over and undermining functioning and well-being in another (Demerouti, Bakker, & Schaufeli, 2005; Marshall, Chadwick, & Marshall, 1992; Williams & Alliger, 1994). For some, unpleasant work characteristics spill over into the home domain (e.g., Williams & Alliger, 1994), and likewise family problems and challenges are transmitted to the work domain (e.g., Bowen & Pittman, 1995; Crouter, 1984). When individuals feel conflict in the work-home interface, they are likely to experience negative consequences, including lower job and life satisfaction (Demerouti et al., 2005; Ernst Kossek & Ozeki, 1998; Parasuraman, Greenhaus, & Granrose, 1992), depression (Frone, Russell, & Cooper, 1997) and marital dissatisfaction (Marshall et al., 1992).

Though much spillover research tends to focus on negative spillover, a parallel body of research suggests that experiences in the work and home domains can also have a positive spillover effect on one another, such that for some individuals work and home spillover may provide a greater array of opportunities and resources to facilitate personal functioning and growth (Barnett, 1996; Hanson, Hammer, & Colton, 2006; Thotis, 1983; Zhang, Xu, Jin, & Ford, 2018). For some, experiences in one domain that provide feelings of affective support or control may be seen as resources that can facilitate adaptation in other domains.

Spillover may be a particularly valuable construct to consider for understanding associations between work characteristics and sense of purpose, given that for several people, their purpose in life likely enmeshes home and work domains. Indeed, even youth developing their conceptualizations of a purposeful life often mention the importance of negotiating having success at work with family ambitions (Hill, Burrow, O'Dell, & Thornton, 2010). As such, for those individuals who are able to take positive experiences in one life domain (i.e., home or work) and translate them to positive experiences in the other life domain (i.e., work or home, Barnett, 1996; Hanson et al., 2006; Thotis, 1983; Zhang et al., 2018), the positive effect of work characteristics on sense of purpose, as well as change in purpose, should be magnified.

Conversely, for those who show a tendency to take negative experiences from one domain and draw them into the other domain, any benefits for work characteristics on sense of purpose, as well as change in purpose, should be diminished. When individuals experience negative forms of spillover they may be less able to capitalize on the positive effect of work characteristics on sense of purpose in life. When one

domain of life is seen as undermining or distracting individuals from the other domain, they may be less able to feel that specific characteristics of work are helping them to successfully accomplish central aims associated with their overall life direction.

3 | THE CURRENT STUDY

The current study investigates the cross-sectional and longitudinal relationship between four work characteristics—skill variety, autonomy, coworker support, and supervisor support—and purpose in life among midlife adults, and examines work-home and home-work spillover as moderators of these relationships. In so doing, the current research seeks to add significantly to our knowledge with respect to considering the nuanced relationship between sense of purpose and work, and in turn whether there are work characteristics that may be called upon to enhance employees' sense of purpose over time. Our primary hypotheses are that (1) the four work characteristics are concurrently positively associated with purpose in life, (2) the four work characteristics are prospectively associated with purpose in life, and (3) work-home and home-work spillover moderates the relationship between the four work characteristics and sense of purpose.

4 | METHODS

4.1 | Sample

Data came from the Midlife in the United States Study (MIDUS), an ongoing longitudinal panel survey started in 1992, with participants sampled from the population of noninstitutionalized, English-speaking adults in the coterminous United States (baseline sample $N = 7{,}108$). All the MIDUS items used in the analyses are listed in Table S1. Participants in MIDUS have been surveyed up to three times: in 1994–1995, 2003–2004, and 2013. We considered participants eligible for the current study if they had completed questions on purpose, work characteristics, and spillover at least two time, which this allows for more reliable estimation of change over time. This resulted in a sample of 4,963 participants (53.33% female) with an average age of 46.46 ($SD = 12.51$) at baseline. Less than half (42%) had a college degree, and 57% have been unemployed at some point during their lifetime. Compared to the participants who were excluded from these analyses, our sample was more likely to be women, more educated, report higher levels of purpose at baseline, report less autonomy, coworker support, and supervisor support at baseline, and also report more negative spillover at baseline. Tests of these differences are in Table S2.

