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경영학석사 학위논문

# **Working on the Past**

**- Positive Sensemaking on the Past Strengthens Work  
Meaningfulness -**

과거에 대한 긍정적 센스메이킹이  
일의 의미성에 미치는 영향

2021 년 8 월

서울대학교 대학원

경영학과 경영학전공

지 선 영

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Meaningfulness -

지도 교수 박 원 우

이 논문을 경영학석사 학위논문으로 제출함

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## **Abstract**

# **Working on the Past**

## **- Positive Sensemaking on the Past Strengthens Work Meaningfulness -**

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This study aims to study how work meaningfulness could be achieved via justification path when self-realization path is constrained. As one of the first quantitative studies to expand the scope of work meaningfulness literature to time-transcendent and negative domains, this study hypothesizes that work meaningfulness could be promoted by positive reframing on the present and that positive reframing on the present could be enhanced by positive reflection on the past, building on the justification perspective and sensemaking theory. Further, this study also hypothesizes that positive reframing of the present work is the mediating mechanism of the effect of positive reflection on work meaningfulness. Lastly, this study proposed the moderating effects and moderated mediation effects of self-continuity. Using two sets of survey data from 236 working adults in South Korea, this study conducted multiple regressions as well as indirect effect analysis, moderation analysis, and conditional indirect effect analysis via PROCESS Macro. The results confirmed the positive direct effect of positive reflection on positive reframing and the positive direct effect of positive reframing on work meaningfulness. However, the mediation effect of positive reframing in the effect of positive reflection on work meaningfulness was significant only when control variables were removed from the model. Furthermore, moderation and moderated mediation by self-continuity were found to be insignificant regardless of inclusion of control variables. This study has tried to reduce the research-practice gap in the work meaningfulness literature by taking justification perspective instead of

realization perspective and examining the effect of positive sensemaking on work meaningfulness. Moreover, this study is one of the first quantitative studies to expand the source of work meaningfulness research to the past and negative factors.

**Keywords : Work meaningfulness, positive sensemaking, positive reflection, positive reframing, self-continuity**

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# I. INTRODUCTION

Recently, there has been growing interest in work meaningfulness. Indeed, work meaningfulness, along with life meaningfulness, has long been considered as one of the main concerns workers and organizations are worth craving (Erickson, 2011; Frankl, 1959; Pratt & Ashforth, 2003; Terkel, 1972). Even for today's generations, work meaningfulness still serves as one of the main interests. For instance, Millennials reported that they value work meaningfulness the most among ten different work values and that they had desires for work meaningfulness. (Allan et al., 2017). Moreover, over 44 years of research, researchers have found that work meaningfulness relates to several important work-related constructs, such as work engagement (Chen et al., 2011; Hirschi, 2012; Kahn, 1990; May et al., 2004; Soane et al., 2013), job satisfaction (Duffy et al., 2013; Hackman & Oldham, 1976; Steger et al., 2012), turnover intention (Arnoux-Nicolas et al., 2016; Sun et al., 2019), and job performance (Allan et al., 2018; Harris et al., 2007).

Having noticed the importance of work meaningfulness, scholars and practitioners are trying to find pathways to work meaningfulness. Such endeavors led to the establishment of two main different perspectives on the promotion of work meaningfulness: realization and justification perspectives. While the realization perspective contends workers could reach work meaningfulness by achieving self-realization in enriched job designs, the justification perspective asserts that workers derive accounts for work meaningfulness from enriched meanings present in their

organizational environment (Boova et al., 2019; Lepisto & Pratt, 2017).

Since the justification perspective is a relatively new perspective defined by Lepisto and Pratt (2017), most studies on work meaningfulness have taken the realization perspective (Boova et al., 2019; Lepisto & Pratt, 2017).

Thus, they have delved into practices and theories to promote work meaningfulness via self-realization, which include Job Characteristics Theory (Hackman & Oldham, 1976) and Job Crafting (Wrzesniewski & Dutton, 2001).

However, not all workers can benefit from studies taking the realization perspective. It is because only workers who have decent jobs or those who are provided with a certain amount of autonomy can employ changes in work conditions or tasks (Carton, 2018; Lysova et al., 2019; Steger & Dik, 2010). In the real organizational settings, there are newcomers at low-level who lack the power to have influence over one's own job; workers with strict and detailed job descriptions, such as factory workers and train drivers; workers with dirty jobs or stigmatized jobs; and workers facing adversity at work. These workers are not likely to have the privilege to apply changes to their work so that they can achieve self-realization. The only option left for them then would be finding cues that could account for the worth of their work, as suggested by studies taking the justification perspective. Therefore, an alternate route to increase work meaningfulness needs to be explored and tested from the justification perspective to benefit more diverse groups of workers.

