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วารสารวิธีวิทยาการวิจัย ปีที่ 32 ฉบับที่ 1 (มกราคม–เมษายน 2562)

อิทธิผลแบบกำกับของการรับรู้อิสระในการทำงานที่มีต่อความสัมพันธ์ระหว่างกรอบคิดยึดติดและการปรับงาน

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บทคัดย่อ

*งานวิจัยในอดีตเกี่ยวกับพฤติกรรมการปรับงานของพนักงาน มักสนใจศึกษาปัจจัยด้านสภาพแวดล้อมในการทำงาน ซึ่งมีบทบาทสำคัญในการส่งเสริมการปรับเปลี่ยนรูปแบบการทำงานที่เป็นไปได้และนำไปสู่นวัตกรรมใหม่ ๆ อย่างต่อเนื่อง แต่มียังมีงานวิจัยไม่มากนักที่ศึกษาพฤติกรรมการปรับงานโดยนำทฤษฎีความเชื่อส่วนบุคคลเกี่ยวกับสติปัญญามาต่อยอดในบริบทการทำงาน งานวิจัยนี้จึงมุ่งสำรวจโมเดลความสัมพันธ์ระหว่างกรอบคิดติดยึดและการปรับงานโดยมีการรับรู้อิสระในการทำงานเป็นตัวแปรกำกับด้วยแบบสอบถามการรายงานตนเอง ตัวอย่างวิจัยคือพนักงานเต็มเวลาจากองค์การภาครัฐและเอกชนในเขตกรุงเทพมหานคร จำนวน 238 คน ผลการวิเคราะห์โมเดลสมการโครงสร้างด้วยโปรแกรม **Mplus** 8.2 พบว่า โมเดลที่ไม่มีอิทธิพลกำกับมีความสอดคล้องกับข้อมูลเชิงประจักษ์อยู่ในเกณฑ์ดี (χ^2 (2, **N** = 238) = 4.74, **p** = .09, **CFI** = .99, **TLI** = .94, **SRMR** = .03, **RMSEA** = .07) และพบว่ากรอบคิดยึดติดมีอิทธิพลทางลบต่อการปรับงาน ส่วนผลการวิเคราะห์โมเดลสัมประสิทธิ์สุ่ม (**Random coefficient regression**) พบข้อสนับสนุนสำหรับอิทธิพลกำกับของการรับรู้อิสระในการทำงานต่อความสัมพันธ์ระหว่างกรอบคิดยึดติดและการปรับงานโดยเฉพาะอย่างยิ่งในมิติการเพิ่มทรัพยากรในงานด้านโครงสร้างและด้านความท้าทายในทิศทางตามสมมุติฐานงานวิจัย คือ การรับรู้ว่าตนมีอิสระในการทำงานอาจช่วยบรรเทาอิทธิพลทางลบของกรอบคิดยึดติดต่อการปรับงาน โดยโมเดลที่มีอิทธิพลกำกับ (**AIC** = 3663.60, **BIC** = 3753.88) สอดคล้องกับข้อมูลเชิงประจักษ์มากกว่าโมเดลที่ไม่มีอิทธิพลกำกับ (**AIC** = 3515.49 , **BIC** = 3525.47)*

คำสำคัญ: *กรอบคิดยึดติด การรับรู้อิสระในการทำงาน การปรับงาน*

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Moderating Effect of Perceived Job Autonomy on the Relationship between Fixed Mindset and Job Crafting

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ABSTRACT

Prior research on job crafting has focused on the characteristics of the work environment, which play a significant role in enhancing the possibility to make changes in the job design, and consequently lead to continuous innovation. Relatively little research has investigated the impact of work characteristics on job crafting in accordance with the two implicit theories of intelligence in work contexts. The current research was to explore the moderating effect of job autonomy on the relationship between fixed mindset and job crafting using a self-report questionnaire among full-time employees from both private and public organizations in Bangkok (N = 238). The results of structural equation modeling using Mplus 8.2 indicated that the fit statistics for the model without the moderator were satisfactory (χ^2 (2, N = 238) = 4.74, p = .09, CFI = .99, TLI = .94, SRMR = .03, RMSEA = .07). The fixed mindset had a significant negative effect on job crafting. The results of random coefficient regression revealed that job autonomy was found to moderate the relationship between fixed mindset and job crafting, particularly the two proactive forms of job crafting (increasing structural job resources and challenging job demands). Job autonomy appeared to buffer a negative effect of fixed mindset on job crafting. The moderation model yielded a better fit (AIC = 3663.60, BIC = 3753.88) compared to the model without the moderator (AIC = 3515.49, BIC = 3525.47).

Keywords: *fixed mindset, perceived job autonomy, job crafting*

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Introduction

Over recent decades, employee initiative has become increasingly important in modern workplace, as a consequence of global competition and the demand for continuous innovation. For a traditional approach, organizational change involves a top-down process implemented by change agent and top management (van der Ven, 2011). For staying updated and survived in the fast-moving business, most organizations have to rely on employee proactive behaviors, particularly directed at improving one's job, such as job crafting. Job crafting is a proactive strategy to not only facilitate creativity, innovation, and transforming work environment (Ghitulescu, 2013) but also increase positive psychological outcomes – employees' work engagement, perceived meaningful work, organizational commitment, and work motivation (Tims, Bakker, & Derks, 2013; Tims, Derks, & Bakker, 2016). Unlike job design perspectives assuming that employees respond to the job as it has been redesigned by management, job crafting is a continuous process in which individuals alter some aspects of their job on their own initiative (Tims & Bakker, 2010; Wrzeniewski & Dutton, 2001).