4.2 | Measures

Sense of purpose was assessed using a three-item purpose sub-scale of the Ryff Psychological Well-Being measure (Ryff & Keyes, 1995): "Some people wander aimlessly through life, but I am not one of them," "I live life one day at a time and don't think about the future" (reverse-scored), and "I sometimes feel as if I've done all there is to do in life" (reverse scored). This brief subscale has demonstrated predictive validity for important adult outcomes (Hill & Turiano, 2014; Hill, Turiano, Mroczek, & Burrow, 2016). Participants rated these items on a scale from 1 (disagree strongly) to 7 (agree strongly) at each wave. Descriptive statistics, including summary and reliability statistics, for all measures of interest, can be found in Table 1.

Given the low reliability estimates of the purpose measure (α range from .29 to .35, ω range from .30 to .51), we conducted exploratory analyses that estimated the same models using a seven-item measure of purpose that was completed by participants during Waves 2 and 3 of the MIDUS. These results are available in a supplementary document (https://osf.io/pywr9/). Overall, the estimates of effects changed little, and the conclusions remain the same. Some notable changes are that when the seven-item measure is used, negative spillover is associated with sense of purpose, in both longitudinal and cross-sectional models. In addition, supervisor support predicts sense of purpose controlling for spillover in the longitudinal models, whereas it was previously nonsignificant.

Work characteristics were represented by four dimensions. First, skill variety, the degree to which one's job involves varied and high-level skills was measured using three items, for example, "How often does your work demand a high level of skill or expertise?." Second, autonomy was measured with six items, for example, "How often do you have a choice in deciding how you do your tasks at work?." Third, coworker support was measured with two items, for example, "How often do you get help and support from your coworkers?." Fourth, the measure of supervisor support consisted of three items, for example, "How often do you get the information you need from your supervisor or superiors?" It should be noted that participants only completed these work characteristics measures during waves in which they reported being employed. Most of these measures were developed for the MIDUS (Grzywacz & Marks, 2000), although the autonomy assessment comes from the Whitehall Health Survey (Stansfeld, Bosma, Hemingway, & Marmot, 1998).

Spillover was measured with 16 items, with an even mix of positive spillover to negative spillover items, and an even number of home-to-work and work-to-home spillover items. Spillover items were developed for use in the MIDUS and have been shown to correlate with alcohol abuse (Grzywacz & Marks, 2000) and physical health (Grzywacz, 2000). Using an exploratory factor analysis approach, we concluded that a

TABLE 1 This table contains the descriptive statistics (mean, standard deviation, minimum value and maximum value, and, if relevant, Cronbach's alpha, and McDonald's omega) of all variables used

Variable	*N* valid	Mean	*SD*	Min	Max	α	ω
Sense of purpose	4,963	5.61	1.12	1.00	7.00	.35	.51
Skill variety	4,963	3.58	.61	1.00	5.00	.68	.69
Autonomy	4,963	3.82	.65	1.00	5.00	.86	.86
Coworker support	4,963	3.79	.61	1.00	5.00	.71	.71
Supervisor support	4,963	3.77	.71	1.00	5.00	.86	.87
Spillover (positive)	3,509	3.12	.62	1.00	5.00	.75	.76
Spillover (negative)	3,509	2.35	.57	1.00	5.00	.84	.84
Time-invariant covariates							
Age	4,962	46.46	12.51	20.00	75.00		
Gender (0 = male, 1 = female)	4,932	.53	.50	.00	1.00		
Education	4,955	7.03	2.47	1.00	12.00		
Race	4,612	.06	.24	.00	1.00		
Ever unemployed	4,675	.57	.50	.00	1.00		
Ever divorced	4,963	.18	.38	.00	1.00		
Ever widowed	4,963	.01	.11	.00	1.00		
Duncan SEI	3,901	40.78	14.16	9.56	80.53		
Time-varying covariates							
Living with partner	4,960	.75	.44	.00	1.00		
Children in home	4,962	.40	.49	.00	1.00		
Demands at work	4,963	3.03	.55	1.00	5.00		
Self-rated health	4,650	7.55	1.53	.00	10.00		
Depressive affect	4,963	.62	1.77	.00	7.00		
Conscientiousness	4,963	3.44	.42	1.00	4.00		

Note: Descriptive statistics are reported for baseline (wave 1) only to conserve space.

two-factor solution was superior to a one-factor or four-factor solution, based on inspection of plots of empirical Bayesian Information Criterion (BIC) and complexity. (These plots are shown in Figure S1.) This factor solution suggested that items were best split into positive spillover and negative spillover, each measured with eight items. Positive spillover items included, "Having a good day on your job makes you a better companion when you get home" and "Talking with someone at home helps you deal with problems at work." Negative spillover items included, "Stress at work makes you irritable at home" and "Personal or family worries and problems distract you when you are at work." Like work characteristics, spillover was only assessed when a participant was employed.