To address these gaps, this paper aims to provide a more realistic model of work meaningfulness by examining and testing how workers can

achieve work meaningfulness even when self-realization isn't available. Drawing from Sensemaking theory (Weick, 1995), I expect that positive sensemaking on the past would strengthen work meaningfulness via positive sensemaking on the present work. Specifically, I hypothesize that positive reflection on the past would increase the level of positive reframing on the present work, thereby resulting in a greater level of work meaningfulness. I also expect that the effect of the positive reflection on the positive reframing would be stronger when self-continuity is high than low. This work differentiates itself from other studies in several ways as follows.

First, this research examines whether meaningfulness can arise when one of the conditions is missing. Extant literature has mainly taken only one of the two main perspectives and has not considered situations in which one of the paths is constrained (Lysova et al., 2019). Nevertheless, in real organizational settings, there are a number of workers who have limited availability for self-realization (Carton, 2018; Lysova et al., 2019; Steger & Dik, 2010). Thus, this study seeks to reduce the gap between research and practice by presenting ways that workers in these unfavorable conditions can also experience work meaningfulness. To this end, we basically assume a situation where workers experience challenges at work and examine the path where work meaningfulness is achieved.

Second, this work identifies the mechanism by which work meaningfulness is realized by other people. The role of other people, especially interpersonal relationships, in the meaning of work has been studied several times by recent studies taking a justification perspective. However, only few studies have presented and tested the mechanism in

which interpersonal relationship affects work meaningfulness (Bailey et al., 2019). Moreover, most of these studies have taken qualitative or non-experimental designs with a focus on correlation analysis, failing to provide rigorous verification of the causal chains in the mediation model. Drawing from the main theory of justification perspective, Sensemaking, I present the mechanism underlying the relationship between interpersonal relationships and work meaningfulness, and I verify the mechanism using a process analysis. Specifically, I present a process in which positive sensemaking of the past formed through communication with others leads to the meaning of work via positive sensemaking. Additionally, I hypothesize that the effect of positive reflection on the past on positive reframing of the present work is moderated by self-continuity. I test the validity of this moderated mediation model using a conditional process analysis (Hayes, 2017).

Third, this work will be one of the first quantitative studies to present empirical evidence of time transcendence of work meaningfulness. Existing studies on the source of work meaningfulness have mostly considered work meaningfulness as realized by factors that are present at the same time point (Bailey & Madden, 2017). Recently, however, it has been argued by qualitative research that work meaningfulness is a time-transcendent construct that is realized when individuals perceive interconnections between different time points and identify the importance and purpose of their accomplishments (Bailey & Madden, 2016, 2017). Indeed, this line of research is also consistent with the time transcendent nature of sensemaking. Thus, this work assumes that the meaning of the task depends on self-continuity, which refers to interconnectivity between

different points of time. Based on the idea, this study designs a model in which sensemaking of past experiences and the subsequent sensemaking on the present work influences work meaningfulness and hypothesizes that the effect of sensemaking of the past on sensemaking of the present is greater when self-continuity is stronger.

Finally, this study shows that the meaning of work can also result from negative factors. Existing studies have mainly considered only the positive factors in finding sources of work meaningfulness (Bailey & Madden, 2016; Driver, 2007), which could be seen as “a tyranny of the positive attitude (Held, 2002).” However, the poignant nature of meaningful experiences suggested by Bailey and Madden (2016) implies that work meaningfulness might also arise from negative accounts. Thus, this study uses sensemaking of negative factors, such as positive reframing of the present work conditions that are stressful, as well as sensemaking of positive factors, such as positive reflection on the past, further expanding the scope of work meaningfulness research.

I start with a critical review of the extant literature on work meaningfulness. The literature review was reproduced and modified from the review paper of Ji (2019), which was published in the Seoul Journal of Industrial Relations prior to this thesis. First, definitions, measures, and outcomes of work meaningfulness are examined. The study then proceeds to sources of work meaningfulness, with a focus on the two main pathways to work meaningfulness. Next, to investigate how work meaningfulness could be achieved when the change of work is not available, I delve into sensemaking, a central process in the justification perspective. Based on the

literature review, I develop a moderated mediation model on causal relationships between positive sensemaking on the past and work meaningfulness as follows: I discuss the time-transcendent nature of sensemaking to examine how sensemaking on the past affects sensemaking on the present. I then investigate how sensemaking on the whole work life promotes a sense of self-continuity, which consequently contributes to work meaningfulness. After presenting the data collection and analysis methods to test the model, I finally present the findings of this research and discuss its implications for academic and practical purposes.