A number of studies on job crafting have emphasized the antecedents of job crafting, such as work characteristics, individual differences, and psychological states. For instance, prior research has found that situational factors (job autonomy, feedback from job or others, social support, and task interdependence) and individual differences (work experience, proactive personality, self-efficacy, and self-regulation) were significant predictors of job crafting (Drown, 2013; Tims & Bakker, 2010). In addition, those employees with high needs for control over job, positive self-image, and human connection were likely to craft their jobs (Niessen, Weseler, & Kostova, 2016; Wrzensniewski & Dutton, 2001). The impact of individuals' intelligence mindsets on proactive work behaviors or job crafting, however, is unclear. Based on two implicit theories of intelligence: entity theorist (fixed mindset) and incremental theorist (growth mindset) (Dweck & Leggett, 1988; Dweck, 1999; Dweck, & Yeager, 2019), they explained why individuals in the same situation would pursue different goals, which lead to different behavioral responses (adaptive or helpless responses). Individuals with entity view conceive intelligence as fixed and stable. Dweck (2006) found that students

with fixed mindset tend to have a high desire to be seen as smart and avoid looking unintelligent. They may feel that the circumstances are outside their control. This probably makes them give up easily and avoid challenge. In contrast, those with incremental view would perceive intelligence as changeable and fluid. They tend to interpret failure or challenge as inevitable for learning due to their tendency to adopt a mastery-oriented approach. This renders them high persistence on challenging tasks. In addition to the theories, goals, and behavior pattern in achievement situations, several studies revealed that when people held fixed mindset and perceived low levels of their present ability, they would engage in helpless patterns (Blackwell, Trzesnieski, & Dweck, 2007; Burnette, O'Boyle, VanEpps, Pollack, & Finkel, 2013). This implied that perceiving low autonomy probably leads to avoiding challenge and less engagement in proactive work behaviors. On the other hand, those who endorse an incremental view of intelligence tend to persist through setbacks no matter what they perceived their present ability level to be either low or high. Therefore, the purpose of the current study was to expand the existing research on job crafting by using the implicit theories of intelligence to explain the effect of individuals' mindset on job crafting behaviors with perceived job autonomy as a moderator in the Thai work contexts.

Literature reviews

Job crafting

Job crafting involves self-directed changes made voluntarily by employees in their job. According to Wrzesniewski and Dutton (2001), job crafting behavior is related to changing the task boundaries, social characteristics of the job, and the way people think about their job with the goal of becoming more engaged, satisfied, and thriving at work (Berg, Dutton, & Wrzesniewski, 2008). Task crafting includes any changes employees make in the scope of their tasks and how the tasks are performed. For relational crafting, employees may change the relational boundary by altering the ways they interact with other people at work. Finally, people may alter their view of work by engaging in cognitive crafting. Later on, Tims and Bakker (2010) adopted Job Demands-Resources (JD-R) theory to explain why people are motivated to craft

their job. Based on JD-R theory (Bakker & Demerouti, 2007), Petrou, Demerouti, Peeters, Schaufeli, and Hetland (2012) defined job crafting as strategies individuals use to make changes in their job on their own initiative or adjust their job characteristics (i.e, job demands and job resources) in order to make their job more motivating. Job demands can be any specific aspects of the job that require physical or psychological efforts from employees, while job resources refer to specific aspects of the job that facilitate employees to accomplish work goals, reduce job demands, and stimulate personal growth (Demerouti, Bakker, Nachreiner, & Schauefeli, 2001).

Even though the two concepts of job crafting defined by Tim and Bakker (2010) suggest that people craft their job on a regular basis or everyday behavior, cognitive crafting dimension of Wrzesniewski and Dutton (2001) is related to the crafting behavior that is far from daily behavior. People do not alter their perceptions regarding the significance of their work on a regular basis (Lyons, 2008; Demerouti, Bakker, & Halbesleben 2015). The current study measured job crafting based on Tims, Bakker, and Derks' (2012) four dimensions of job crafting (increasing structural job resources, increasing challenging job demands, increasing social job resources, and decreasing hindering job demands), which was derived from the JD-R theory. The first two forms of job crafting involve increasing job resources: structural and social job resources. Crafting structural job resources, for example, includes learning opportunities, autonomy, and variety of tasks. Employees who craft social job resources might seek social support, supervisory coaching, and feedback. These two forms of job crafting focus on mobilizing job resources in order to allow employees to be able to deal with the job demands more effectively without too much difficulty. The third form of job crafting that employees may employ is by increasing challenging job demands. Employees create more challenges at their work by increasing levels of job demands, such as adding tasks to their jobs, proactive involvement in interesting projects, or voluntarily taking over challenging tasks from their supervisor. They often engage in such behaviors when they feel that their job does not offer them adequate opportunities to use their skills. The forth form of job crafting that employees may engage is by decreasing hindering job demands when their job demands are beyond their capacities.

Such behaviors may involve asking colleagues to help them with their tasks or lowering the number of emotional interactions they have with customers or coworkers. By doing this, they can find a way to withstand the hindrance demand levels in order to perform more efficiently with fewer cognitive demands and stay healthier.