We incorporated both time-invariant and time-varying *covariates* in our analyses. Time-invariant covariates were age, gender, education, race (0 = white, 1 = non-white), whether the participant had ever been unemployed (0 = no, 1 = yes), whether they had ever been divorced (0 = no, 1 = yes), whether they had ever been widowed (0 = no, 1 = yes), and the value of the job on the Duncan Socioeconomic Index (SEI), which is a weighted average of income and educational attainment (Duncan, 1961), at baseline. Time-varying covariates included whether the participant currently lived with a partner or spouse (0 = no, 1 = yes), whether there were any children in home (0 = no, 1 = yes), the extent to which the participant believed their job was demanding, self-rated health, depressive affect, and Conscientiousness. Scale information is available in Tables S3 and S4. More information about the scales used throughout this study can be found at http://www.midus.wisc.edu/midus1/documentationofscales.pdf.

4.3 | Analyses

Multilevel models were used to estimate the relationships between sense of purpose and work characteristics (Bates, Mächler, Bolker, & Walker, 2015). We regressed sense of purpose on work characteristics, measured at the same wave, to estimate the concurrent relationship. Waves were nested within participants. To test the sensitivity of these estimates, we then added demographic, health and work-related covariates in a second model. Finally, we added psychological covariates (i.e., depressive affect and Conscientiousness).

TABLE 2 Correlations between variables of interest at Wave 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Purpose																				
2. Skill Demands	.13																			
3. Autonomy	.12	.53																		
4. Coworker	.07	.23	.24																	
5. Supervisor	.04	.21	.24	.50																
6. Positive Spill	.15	.38	.30	.19	.16															
7. Negative Spill	−.06	.05	−.05	−.15	−.22	.07														
8. Age	−.14	.04	.09	.08	.09	.03	−.21													
9. Female	−.04	−.05	−.07	.07	.08	.00	−.01	.00												
10. Edu	.22	.17	.10	−.03	−.06	.05	.11	−.10	−.11											
11. Nonwhite	−.04	−.05	−.06	.00	.01	−.03	−.04	−.05	.03	−.04										
12. Unemploy	−.04	−.04	−.02	.08	.07	−.03	.00	.17	.23	−.03	−.04									
13. Divorce	−.02	.02	.04	.00	.01	.03	.00	.08	.00	−.09	−.01	.00								
14. Widow	−.03	−.01	.01	.03	.03	.00	−.04	.13	.03	−.04	−.03	.05	−.05							
15. SEI	.20	.29	.20	.02	−.05	.06	.11	−.03	−.12	.62	−.05	−.04	−.04	−.02						
16. Partner	.11	.04	.05	.03	.02	.16	.02	.00	−.11	−.02	−.09	−.01	.03	.02	.01					
17. Children	.07	−.03	−.04	−.03	−.02	.01	.18	−.49	−.03	.02	.03	−.09	.05	−.06	−.01	.20				
18. Demands	.01	.29	.09	−.10	−.20	.08	.50	−.09	−.01	.15	−.02	−.06	.01	−.03	.19	.02	.02			
19. SRH	.14	.08	.07	.05	.08	.12	−.23	.02	−.02	.07	.00	−.07	−.04	.03	.03	.05	.01	−.08		
20. Depress	−.10	−.03	−.04	−.02	−.03	−.06	.19	−.10	.10	−.05	.02	.04	.07	−.01	−.04	−.12	.03	.08	−.17	
21. Con	.27	.13	.12	.05	.05	.19	−.16	.03	.11	.08	−.03	.01	.00	.02	.06	.03	−.03	.01	.24	−.06

Note: Spill = spillover, Edu = education, Nonwhite = identified as non-white (racial or ethnic minority), Unemploy = unemployed at any point before or during study, Divorce = divorced at any point before or during study, Widow = widowed at any point before or during study, SEI = job score on Duncan Socioeconomic indicator at baseline, Partner = currently living with spouse or partner (time-varying), Children = have children under the age of 18 living in the home (time-varying), Demands = degree of demands at work (time-varying), SRH = self-rated health (time-varying), Depress = depressive affect (time-varying), Con = Conscientiousness (time-varying).