## II. THEORETICAL BACKGROUND

The theoretical background part of this thesis is a reproduced and modified version of Ji, S. (2019). A review on work meaningfulness: Focusing on cultural contexts in organizations. *Seoul Journal of Industrial Relations*, 30, 75–118, with permission of Institute of Industrial Relations at Seoul National University.

### 1. Work Meaningfulness

#### Definition of Work Meaningfulness

In the last 45 years, researchers have proposed various definitions of work meaningfulness or meaningful work. To analyze how the definitions vary, Ji (2019) collected studies defining meaningful work or work meaningfulness. Studies using existing definitions were excluded from the subject of analysis. According to the criteria, 29 studies were analyzed as in Table 1. Furthermore, analysis of text data from 29 definitions in Table 1 generated a word cloud (Mueller et al., 2018), as shown in Figure 1. The size of each word in the word cloud represents the frequency of the word (see Appendix in Ji, 2019 for the frequency table). Three words (*meaningfulness*, *meaningful*, and *work*) were excluded from the subject of analysis to ensure the clarity of the result.





Nevertheless, the definitions showed a substantial difference regarding the elements or dimensions of work meaningfulness. While some of the early studies conceptualized meaningful work as a unidimensional construct, recent studies tend to define meaningful work as a multidimensional construct. For example, before 2000, two out of four studies (50%) defined meaningful work as a unidimensional construct. By contrast, in the 2000s and 2010s, only 4 out of 25 (16%) studies defined meaningful work as a unidimensional construct, whereas 21 out of 25 (84%) defined meaningful work as a multidimensional construct.

Accordingly, there is a line of research trying to extract essential elements of the construct from different definitions (Both-Nwabuwe et al., 2017; Lepisto & Pratt, 2017; Martela & Pessi, 2018). For the analysis in Table 1, the present paper employed the framework of Martela and Pessi (2018), which examined meaningful work in the dimensions of *significance*, *purpose*, and *self-realization*. In the process, this paper analyzed different definitions and determined if the definitions included the three dimensions. The analysis revealed that the *significance* dimension is most commonly used for definitions (82.8% of the whole subject of analysis), followed by *purpose* (62.1%) and *self-realization* (34.5%). Word cloud also exhibited similar trends.

First, the *significance* dimension reflects the amount of intrinsic value people put on their work (Martela & Pessi, 2018). This dimension is expressed in terms such as *significance*, *value*, *worth*, and *importance* in definitions. Another dimension, *purpose*, is defined as the perceived contribution people make to greater goods. It is reflected in various

expressions, including *purpose*, *purposeful*, *broader*, and *transcendent*.

Lastly, *self-realization* indicates how well the work reflects one's identity (Martela & Pessi, 2018). Words such as *self*, *realization*, *actualization*, *existential*, and *autonomy* illustrate this dimension.

For an integrated definition, meaningful work must be defined as a multidimensional construct that consists of all three elements (Allan et al., 2019; Martela & Pessi, 2018). Moreover, Martela and Pessi (2018) tried to explain how the three dimensions are related, suggesting that meaningfulness is *significance* in essence and that *purposefulness* and *self-realization* work together to contribute to *significance*. Considering the ratio of each element suggested in the literature and the meaning of each construct, *significance* might be the central element of work meaningfulness. As such, the present paper defines work meaningfulness as the significance of one's work perceived by individuals, which stems from a sense of broad purpose and realization of oneself via the work.

**Table 1. Definitions of Work Meaningfulness**

Literature	Definition	Dimension	Purpose	Significance	Self-Realization	Others
Hackman & Oldham (1976)	<i>"The degree to which the individual experiences the job as one which is generally meaningful, valuable, and worthwhile."</i>	Unidimensional		X		
Kahn (1990)	<i>"...a feeling that one is receiving a return on investments of one's self in a currency of physical, cognitive, or emotional energy. People experienced such meaningfulness when they felt worthwhile, useful, and valuable as though they made a difference and were not taken for granted."</i>	Multidimensional		X	X	
Ruiz Quintanilla (1991)	<i>"...values, beliefs, and expectations that individuals hold," composed of "Work Centrality (defined as the degree of general importance that working has in the life of an individual at any given point in time)," "Work Goals (the relative importance of 11 work goals and values that are sought or preferred by individuals in their work life)," "Societal Norms About Working (the entitlement and the obligation norm towards work)," and "Work Definitions (rationales or reasons for doing or being engaged in working, personal outcomes or states resulting from the engagement in working activities, and constraints or controls related to the performance of work)."</i>	Multidimensional	X	X		
Spreitzer (1995)	<i>"...a fit between the needs of one's work role and one's beliefs, values, and behaviors."</i>	Unidimensional			X	
Wrzesniewski & Dutton (2001)	<i>"... individuals' understanding of the purpose of their work or what they believe is achieved in the work."</i>	Unidimensional	X			
Pratt & Ashforth (2003)	<i>"...the work and/or its context are perceived by its practitioners to be, at minimum, purposeful and significant."</i>	Multidimensional	X	X		
Chalofsky (2003)	<i>"integrated wholeness" of "sense of self," "the work itself," and "sense of balance"</i>	Multidimensional	X	X		
May et al. (2004)	<i>"...the value of a work goal or purpose, judged in relation to an individual's own ideals or standards."</i>	Multidimensional	X	X		
Podolny et al. (2004)	<i>"...supports some ultimate end that the individual personally values and affirms the individual's connection to the community of which he</i>	Multidimensional	X	X		