Mindset

Blackwell, Trzesniewski, and Dweck (2007) proposed that entity theorists (people holding fixed mindset of intelligence) and incremental theorists (people holding growth mindset of intelligence) had different goal orientations regarding academic achievement and were motivated to perform an action by different means. Certain motivations of each individual have a large impact on the strategy types they will use when facing academic challenges, the ways they learn and their overall academic achievement (Elliot & Dweck, 2005). In pursuing performance goal, entity theorists tend to seek out the tasks that are not challenging as means of being smart and avoid giving evidence of inadequacy. Mastery-oriented individuals, on the other hand, tend to pursue learning goals and view challenging or achievement situations as opportunities to increase their competence and acquire new skills or enhance their mastery. Recent research has provided empirical support for the link between mindset and academic performance (Bazelais et al., 2018) and shown that students with a fixed mindset of intelligence concerned more about their grades and the appearance of being smart rather than learning (Brougham & Kashubeck-West, 2017). By praising students for their intelligence (a fixed mindset approach) can have more performance focus. Students praised for their effort using growth mindset approach appeared to focus more on developing their mastery and take more on difficult challenges (Skipper & Douglas, 2012). The current study will extend the scope of the mindset research by examining the impact of view of intelligence on job crafting in the Thai workplace.

Perceive job autonomy

Job autonomy refers to the freedom people have in performing at work (Humphrey et al., 2007). It is one of the most influential work characteristics which has a positive association with broad range of outcomes ranging from behavioural

outcomes –job performance to psychological outcomes such as stress, job satisfaction, and work motivation. As noted by Tims and Bakker (2010), the characteristics of the work environment may play a significant role in enhancing the possibility to make changes in the job design. Perceived autonomy at work is an important work characteristic and refers to the extent to which a job allows individuals the freedom to schedule their work, make decisions, and choose the ways to perform tasks. Having an opportunity to make a decision on how to perform the job may lead individuals to engage in job crafting or attempt to change some aspects of their jobs. Lyons (2008) found an empirical support for a relationship between perceived control and job crafting behaviors of salesman. Besides, the belief employees have in their abilities can make individuals more likely to engage in certain tasks or to make changes in the work environment.

The moderating effects of job characteristics

In accordance with theory of trait-activation (Tett & Burnett, 2003), personality traits will be expressed in responses to relating cues of that trait. Certain features of the work, such as, having freedom or independence in determining how to get the work done can activate proactive traits and make the impact of such traits more salient. For instance, the Proactivity Dynamics Framework shown in Grant and Ashford's (2008) article, proactive personality can be stimulated by certain work design characteristics, especially job autonomy (Drown, 2013). As noted by Grant, Fried, and Juillerat (2011), a few studies of work characteristics have accounted for individual differences and the interaction between trait relevant work characteristics and traits need more empirical supports in the work design literature. However, prior research in job crafting has focused on the interaction between proactive personality and work characteristics (Drown, 2013; Tims & Bakker, 2010). This present study, therefore, applied the trait-activation theory (TAT, Tett, & Burnett, 2003) and implicit theories of intelligence to explain the interaction between fixed mindset and job autonomy on each form of job crafting (Figure 1).

Despite a number of empirical supports for the effect of mindset on adaptive and maladaptive responses, most of prior studies have been conducted in the school

settings or laboratory settings (Diener & Dweck, 1980; Dweck, 2006; Licht & Dweck, 1984). Dweck's research demonstrated empirically that students who hold an entity theory of intelligence or fixed mindset were less likely to attempt challenging tasks and take a risk for academic underachievement. Those with fixed mindset preferred to focus on performance goal orientation and were motivated to avoid a challenging situation in which they might fail. As fixed mindset people concern with their ability level (Dweck & Legget, 1988), this may imply that they would be less likely to engage in job crafting behaviors if their perceived autonomy was low. In contrast, those with incremental view of intelligence (growth mindset) are motivated to gain more knowledge, which can facilitate them to be proactive in various learning environments due to their preference in learning orientation. In a challenging situation, growth mindset people appear to be much more capable of continuing to become effective learners.

As noted by Demerouti, Bakker, and Halbesleben (2015), crafting job resources is considered as a proactive strategy that individuals can use to make their job fit their ability, skills, or preferences and ultimately put their efforts to do more than what is required. However, decreasing hindering job demands appears to be a dark side of job crafting and unfavourable manner in which people try to preserve their own resources. This form of job crafting, in turn, makes people less active, creative, engaged in their job, and helpful to others. This can imply that people high in growth mindset are more likely to engage in job crafting, such as increasing structural job resources, increasing social job resources, and increasing challenging job demands. Mobilizing their job resources and job demands will lead them to learning orientation and consequently increase their creativity at work. However, those with fixed mindset might engage in ineffective form of crafting their job or decreasing hindering job demands. Due to the reduction of the job demands, employees are motivated to be less willing to put their effort in their work tasks. In sum, the current study will examine the impact of fixed mindset on job crafting.