TABLE 3 Concurrent purpose in life regressed onto work characteristics

	Purpose in life											
	No covariates				Demographics				All covariates			
Coefficient	*b*	SE_b	*β*	*p*	*b*	SE_b	*β*	*p*	*b*	SE_b	*β*	*p*
Fixed effects												
Skill demands	.10	.02	.05	<.001	.06	.02	.04	.004	.05	.02	.03	.033
Autonomy	.08	.02	.05	<.001	.05	.02	.03	.012	.03	.02	.02	.098
Coworker support	.07	.02	.04	<.001	.08	.02	.05	<.001	.08	.02	.05	<.001
Supervisor support	−.02	.02	−.01	.202	−.01	.02	−.01	.608	−.01	.02	.00	.717
Random effects												
τ	.67				.65				.60			
σ	.83				.82				.81			
N_{people}	4,963				3,583				3,583			
$N_{\text{observations}}$	13,219				8,031				8,031			

Note: The demographics model (second model) includes the following covariates: age, gender, education, minority status, even been unemployed, divorce, widowed, baseline job SEI, living with a partner, number of children in the house, demands at work, self-rated health. The all covariates model (third model) includes all covariates in the second model plus depressive affect and Conscientiousness.

These were reserved until the final model, as prior research has indicated that these have the most overlap with sense of purpose. To estimate the prospective relationships between sense of purpose and work characteristics, we regressed sense of purpose from the following wave onto purpose and work characteristics from the current wave. Again, we gradually increased the inclusion of covariates to assess the robustness of our estimates.

We expected that work characteristics would have a stronger (weaker) relationship with purpose when there is more positive (negative) spillover. To test this, we incorporated both positive and negative spillover as moderator variables in the models described above.

4.4 | Preregistration

Analyses were preregistered on OSF (osf.io/tx469). This preregistration includes an R script containing the proposed analyses. Supplementary materials include the post-analysis script, including all analyses performed in the process of this study. The following changes were made after preregistration. First, models were rank-deficient and did not converge; consequently, we dropped a proposed covariate, namely whether the participant's partner was currently employed, due to a low base-rate and high collinearity with having a partner. Second, we did not expect that spillover would be best conceptualized as two variables, rather than four or one. We present all results in our supplementary material, but the use of factor solution (one, two, or four) did not change the conclusions of this study.

5 | RESULTS

Correlations between all study variables at Wave 1 are presented in Table 2. At the first wave of data collection, sense of purpose was positively associated with all four work characteristics. It appears that purpose is more strongly associated with skill variety $r = .13$, 95% CI [.10, .15] and autonomy $r = .12$, 95% CI [.10, .15] than with coworker support $r = .07$, 95% CI [.05, .10] and supervisor support $r = .04$, 95% CI [.01, .06]. Importantly, all four work characteristics variables were significantly positively associated with each other at this wave, with correlations ranging from .21 to .53. Consequently, it is unclear whether purpose is related to distinct aspects of each work characteristics or to their shared variance. We turn to our multilevel regression estimates to examine the independent relationships between sense of purpose with each work characteristic.

5.1 | To what extent is purpose related to or changed by work characteristics?

First, we examine the relationship between sense of purpose and work characteristics using a multilevel model, with waves of data nested within person. All three waves of the MIDUS were used for these analyses. Given that we examined the relationships between purpose and work characteristics measured at the same wave, this can be considered a repeated measures model. Overall, we found that purpose remained independently associated with two work characteristics—skill variety ($b = .05$, 95% CI [.00, .09], $\beta = .03$, $p = .033$) and

coworker support ($b = .08$, 95% CI [.04, .12], $\beta = .05$, $p < .001$)—even when controlling for all covariates. These findings suggest that purpose is not merely associated with generally positive perceptions of work but is uniquely and differentially associated with specific positive aspects of work. In addition, purpose was positively associated with autonomy, even when controlling for various demographic and work-related covariates ($b = .05$, 95% CI [.01, .09], $\beta = .03$, $p = .012$), although not after controlling for depressive affect and Conscientiousness. Results for all concurrent models can be found in Table 3.