	<i>or she is a part."</i>				
Cheney et al. (2008)	<i>"...a job, a coherent set of tasks, or any endeavor requiring mental and or physical exertion that an individual interprets as having a purpose."</i>	Multidimensional	X	X	
Grant (2008)	<i>"...a judgment of the general value and purpose of the job, with no reference to the people who it affects."</i>	Multidimensional	X	X	
Lips-Wiersma & Morris (2009)	<i>"Thus, when someone experiences his or her work as meaningful this is an individual subjective experience of the existential significance or purpose of work."</i>	Multidimensional	X	X	
Michaelson (2009)	<i>"...enables self-realization and service to others while fitting what the market demands."</i>	Multidimensional		X	X
Bunderson & Thompson (2009)	<i>"...a sense of significance, purpose, or transcendent meaning."</i>	Multidimensional	X	X	
Rosso et al. (2010)	<i>"...work experienced as particularly significant and holding more positive meaning for individuals."</i>	Multidimensional		X	
Lips-Wiersma & Wright (2012)	<i>"...individual subjective experience of the existential significance or purpose of work."</i>	Multidimensional	X	X	
Steger et al. (2012)	<i>"...work that is both significant and positive in valence (meaningfulness), growth- and purpose-oriented."</i>	Multidimensional		X	X
Yeoman (2014)	<i>"...a fundamental human need, which all persons require in order to satisfy their inescapable interests in freedom, autonomy, and dignity."</i>	Multidimensional		X	X
Tablan (2015)	<i>"...actualizes certain human potentials: creativity, autonomy, abilities and talents, identity, and sociality. This is not simply a matter of personal preference, for the cultivation of these goods is necessary to fulfill a human end or purpose..."</i>	Multidimensional	X		X
Amabile & Pratt (2016)	<i>"...work that is perceived as 'positive' and significant in some way."</i>	Unidimensional		X	
Bailey & Madden (2017)	<i>"...when an individual perceives an authentic connection between their work and a broader transcendent life purpose beyond the self."</i>	Unidimensional	X		
Bailey et al. (2017)	<i>"...work that is personally enriching and that makes a positive contribution."</i>	Multidimensional	X		X
Both-Nwabuwe et al. (2017)	<i>"...the subjective experience of existential significance resulting from the fit between the individual and work."</i>	Multidimensional		X	X
Lepisto & Pratt (2017)	<i>"...an individual level phenomenon positively associated with one's</i>	Multidimensional		X	X

	<i>work.”</i>				
Martela & Pessi (2018)	<i>“...meaningfulness in the broadest sense is about work significance as an overall evaluation of work as regards whether it is intrinsically valuable and worth doing. Furthermore, we argue that there are two key sub-dimensions to this work significance: Broader purpose as work serving some greater good or prosocial goals. And self-realization as a sense of autonomy, authenticity and self-expression at work.” “The subjective experience of work as intrinsically significant and worth doing, the experience that one is able to realize oneself through work, and the work serving a broader purpose. The latter two are taken to be two key dimensions or types of intrinsic value that together define what makes work feel significant.”</i>	Multidimensional	X	X	X
Lysova et al. (2019)	<i>“...work that that is personally significant and worthwhile.”</i>	Unidimensional		X	
Shigihara (2019)	<i>“...how people subjectively construct the significance, value, worth, or purpose of their lives.”</i>	Multidimensional	X	X	
Allan et al. (2019)	<i>“...the global judgement that one’s work accomplishes significant, valuable, or worthwhile goals that are congruent work with one’s existential values.”</i>	Multidimensional	X	X	X
Rothausen & Henderson (2019)	<i>“...a positive psychological state resulting from an evaluation of whether one’s job, or job-related experiences or outcomes fulfill purposes one considers worthwhile, where positive evaluations result in states of felt rightness and meaningfulness.”</i>	Multidimensional	X	X	

Note. X: The definition has the element.