Age and job crafting

Regarding the influence of age on job crafting (El Baroudi & Khapova, 2017; Moghimi, Zacher, Scheibe, & Van Yperen, 2015), age was included in the research

model as a predictor. These previous studies suggested that younger employees were more likely to engage in task crafting, relational crafting, and cognitive crafting. In their studies, older employees tend to have less motivation to learn new things at work, especially in unfamiliar domains, compared to younger employees. The current research would examine whether age would be negatively related to all four forms of job crafting based on Tims et al. (2012).

Based on the literature from job crafting research, implicit theories of intelligence (Dweck & Legget, 1988), and theory of trait-activation (Tett & Burnett, 2003), we hypothesized that perceived job autonomy would be a moderator in the relationship between fixed mindset and job crafting. The following relationships were also proposed:

Hypothesis 1: Viewing intelligence as fixed entity (fixed mindset) will be negatively related to job crafting, after controlling age and job autonomy.

Hypothesis 2: Age will be negatively related to job crafting, after controlling fixed mindset and job autonomy.

Hypothesis 3: Perceived job autonomy will be positively related to job crafting, after controlling age and fixed mindset.

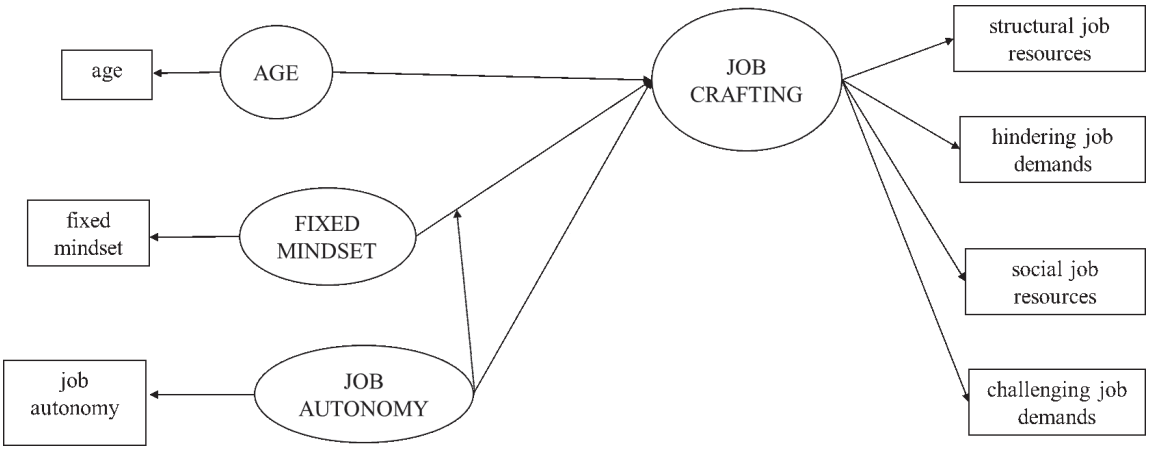

Figure 1 Conceptual model of linkages among mindset, job autonomy, and job crafting.

Methods

Respondents

A convenience sampling was adopted for participant recruitment. As noted by Jackson (2003), researchers should concern about minimum sample size in terms of the ratio of cases (N) to the number of parameters that require statistical estimates. A recommended sample size would be 10 cases per parameter (Kline, 2011). As a total of parameters in the moderation model is 26, a minimal sample size would be 26×10, or $N = 260$. A total of 250 of the 280 questionnaires were returned, representing a response rate of 89.28%. Participants ($N = 250$) were a full-time Thai employee working in public and private organizations in Thailand with at least 6-month organizational tenure. Even though this study used a convenience sampling, residual plots were performed reading the randomness of the data. The residual plots did not display unwanted patterns, which might affect the results. Thus, we used this data for further analyses. A Mahalanobis distance test (D^2) was performed using SPSS to detect multivariate outliers. The criterion for multivariate outliers in the present research was Mahalanobis distance at $p < .01$. The χ^2 critical value with degrees of freedom equal to the number of variables (six) was 22.46 at $p < .001$ (based on Table C.4 in Tabachnick & Fidell, 2007, *p.* 946). The results of multivariate outlier analysis using SPSS yielded 12 multivariate cases. Thus, the 238 remaining cases were used for further analysis.

About 72.3 percent of the sample were female. Most respondents (91.5%) worked in the public organizations and their positions were support or operational staff. On average, respondents had worked on their profession for 13.27 years and the average tenure in the organization was 13.19 years. Approximately fifty-three percent of the sample were between 18-41 years old and nineteen percent were above 50 years of age. The educational level of the respondents was high, with 69.1% holding an undergraduate degree and 15.7% having a postgraduate degree.

Measure

Fixed mindset

The Dweck Mindset Instrument (DMI), developed by Dweck (2006) was used to assess mindset. This measure was translated into Thai language by using back-translation techniques. The DMI consists of 16 items, which indicate respondents' thoughts and feelings about whether or not they believe talent and intelligence are changeable or unchangeable. In accordance with the main purpose of the study, only intelligence factor (8 items) was used to assess to what extent employees hold view intelligence as characteristics that are fixed and unable to change. The 8-item DMI consists of both fixed item statements as well as growth mindset (incremental) item statements. The scores from the growth mindset items were reversed so that strongly disagreeing with a fixed item is similar to strongly agreeing with the growth mindset items. Answers could be given on a five-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). The reliability in the present sample was .80.