Next we were interested in the extent to which work characteristics were associated with changes in sense of purpose. To examine this, we regressed sense of purpose measured during the following wave onto each of the work characteristics and sense of purpose measured in the concurrent wave. While all three waves of data were used in the analyses, only data from Waves 1 and 2 served as predictors in the model, while only data from Waves 2 and 3 served as outcomes. We found that changes in purpose were associated with skill variety ($b = .05$, 95% CI [.01, .10], $\beta = .03$, $p = .027$), above and beyond all relevant covariates. None of the other work characteristics were associated with changes in sense of purpose. Results for longitudinal models can be found in Table 4.

5.2 | Does spillover moderate the relationship between purpose and work characteristics?

To estimate whether work characteristics have a stronger relationship with sense of purpose when spillover is high, we simultaneously incorporated negative and positive work-home spillover as moderators in the models described above. Again, for cross-sectional models, all three waves of data were included, while for longitudinal models, data from Waves 1 and 2 were employed as predictors with data from Waves 2 and 3 as outcomes. Without covariates in the model, autonomy was more strongly associated with purpose at higher levels of negative spillover ($b = .05$, 95% CI [.00, .11], $\beta = .14$, $p = .048$); however, this relationship was no longer significant once covariates were included. This pattern of results held when we examined positive and negative spillover in separate models. In addition, the relationships between work characteristics and *change* in purpose were not moderated by the two forms of spillover. Overall, we conclude that positive and negative spillover do not moderate the relationships between work characteristics and purpose.

5.3 | Exploratory analyses

We conducted exploratory analyses to test the opposite longitudinal direction, namely whether sense of purpose is associated with changes in work characteristics, and if those associations were moderated by spillover. To model these relationships, we regressed one work characteristic on itself from the prior wave, purpose from the prior wave, and covariates from the prior wave. We also incorporated spillover from the prior wave when assessing the moderation effect. In short, these models have the same structure as those assessing changes in purpose, but with work characteristics as the outcome.

TABLE 4 Change in purpose in life regressed onto work characteristics

	Purpose in life (following wave)											
	No covariates				Demographics				All covariates			
Coefficient	***b***	***SE*$_b$**	***β***	***p***	***b***	***SE*$_b$**	***β***	***p***	***b***	***SE*$_b$**	***β***	***p***
Fixed effects												
Purpose	.41	.01	.42	<.001	.35	.01	.37	<.001	.33	.01	.35	<.001
Skill Demands	.10	.02	.06	<.001	.06	.02	.04	.015	.05	.02	.03	.036
Autonomy	.02	.02	.01	.439	.01	.02	.01	.478	.01	.02	.01	.705
Coworker Support	−.03	.02	−.02	.104	.00	.02	.00	.851	.00	.02	.00	.883
Supervisor Support	−.02	.02	−.01	.292	.02	.02	.02	.262	.02	.02	.02	.236
Random effects												
τ	.00				.17				.17			
σ	.95				.89				.89			
N_{people}	4,963				3,580				3,580			
$N_{\text{observations}}$	8,256				5,547				5,547			

Note: The demographics model (second model) includes the following covariates: age, gender, education, minority status, even been unemployed, divorce, widowed, baseline job SEI, living with a partner, number of children in the house, demands at work, self-rated health. The all covariates model (third model) includes all covariates in the second model plus depressive affect and Conscientiousness.

Without covariates in the model, sense of purpose was associated with changes in skill variety ($b = .02$, 95% CI [.01, .03], $p < .001$), autonomy ($b = .02$, 95% CI [.01, .03], $p < .001$), and coworker support ($b = .01$, 95% CI [.00, .02], $p = .047$), but not supervisor support ($b = .00$, 95% CI [−.01, .01], $p = .699$). After including all covariates, purpose was still associated with changes in autonomy ($b = .02$, 95% CI [.00, .03], $p = .045$), and coworker support ($b = .02$, 95% CI [.00, .03], $p = .019$). These results suggest that the relationship between sense of purpose and changes in work characteristics did not vary by either positive or negative spillover.