## Measures of Work Meaningfulness

Ambiguity in the definition of the construct has led to the development of inconsistent operationalization and various instruments. According to Bailey et al. (2019), 28 different measurement scales are used for work meaningfulness. However, only seven measures available to this date operationalize work meaningfulness as a multidimensional construct. That is, most of the scales available operationalize work meaningfulness as a unidimensional construct, use only one item for the measure, or are developed into upgraded versions.

First, Ashmos and Duchon (2000) developed the *Meaning at Work scale*, which consists of seven items and three dimensions (*significance, purpose, and joy*). Second, Bunderson and Thompson (2009) proposed the *Work Meaningfulness scale*, which measures two subdimensions of work meaningfulness (*significance and purpose*) with five items. Third, the *Comprehensive Meaningful Work Scale (CMWS)* by Lips-Wiersma and Wright (2012) measures 7 dimensions of meaningful work (*developing the inner self, unity with others, serving others, expressing full potential, reality, inspiration, and balance*) with 28 items. Fourth, the *Work and Meaning Inventory (WAMI)* by Steger et al. (2012) measures 3 dimensions of meaningful work (*meaning making, greater good, and positive meaning in work*) with 10 items. Fifth, Bendassolli et al. (2015) proposed the 25-item *Meaningful Work Scale (MWS)*, which consists of 6 dimensions (*moral correctness, expressiveness and identification at work, autonomy, development and learning, quality of working relationships, and work utility*). Sixth, a 25-item *Meaning in Work Scale (MIWS)* by Lee (2015)

measures 4 subscales of meaningful work (*experienced positive emotion in work, meaning from work itself, meaningful purpose and goals of work, and work as a part of life toward meaningful existence*). Lastly, Arnoux-Nicolas et al. (2017) proposed the *Meaning of Work Inventory (IST; Inventaire du Sens du Travail)*, a 15-item inventory that measures 4 subscales of meaningful work (*importance of work, understanding of work, direction of work, and purpose of work*).

Analysis of the seven measurement scales (Table 2) revealed that different scales measure different dimensions of work meaningfulness. Among the seven scales, *WAMI* (Steger et al., 2012), *MIWS* (Lee, 2015), and *IST* (Arnoux-Nicolas et al., 2017) best reflect the current definition of work meaningfulness. Specifically, *WAMI*, *MIWS*, and *IST* measured all three dimensions of work meaningfulness, whereas other scales measured only two of them. The present paper suggests that future researchers should employ integrative scales, such as *WAMI* and *MIWS*, to properly operationalize and measure work meaningfulness. However, none of the scales has subscales, each of which corresponds with each dimension of work meaningfulness. Developing such a scale would be beneficial for work meaningfulness literature, allowing empirical research on each dimension.

**Table 2. Measures of Work Meaningfulness**

Literature	Measure	No. of Sub scales	No. of items	Cronbach's Alpha	Significance	Purpose	Self-realization	Others
Ashmos & Duchon (2000)	<i>Meaning at Work Scale</i>	3	7	.858	<i>significance</i>	<i>purpose</i>		<i>joy</i>
Bunderson & Thompson (2009)	<i>Work Meaningfulness Scale</i>	2	5	.91–.98	<i>significance</i>	<i>purpose</i>		
Lips-Wiersma & Wright (2012)	<i>Comprehensive Meaningful Work Scale (CMWS)</i>	7	28	.92		<i>serving others</i>	<i>developing the inner self, expressing full potential</i>	<i>unity with others, balancing tensions (being vs. doing, self vs. others), reality, inspiration</i>
Steger et al. (2012)	<i>Work and Meaning Inventory (WAMI)</i>	3	10	.93	<i>positive meaning in work, meaning making</i>	<i>greater good</i>	<i>meaning making</i>	
Bendassolli et al. (2015)	<i>Meaningful Work Scale (MWS)</i>	6	25	.81–.92	<i>work utility</i>		<i>expressiveness and identification at work, autonomy, development and learning</i>	<i>moral correctness, quality of working relationships</i>
Lee (2015)	<i>Meaning in Work Scale (MIWS)</i>	4	25	.95	<i>meaning from work itself, experienced positive emotion in work</i>	<i>meaningful purpose and goals of work</i>	<i>work as a part of life toward meaningful existence, experienced positive emotion in work</i>	
Arnoux-Nicolas et al. (2017)	<i>Meaning of Work Inventory (IST; Inventaire du Sens du Travail)</i>	4	15	.90	<i>importance of work, understanding of work</i>	<i>purpose of work</i>	<i>importance of work, direction of work</i>	

*Note.* Subscales are categorized by dimensions of work meaningfulness: significance, purpose, self-realization, and others.