Perceived job autonomy

Work Autonomy Scales (Breaugh, 1999) with 9 items was translated into Thai language (for instance, "I am free to choose the methods to use in carrying out my work", α = .87, in the present sample. Answers could be given on a five-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree).

Job crafting behaviour

Job Crafting Scale (Tims et al., 2012) which comprises of 21 items (α = .88 in the current sample) on the four underlying dimensions of structural job resources (5 items, α = .88, for instance, "I tried to learn new things at work"), social job resources (5 items, α = .83, such as "I asked my colleagues for devices"), increasing in challenging job demands (5 items, α = .85, such as, "When an interesting project comes along, I offer myself proactively as project co-worker"), and decreasing hindering job demands (6 items, α = .77, such as, "I try to ensure that I do not have to make many difficult decisions at work") was employed to measure job crafting.

Procedures

The measures of mindset, perceived autonomy, and job crafting were translated into Thai language. The back-translation technique (Brislin, 1970) was used to check the equivalence of wording in the original and back-translated versions, by using three English-Thai bilinguals. A self-report survey was employed in this study. The questionnaire comprises of four sections: (1) demographic profile, (2) mindset, (3) perceived work autonomy, and (4) job crafting. Demographic information consisted of the respondent's gender, age, educational level, position, organizational tenure, job tenure, and industrial type. In the introduction part of the questionnaires, participants were informed that their responses would remain anonymous and confidential. Participants gave their consent to participate by completing the hard copy or online questionnaires. Participant Information Sheet was attached along with the questionnaire to inform participants about information regarding a possible research participation risk, confidentiality in research, and any inconvenience which might occur during research participation.

Regarding the anonymity of the participants, the completed questionnaires via a hard copy version were sent to the representative of each participating organization and be kept in a secured brown envelope. Then, the sealed envelopes were sent directly to a researcher to secure all completed questionnaires in a locker. After obtaining ethical approval from the Research Affairs, Chulalongkorn University, and permission from representatives of participating organizations, they were asked to distribute a hard copy version of questionnaires to their employees.

Measurement Model

Confirmatory Factor analysis (CFA) was conducted to validate the factor structure of study. For scale validity, the 8-item DMI was modelled as one latent factor with 8 items as indicators of the latent factor for measuring fixed mindset. The model showed good fit (χ^2 (13, N = 238) = 17.76, p = .17, SRMR = .03, RMSEA = .04), with standardized factor loadings ranging from .32 to .81. Perceived work autonomy was modelled as one latent factor with 9 items as its indicators.

Fit of the measurement model was satisfactory (χ^2 (15, N = 238) = 24.85, p =.05, SRMR = .04, RMSEA = .05, with standardized factor loadings ranging from .41 to .90. The CFA results for job crafting revealed that the four-factor model yielded a good fit (χ^2 (141, N = 238) = 159.44, p = .14, SRMR = .04, RMSEA = .02), with standardized factor loadings ranging from .36 to .93. In sum, the three CFAs (each of the study variables) provided a confidence in the construct validity of the three scales.

Prior to test the structural model using Mplus version 8.2, all-item-parcelling approach was used to reflect latent variables (Matsunaga, 2008) for those study variables with single indicators. This allowed us to estimate fewer parameters and get more parsimonious model (Little, Cunningham, Shahar, & Widaman, 2002). The model consists of three variables with single indicators. The measurement error variance for single-item indicators of all latent variables was fixed at a value equal to 1-reliability × variance of the observed score (Schumacker & Lomax, 2004). The reliability of age was obtained by Split-half method. For hypotheses testing, two models were assessed: (a) the model of the direct path from the predictors to the criterion variables without the moderator, and (b) the moderation model using random coefficient regression. Akaike (AIC) and Bayesian (BIC) were employed to compare the two models.

Results

Table 1 depicts the mean, standard deviations, and intercorrelations of the study variables. The scale reliabilities were shown on the diagonal, ranging from .77 to .88. Overall, the variables of interest were correlated in the expected direction. Age was negatively correlated with an overall score of job crafting and its subscales, except structural job resources. Fixed mindset was positively related to an overall score of job crafting (r = −.23, p < .001) and two dimensions of job crafting: increasing structural job resources (r = −.48, p < .001) and increasing challenging job demands (r = −.32, p < .001). Job autonomy was significantly and positively related to all job crafting dimensions, except increasing social job resources.

Table 1 Descriptive statistics, reliability, and inter-correlations between variables (N = 238)

	1	2	3	4	5	6	7	8
1. Age	-							
2. Fixed mindset	-.02	(.80)						
3. Job autonomy	-.04	-.37*	(.87)					
4. Job crafting	-.33*	-.23*	.48*	(.89)				
5. Structural	-.05	-.48*	.64*	.65*	(.88)			
6. Hindering	-.21*	.04	.33*	.74*	.32*	(.77)		
7. Social	-.42*	.05	.11*	.74*	.15*	.45*	(.83)	
8. Challenging	-.25*	-.32*	.35*	.80*	.48*	.37*	.50*	(.85)
M	-	2.51	3.69	3.24	3.81	3.13	2.92	3.11
SD	-	0.72	0.65	0.55	0.74	0.66	0.84	0.78

Note. *p < .05. Structural = structural job resources; Hindering = Hindering job demands; Social = social job resources; Challenging = challenging job demands; *M* = Mean; *SD* = Standard deviation; Reliability coefficients are in parentheses.