6 | DISCUSSION

The current study sought to consider the cross-sectional and longitudinal associations between specific work characteristics and sense of purpose. Using longitudinal data from the MIDUS study, and controlling for depressive affect, Conscientiousness, and several other occupational and demographic variables, we found unique, though modest, positive associations at the initial wave between two work characteristics—skill variety and coworker support—and participants' levels of sense of purpose. In addition, with all controls in the model, skill variety predicted which individuals were likely to change in sense of purpose over time. Though multiple work characteristics appear uniquely associated with feeling purposeful, having more varied work that requires multiple skills and having support from coworkers, specifically, may lead one to perceive a greater sense of direction in life. Contrary to our hypotheses, the relationship between work characteristics and sense of purpose was not conditioned by negative and positive forms of work/home spillover. Though further research is needed to examine this lack of moderation, this result suggests the relative stability of the associations between work characteristics and sense of purpose, insofar that their potential benefits do not appear to depend on the employee's positive or negative perceptions of whether their work and home domains affect one another.

6.1 | Advances to the purpose literature

Our findings show that work characteristics may be valuable for building a sense of purpose over time, particularly when those characteristics provide the individual with varied and challenging work. Researchers have suggested a central component of purpose in life is greater life engagement (Scheier et al., 2006), insofar that living a purposeful life involves engaging more in personally interesting and meaningful activities. Similarly, flow theory discusses that greater work performance often comes when individuals are challenged, within a reasonable level, to complete personally relevant tasks (Nakamura & Csikszentmihalyi, 2009). When faced with work that demands varied skill, individuals may be more likely to perform as though in a flow-like state. It has been suggested that flow experiences may help individuals to find what is most personally meaningful and self-defining (Hill et al., 2014). As such, future research may wish to consider whether one pathway by which skill variety leads to increases in sense of purpose is that work with skill variety allows for more opportunities for experiences of flow.

Though the longitudinal association between skill variety and sense of purpose held even with the inclusion of other work characteristics and relevant psychological, sociodemographic and occupational variables as controls, it still was relatively modest in magnitude. However, it is worth noting that modest effects are typical in the literature predicting change in sense of purpose (e.g., Hill & Weston, 2019), with some work finding no evidence for psychosocial factors as predictors of change trajectories (Hill et al., 2015). As such, the current effect sizes are in line with the past literature, though at least three potential explanations are plausible for these modest effect sizes in the current work. First, in line with the discussion earlier, it should be expected that work characteristics prove weaker predictors of general sense of purpose, relative to predictors of outcomes specific to the work domain (such as meaningful work). A direction for future research then is to examine whether work characteristics influence employees' broader sense of purpose through first promoting perceptions of meaningful work.

Second, most people likely do not derive their sense of purpose in life solely from work. Indeed, even during adolescence, a time when occupational and vocational interests are particularly salient, relatively few participants define what it means to have a purpose solely in occupational terms (Hill, Burrow, O'Dell, et al., 2010). Moreover, research finds that occupational goal commitment is not more associated with sense of purpose relative to other types of life goals (Hill, Jackson, Roberts, Lapsley, & Brandenberger, 2011). Accordingly, one may expect small associations between work characteristics and purpose, given that individuals often hold life goals not entirely aligned with their work. Thus, future research should consider whether the effects of work characteristics in promoting sense of purpose may be stronger for those individuals who profess a purpose in life more aligned with their occupation, rather than, for instance, family, or community engagement.

Third, researchers should consider additional moderators in efforts to understand when and for whom work characteristics promote purpose over time. Positive and negative forms of work/home spillover did not appear to moderate the associations examined here, though it may be valuable to know the extent to which an individual's stated purpose in life actually incorporates both work and home before ruling out spillover as a potential moderator. Another possible choice

for moderator may be the stage that participants are at in their career. Though the MIDUS study includes participants from younger-to-older adulthood, the majority of the sample is in midlife and may be relatively entrenched in their given profession. Age and occupational status, thus, may moderate the associations examined here, insofar that work characteristics may play a more influential role when (a) searching for a career initially and (b) considering an age period during which sense of purpose is not nearing its lifespan peak.

6.2 | Advances to the literature on work characteristics and meaning

Substantial prior research has shown that work characteristics are associated with meaningful work (e.g., Fried & Ferris, 1987; Hackman & Oldham, 1976; Ryan & Deci, 2001; Rosso et al., 2010). This is considered to be the case because these characteristics foster intrinsic motivation (Hackman & Oldham, 1976), a sense of belongingness (Pratt & Ashforth, 2003), work enjoyment and engagement (Ryan & Deci, 2001), and an enhanced sense of personal expressiveness and authenticity through work (Waterman, 1993). Our results show that work characterized by skill variety and coworker support is related to sense of purpose, and changes in work characterized by skill variety predict sense of purpose over time. These findings are significant because they suggest the "long arm" of work characteristics, such that they can have a positive effect on employees' meaningfulness that is broader than the work domain. Additionally, our findings related to the effect of changes in work characteristics on changes in life purpose hint that interventions designed to improve work characteristics of employees may have a lasting effect not just on their experience of work but on their broader perceptions of life purpose.