## **Outcomes of Work Meaningfulness**

Work meaningfulness relates to many important outcome variables around workplaces. Several studies investigate the correlation between work meaningfulness and these outcome variables as well as the causal relationships between them. Following the framework suggested by Allan et al. (2019), the outcomes of work meaningfulness could be categorized into proximal work-related outcomes, distal work-related outcomes, and distal well-being-related outcomes.

Proximal work-related outcomes comprise work engagement, job satisfaction, and commitment matters. Many researchers suggest or prove that meaningfulness of work contributes to work engagement (Chen et al., 2011; Hirschi, 2012; Kahn, 1990; May et al., 2004; Soane et al., 2013). In addition, job satisfaction is proposed as one of the four major work outcomes of work meaningfulness in job characteristics theory (Hackman & Oldham, 1976), and this hypothesis is empirically supported (Duffy, Allan, Autin, & Bott, 2013; Steger et al., 2012). Work meaningfulness contributes to commitment as well (Duffy, Allan, Autin, & Douglass, 2014; Steger et al., 2012). Meta-analysis shows that these three proximal work-related outcomes are largely correlated with meaningful work (Allan et al., 2019).

Distal work-related outcomes include job performance, organizational citizenship behavior (OCB), turnover intention, absenteeism, and knowledge-sharing behavior. Specifically, Allan, Duffy, and Collison (2018b) found that work meaningfulness mediates the causal relationship between task significance and self-rated performance. Work meaningfulness is also positively related to self-rated performance (Harris et al., 2007).

Similarly, work meaningfulness mediates the causal relationship between energy and OCB (Lam et al., 2016) and positively relates to OCB (Steger et al., 2012). Moreover, work meaningfulness mediates the causal relationship between psychosocial work characteristics and turnover (Clausen & Borg, 2010) and the causal relationship between perceived work conditions and turnover intentions (Arnoux-Nicolas et al., 2016; Sun et al., 2019). Work meaningfulness negatively relates to withdrawal intention as well (Steger et al., 2012). The meta-analysis of Allan et al. (2019) showed that meaningful work has a moderate to large correlation with turnover intention and small to moderate correlations with OCB and self-rated performance. The research also speculated that meaningfulness of work might influence the variables indirectly via proximal work-related outcomes, such as work engagement, job satisfaction, and commitment. Lastly, although the relationship was not included in the meta-analysis of Allan et al. (2019), meaningful work is also negatively related to absenteeism (Soane et al., 2013, Steger et al., 2012) and knowledge-sharing behavior (Chen et al., 2011).

Work meaningfulness also results in distal well-being-related outcomes, such as life satisfaction, life meaning, general health, and negative affect. Arnoux-Nicolas et al. (2017) and Shockley et al. (2016) found significant moderate positive correlations between work meaningfulness and life satisfaction. Furthermore, Steger et al. (2012) found a significant and positive correlation between meaningful work and life satisfaction, which lasted even after controlling other established antecedents of life satisfaction. Meaningful work is also positively

correlated with life meaning (Steger et al., 2012) and positively influences life meaning (Duffy et al., 2013). Moreover, work meaningfulness is positively correlated with general health (i.e., well-being) (Arnold & Walsh, 2015; Soane et al., 2013) and positively influences general health (Arnold & Walsh, 2015). Lastly, as for negative affect, Steger et al. (2012) found that hostility and depression are negatively correlated with meaningful work. Allan et al. (2016) also found that meaningful work is negatively correlated with work stress, which is a part of negative affect. Meta-analysis showed that meaningful work has moderate to large correlations with life satisfaction, life meaning, and general health; and a small to moderate correlation with negative affect (Allan et al., 2019).

## **2. Sources of Work Meaningfulness**

### **Realization and Justification**

Studies on sources of work meaningfulness could be further understood with the awareness of how researchers approach the matter of work meaningfulness, particularly the theoretical perspectives researchers take in their study. Existing research in meaningful work literature and managerial efforts toward meaningful work can be categorized into two different theoretical perspectives, namely, realization perspective and justification perspective (Boova et al., 2019; Lepisto & Pratt, 2017). The classification is based on the description of how problems arise at work and how such problems could be solved. Accordingly, this difference leads to varied sources of work meaningfulness pursued by each perspective.