The results of Structural Equation Modeling (SEM) showed the model with no moderator (see Figure 2) yielded moderately good fit (χ^2 (2, N = 238) = 4.741, p = .09, CFI =.99, TLI =.94, SRMR = .03, RMSEA = .07). Fixed mindset had a significant negative effect on job crafting (β = -.46, p < .001), supporting Hypothesis 1. The support was also found for Hypothesis 2, as age had a significant negative effect on job crafting (β = -.11, p < .05). Perceived job autonomy had a significant positive effect on job crafting (β = .20, p < .05), supporting Hypothesis 3.

A model with random slopes was conducted to examine the moderating effect of job autonomy was examined using random coefficient regression (Muthén & Muthén, 1998-2012). The random slope of fixed mindset to job crafting (in Figure 3) was defined by the linear regression of job crafting on the covariate fixed mindset. The residual covariance between the random slope and job crafting was fixed at zero as the default. The random slope was predicted by the covariate fixed mindset. The results of a regression with random coefficients were supportive of the main hypothesis

that perceived job autonomy will moderate the relationship between viewing intelligence as fixed entity and job crafting. Perceived job autonomy appeared to alleviate a negative effect of fixed mindset on job crafting (β = .43, p < .05). Regarding the factor loadings of each form of job crafting, the buffering effect of perceived job autonomy was stronger on proactive forms of job crafting: increasing structural job resources and increasing challenging job demands. Compared to the model without the moderator (Figure 2): AIC = 3515.49, BIC = 3525.47, the model with the moderator (Figure 3) yielded a better fit: AIC = 3663.60, BIC = 3753.88.

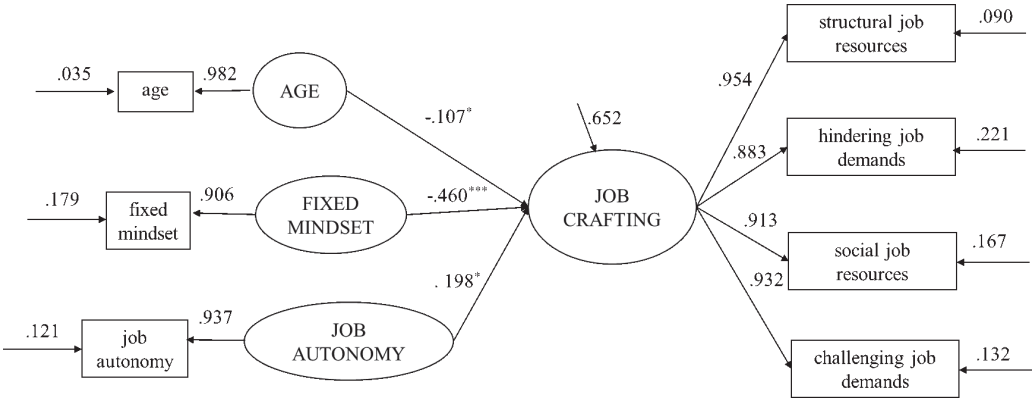

Figure 2 Model of linkages among fixed mindset, perceived job autonomy, and job crafting.

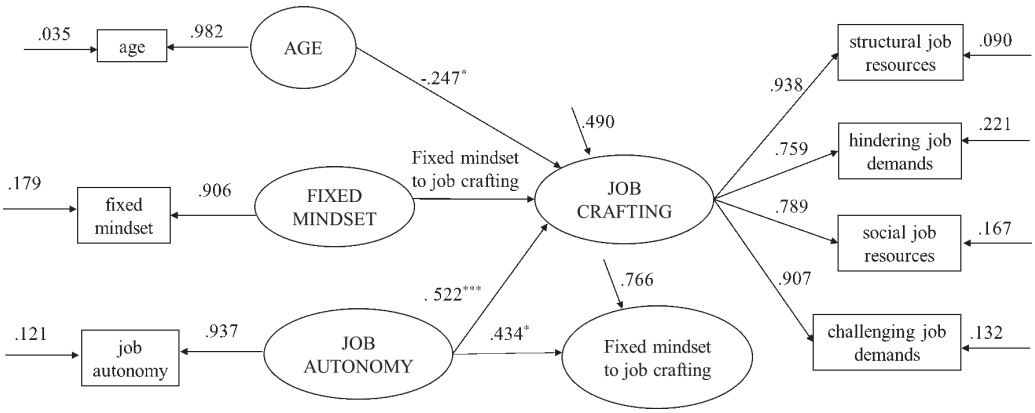

Figure 3 A random slope model with job autonomy as a moderator of fixed mindset and job crafting.

Discussions

The main objective of the current research was to examine whether perceived job autonomy would moderate the relationship between fixed mindset and job crafting. Our study extended the existing research on job crafting by applying the implicit theories of intelligence: fixed mindset and growth mindset (Dweck & Legget, 1988), and theory of trait-activation (Tett & Burnett, 2003) to explain why people with different views of intelligence would engage in proactive work behaviours differently, and also uncovered the linkages of mindset and specific forms of job crafting. Consistent with the theories of intelligence and trait-activation, the overall findings revealed that individuals high in fixed mindset were less likely to engage in job crafting, especially proactive forms of job crafting: increasing structural job resources and increasing challenging job demands when perceiving that they lacked job autonomy. As expected, mindset had unique effects on each form of job crafting. Fixed mindset was strongly negative related to the two forms of job crafting (increasing structural job resources and increasing challenging job demands), which focused on increasing job resources – autonomy, variety, and learning opportunities, and job demands – seeking for proactive involvement in new projects.