The current study suggests at least two important avenues for future research on work characteristics and purpose. First, our exploratory analyses found support for the alternative direction as well. Higher levels for sense of purpose at the initial time point predicted increases in autonomy and coworker support over time, even when controlling for all covariates in the models. These findings align with theories of personality development, insofar that individuals with a given disposition may be more likely to choose and shape their work roles in a manner that suits their personality (Roberts, Wood, & Caspi, 2008). In the current case, purposeful individuals may be more likely not only to seek out work environments that support autonomous goal pursuit but also those where they feel supported by their coworkers in their pursuit of life goals. Accordingly, sense of purpose may predict changes in work characteristics either because purposeful individuals shape their work roles in a manner that provides them greater autonomy and encourages others to support them, or because, if confronted with non-supportive, less autonomous work environments, purposeful individuals may seek out new positions that better provide the work characteristics they need. Future research is needed to further understand the role of sense of purpose in how individuals engage in "job crafting" (Wrzesniewski & Dutton, 2001) to shape their work roles.

Second, the current analyses provide insights for individuals interested in work-home spillover as a construct. Past work with a subset of the current sample (Grzywacz, 2000) has focused on work-home spillover as a four-factor solution: positive work-home, positive home-work, negative work-home, and negative home-work spillover. Others consider it a unidimensional construct, reflecting general struggle with the process of combining these identities. However, counter to these predictions, the models tested here suggest participants' responses may best be considered as a Two-Factor Model, capturing positive spillover effects and negative ones. In other words, the direction (work-to-home vs. home-to-work) failed to demonstrate as its own dimension, though positively and negatively -valenced items loaded onto distinct factors. Such findings have clear ramifications for models that are couched in the notion that individuals readily distinguish between whether an event spills over into home life from work life, and vice versa, by instead suggesting that these boundaries may be less easily differentiated by participants than a Four-Factor Model suggests. Future research may wish to investigate whether worker well-being can be enhanced by helping employees make such distinctions, and in turn set clearer demarcations between work and non-work domains.

6.3 | Limitations and future directions

Given the broad nature of the study, detailed information about participants' specific occupations was not assessed. The current study did control for perceived demandingness of the occupation and SEI, a proxy for work prestige, in an effort to capture aspects of the specific position; however, additional work would benefit from including further information on participants' specific occupational features. In addition, the MIDUS sample is predominantly white, which limits opportunities to investigate whether the effects found differ across race and ethnic status. Furthermore, data collection occurred during the financial crisis of 2008, which may have impacted the participants' reports for work characteristics and sense of purpose; however, given the spacing of the assessment occasions, and the fact that all the sample lived through this crisis, it is difficult to ascertain whether it held any impact on the findings. Therefore, it would be interesting to consider economic climate as a moderator of findings in future research. Finally, the first wave of data collection included only the three-item measure for sense of purpose, which sacrifices reliability for brevity. Though the reliability

for this measure is poor, other studies with the MIDUS sample have demonstrated its predictive validity for meaningful life outcomes, and that the predictive value is largely similar at the item- or composite-level (Hill & Turiano, 2014). That said, studies should strive to replicate the current findings using a longer and more comprehensive measure for sense of purpose.

7 | CONCLUSION

The current findings advance the literature on the relationship between work and sense of purpose. The current research demonstrates that beyond working status, specific work characteristics, particularly skill variety, and coworker support, also play a role in predicting whether employees feel a broader sense of purpose in life, and skill variety plays a role in predicting whether purpose changes over time. That said, future research needs to focus on whether the effect magnitudes differ depending on the extent to which participants' purpose orientations are focused on their occupation. One would expect that for individuals that are more focused on occupational goals, and for whom the original quote by Stephen Hawking holds true, work characteristics may matter more when you feel that life is empty without your work.

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CONFLICT OF INTEREST

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

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