According to Lepisto and Pratt (2017), the realization perspective emphasizes the fulfillment of needs related to self-actualization. It considers work conditions that derive alienation as the main problem. Such conditions include prescription, domination, inauthenticity, and limited autonomy at work. Thus, the realization perspective focuses on the enrichment of work conditions that allow individuals to achieve self-realization, which includes autonomy, authenticity, and self-efficacy at work. By contrast, the justification perspective involves the ability to account for one's work as worthy. In this light, the main problem is perceived uncertainty and ambiguity toward the value of one's work, which originate from the lack of social meanings that can be used to justify the value of the work. As a solution, the justification perspective pursues the enrichment of sensemaking or account-making activity by conveying social meaning through practices and members in the work environment. Such bases of sensemaking include policies, leaders, and organizational culture.

Each of these two perspectives addresses different dimensions of meaningful work. The realization perspective reflects the self-realization dimension of meaningful work, whereas the justification perspective reflects the significance dimension (Martela & Pessi, 2018). However, the justification perspective remains relatively poorly developed. This finding is quite surprising, considering the substantial ratio of scholars who have included the significance dimension in their definitions.

Moreover, in the *Journal of Management Studies*' special issue on meaningful work (Filatotchev et al., 2019), Bailey et al. (2019) addressed five paradoxes in the current meaningful work literature. Three of the five

paradoxes point to the importance of “others” in the formation of a sense of meaningfulness. According to Paradox 2, meaningfulness is achieved in self-actualization, but such a sense of self relies on interaction with others (Bailey et al., 2019; Dutton et al., 2016; Grant, 2007; Wrzesniewski, 2003). Furthermore, Paradox 3 points out that—withstanding the fact that meaningfulness is a subjective construct—individuals develop a sense of meaningfulness through making accounts of cultural and societal contexts (Bailey et al., 2019; Lepisto & Pratt, 2017; Lysova et al., 2019; Michaelson, 2009; Mitra & Buzzanell, 2017; Pratt & Ashforth, 2003). Finally, Paradox 4 suggests that, while some argue that meaningfulness is subjective and thus cannot be managed, certain studies contend that meaningfulness can be managed by managerial efforts (Fried & Ferris, 1987; Ghadi et al., 2013; Hackman & Oldham, 1975, 1976; Kahn, 1990; Lips-Wiersma & Morris, 2009; May et al., 2004; Michaelson et al., 2014). Nevertheless, Paradox 4 also acknowledges that such efforts might lead to negative outcomes when conducted in the form of normative control (Lips-Wiersma & Morris, 2009; Michaelson et al., 2014).

### **Sensemaking Theory**

According to the justification perspective, the experience of meaningful work requires sensemaking activities. Sensemaking is a process through which individuals understand ambiguous and uncertain events or environments by constructing or activating accounts for decision-making (Maitlis, 2005; Maitlis & Christianson, 2014; Weick, 1995). The process involves perceiving and categorizing cues from the events or environments,

attaching a meaning to the events or environments through interaction with others, and maintaining and retaining the meaning (Maitlis, 2005; Maitlis & Christianson, 2014; Weick, 1995; Weick et al., 2005).

Several researchers suggested that sensemaking is inherently a social process, which involves interaction with other members and social contexts (Maitlis, 2005; Weick, 1995, Weick et al., 2005). Individuals interact with others to judge and interpret the surroundings. This process involves creating, negotiating, and maintaining the shared interpretations (Gephart, 1993). The interpretations are influenced by several social factors (Weick et al., 2005) and shared through clear forms of medium such as speech and writing (Gioia et al., 1994).

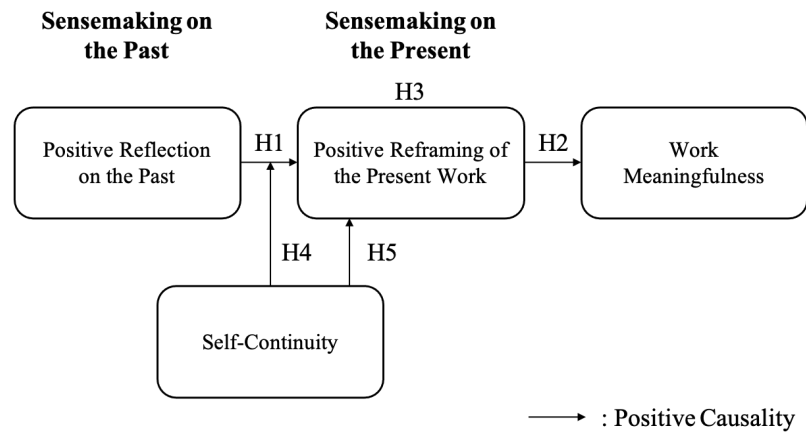
For example, sensemaking is often initiated deliberately by leaders in organizations as well (Corley & Gioia, 2004; Gioia & Chittipeddi, 1991; Gioia et al., 1994; Howard-Grenville et al., 2013; Mantere et al., 2012; Ravasi & Schultz, 2006). The sensemaking activity is then internalized and disseminated by middle managers and other members (Balogun & Johnson, 2004, 2005; Walsh & Bartunek, 2011). In the process, organizational languages, such as narratives, history, metaphor, and symbols (Brown et al., 2008; Cornelissen, 2005, 2012; Cornellissen & Clarke, 2010; Currie & Brown, 2003; Gioia et al., 1994; Humphreys & Brown, 2002; Sonenshein, 2010), and the situated sociocultural context are used to construct collective meaning (Rouleau, 2005; Rouleau & Balogun, 2011). Consequently, this process of collective sensemaking involves shared understandings of certain events in the organization.