In this study, those employees high in fixed mindset were less likely to adjust their job characteristics particularly by increasing structural job resources and increasing challenging job demands, especially when perceiving low job autonomy. This might be because these two forms of job crafting lead them to engage more in task crafting behaviors – taking additional tasks, changing ways in which tasks are performed, or changing job tasks. Crafting structural job resources and increasing challenging job demands make them more proactively involved with new projects or tasks. As having an entity view of intelligence, those high in fixed mindset tend not to be motivated to engage in these two forms of job crafting due to their fear of seeming unintelligent, being judged negatively, and facing failure. Employees with high scores on fixed mindset appeared to be less motivated to focus on mastery-oriented goals (Dweck & Legget, 1988). On the other hand, they were more likely to get involved with work activities, which required less active behaviors and less cognitive demands to alter some aspects of their work (Demerouti et al., 2015).

From the results obtained from random coefficient regression, the support was found for the theory of trait-activation. Perceived job autonomy was found to be a moderator of fixed mindset and job crafting, suggesting that when employees with high levels of fixed mindset had low control over their work schedules or procedures, they were less likely to alter the scope of their tasks by seeking out more autonomy, variety, and learning opportunities in their work (Tims & Bakker, 2010). The stronger moderating effects were found for two proactive forms of job crafting: increasing structural job resources and increasing challenging job demands, as these two dimensions of job crafting capture the change in job characteristics, especially job autonomy.

Recommendations

Although the results of the current studies were promising and supportive of the two implicit theories of intelligence in the work settings, the use of correlational designs does not allow for the establishment of causality. Experimentation or longitudinal study should be further employed in the future research on job crafting using implicit theories. The random coefficients regression analyses, however, provided the precise direction of the moderating effects of job characteristics (perceived autonomy) in the relationship between fixed mindset and job crafting. Even though this study uncovers the linkages of mindset and specific forms of job crafting, another form of job crafting, such as, cognitive crafting (Wrzesniwshi & Dutton, 2001) which was not measured. Future research should explore whether job crafters with different views of intelligence would try to think of their job with a positive meaning differently. For instance, a janitor who thinks of his job as enabling education by providing cleanliness for students.

Translating the findings of the current study into practical implications suggests in the first place that individuals with different views of intelligence tend to react differently to obstacles (lack of autonomy or low ability levels on certain tasks or goals). For managers, this signals that they should provide opportunities for employees to exercise their control over their work, such as freedom to schedule their work, make decisions, and choose the ways to perform tasks. They might also provide some

self-efficacy building workshops for both employees and their supervisors to enhance the confidence in their ability and the self-efficacy beliefs of their employees. When manager or teacher confidence increases, so does employee or students' confidence and performance (Ross, Hogaboam-Gray, & Hannay, 2001). If the implementation of employees' proactive work behaviors (i.e., job crafting) and the maintenance of effective striving under failure or in the face of difficulties are the landmark of organizational change and success, organizations should be concerned about the enhancement of positive work characteristics, such as high levels of job autonomy and confidence in their ability to pursue certain tasks or goals. Furthermore, managers should understand individual differences in their employees' mindset or views of intelligence when encouraging job crafting as a strategy to redesign the job to enhance employees' motivation. They may suggest different forms of job crafting which align with each person's preferences or needs. For instance, fixed mindset people may not prefer to adjust their job particularly by increasing structural job resources or increasing the challenge for their job.

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References

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309-328. doi:10.1108/02683940710733115

Bazelais, P., Lemay, D. J., Doleck, T., Hu, X. S., Vu, A., Yao, J. (2018). Grit, mindset, and academic performance: A study of pre-university science students. *Eurasia Journal of Mathematics, Science and Technology Education*, *14*(12), em1615. doi:10.29333/ejmste/94570

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2008). *What is job crafting and why does it matter*. Retrieved form http://positiveorgs.bus.umich.edu/wp-content/uploads/What-is-Job-Crafting-and-Why-Does-it-Matter1.pdf

Blackwell, L., Trzesniewski, K., & Dweck, C. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246-263. doi:10.1111/j.1467-8624.2007.00995.x

Breaugh, J. A. (1999). Further investigation of the work autonomy scales: Two studies. *Journal of Business and Psychology, 13*(3), 357-373. doi:10.1023/a:1022926416628

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-cultural Psychology*, *1*(3), 185-216. doi:10.1177/135910457000100301

Brougham, L., & Kashubeck-West, S. (2017). Impact of a growth mindset intervention on academic performance of students at two urban high schools. *Professional School Counseling, 21,* 1-9. doi:10.1177/2156759x18764934

Burnette, J. L., O'Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. *Psychological Bulletin, 139*(3), 655-701. doi:10.1037/a0029531

Demerouti, E., Bakker, A. B., & Halbesleben, J. R. B. (2015). Productive and counterproductive job crafting: A daily diary study. *Journal of Occupational Health Psychology, 20*(4), 457-469. doi:10.1037/a0039002

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512. doi:10.1037/0021-9010.86.3.499

Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness: II The processing of success. *Journal of Personality and Social Psychology, 39*(5), 940-952. doi:10.1037/0022-3514.39.5.940

Drown, D. T. (2013). *Work design characteristics as moderators of the relationship between proactive personality and engagement* (Doctoral dissertation). Retrieved from https://pdxscholar.library.pdx.edu/open_access_etds/1073

Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development*. Philadelphia, PA: Psychology Press.

Dweck, C. S. (2006). *Mindset: The new psychology of success.* New York, NY: Random House.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*(2), 256-273. doi:10.1037/0033-295X.95.2.256

Dweck, C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on Psychological Science,* 1-16. doi:10.1177/1745691618804166

El Baroudi, S., & Khapova, S. N. (2017). The effects of age on job crafting: Exploring the motivations and behavior of younger and older employees in job crafting. In R. Benlamri R., & M. Sparer (Eds.), *Leadership, Innovation and Entrepreneurship as Driving Forces of the Global Economy: Proceedings of the 2016 International Conference on Leadership, Innovation and Entrepreneurship (ICLIE). Leadership, Innovation and Entrepreneurship as Driving Forces of the Global Economy* (pp. 485-505). Springer.

Elliot, A. J., & Dweck, C. S. (2005). *Handbook of competence and motivation.* New York, NY: Guilford Press.

Ghitulescu, B. E. (2013). Making change happen the impact of work context on adaptive and proactive behaviors. *The Journal of Applied Behavioral Science, 49(2),* 206-245. doi:10.1177/0021886312469254

Grant, A. M., Fried, Y., & Juillerat, T. (2011). Work matters: Job design in classic and contemporary perspectives. In *APA handbook of industrial and organizational psychology, Vol 1: Building and developing the organization* (pp. 417-453). Washington, DC: American Psychological Association.

Grant, A. M., & Ashford, A. J. (2008). The dynamics of proactivity at work. *Research in Organizational behavior, 28,* 3-34. doi:10.1016/j.riob.2008.04.002

Humphrey, J. A., Hamming, K. S., Thacker, C. M., Scott, R. L., Sedensky, M. M., Snutch, T. P., & Nash, H. A. (2007). A putative cation channel and its novel regulator: Cross-species conservation of effects on general anesthesia. *Current Biology, 17*(7), 624-629.

Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the N:q hypothesis. *Structural Equation Modeling: A Multidisciplinary Journal, 10*(1), 128-141. doi:10.1207/S15328007SEM1001_6

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York, NY: Guilford Press.

Licht, B. G., & Dweck, C. S. (1984). Determinants of academic achievement: The interaction of children's achievement orientations with skill area. *Developmental Psychology, 20*(4), 628-636. doi:10.1037/0012-1649.20.4.628

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling: A Multidisciplinary Journal, 9*(2), 151-173. doi:10.1207/S15328007SEM0902_1

Lyons, P. (2008). The crafting of jobs and individual differences. *Journal of* Business and *Psychology, 23,* 25-36. doi:10.1007/s10869-008-9080-2

Matsunaga, M. (2008). Item parceling in structural equation modeling: A primer. *Communication Methods and Measures, 2*(4), 260-293. doi:10.1080/19312458028458935

Moghimi, D., Zacher, H., Scheibe, S., & Van Yperen, N. W. (2017). The selection, optimization, and compensation model in the work context: A systematic review and meta-analysis of two decades of research. *Journal of Organizational Behavior, 38(2),* 247-275. doi:10.1002/job.2108

Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus user's guide* (8th ed.). Los Angeles, CA: Muthén & Muthén.

Niessen, C., Weseler, D., & Kostova, P. (2016). When and why do individuals craft their jobs? The role of individual motivation and work characteristics for job crafting. *Human Relations, 69*(6), 1287-1313. doi:10.1177/0018726715610642

Petrou, P., Demerouti, E., Peeters, M. C., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior, 33*(8), 1120-1141. doi:10.1002/job.1783

Ross, J. A., Hogaboam-Gray, A., & Hannay, L. (2001). Effects of teacher efficacy on computer skills and computer cognitions of Canadian students in Grades K-3. *The Elementary School Journal, 102*(2), 141-156. doi:10.1086/499697

Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Skipper, Y., & Douglas, K. (2012). Is no praise good praise? Effects of positive feedback on children's and university students' responses to subsequent failures. *British Journal of Educational Psychology, 82*(2), 327-339. doi:10.1111/j.2044-8279.2011.02028.x

Tabachnick, B. G., & Fidell, L. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson Education.

Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology, 88*(3), 500-517. doi:10.1037/0021-9010.88.3.500

Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. *SA Journal of Industrial Psychology, 36(2)*, 1-9. doi:10.4102/sajip.v36i2.841

Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80*(1), 173-186. doi:10.1016/j.jvb.2011.05.009

Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, *18*(2), 230-240. doi:10.1037/a0032141

Tims, M., Derks, D., & Bakker, A. B. (2016). Job crafting and its relationships with person-job fit and meaningfulness: A three-wave study. *Journal of Vocational Behavior, 92*, 44-53. doi:10.1016/j.jvb.2015.11.007

Van der Ven, N. (2011). *The shame of reason in organizational change: A Levinassian perspective.* Retrieved from Springer Link Database. doi:0.1007/978-90-481-9373-8

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*(2), 179-201. doi:10.5465/AMR.2001.4378011