While both interpersonal relationships and cultural contexts could serve as accounts for work meaningfulness during the sensemaking process, studies on relationships between cultural contexts and work meaningfulness tend to remain at the theoretical stage due to difficulty in data collection. Instead, there has been a line of research on the relationship between interpersonal relationships and work meaningfulness. Specifically, interpersonal sensemaking theory suggests that workers make sense of their work by interpreting accounts from other members of organizations (Wrzesniewski, 2003).

Another interesting characteristic of sensemaking is that it is a time transcendent process. First, sensemaking is a retrospective process as meaning is attached in a post-facto manner. In a sensemaking process, an individual perceives an event or environment only after experiencing it, and the individual then draws out signals and gives a certain meaning to it. Moreover, sensemaking is also a future-oriented or prospective process as it affects one's future decision making. Specifically, the meaning formed during the sensemaking process remains a part of the individual's identity. The meaning then influences the individual's current and future enactments and selection, affecting the subsequent formation of new signals. In other words, sensemaking is a time-transcendent mechanism that is retrospective and prospective at the same time (Maitlis & Christianson, 2014; Weick, 1995; Weick et al., 2005).

### III. HYPOTHESES DEVELOPMENT

Taking the justification perspective, this paper explores how sensemaking results in an increase in work meaningfulness. Specifically, drawing from the sensemaking theory (Weick, 1995), this paper develops a moderated mediation model on the relationship between sensemaking on the past and work meaningfulness as in Figure 2. The model suggests that positive reflection on past experiences leads to a positive reframing of the present work, thereby strengthening work meaningfulness. The model also suggests that the effect of positive reflection on positive reframing would be stronger when self-continuity is greater. The hypotheses are as follows.



**Figure 2. Conceptual Framework**

#### 1. Positive Sensemaking on the Past and the Present

The time-transcendent nature of sensemaking theory implies that work meaningfulness might arise not only from the present but also from the past. In this light, positive retrospective behaviors on past experiences, which



take place via spoken or written language during communication with others, should be regarded as one of retrospective sensemaking. Specifically, individuals would extract signals from past experiences and attach positive meaning through interactions with others.

Subsequently, sensemaking for the present and future is also expected to occur in a positive way, as the positive interpretation of the past would lead to the formation of new signals and affect sensemaking on future situations or events as well. In other words, it is positive reflection on the past that enables positive reframing of the current job environment, which might constrain self-realization to a certain level. Indeed, a qualitative paper by Vuori et al. (2012) also shows that changing perceptions of work in a positive way, such as positive recalling of the past with colleagues, influences later actions and the way individuals interpret signals extracted from their past, present, or future. Lazarus (1991) also argued that the reflection of the positive aspects of work could serve as a kind of reappraisal of the distressing aspects of work.

*H1: Positive reflection on the past increases positive reframing of the present work.*

## **2. Positive Sensemaking on the Present and Work**

### **Meaningfulness**

Positive reframing of the present work would lead to an increase of work meaningfulness perceived by individuals. In the positive reframing process, individuals seek positive aspects of their work and growth they can achieve from their work (Carver et al., 1989). By attaching these positive accounts

to their work, individuals would think that their work is important as it has a purpose and provides a chance of self-growth. In other words, by reconstructing a positive perception on one's work, individual can find meaningfulness of their work.

Positive reframing of the present work thereby mediates the causal effect of positive reflection on past experiences on work meaningfulness. Indeed, Wrzesniewski et al. (2003) observed that individuals use the cues they receive from others to give meaning to their duties, roles, and self in the workplace. Vuori et al. (2012) also suggested in their qualitative research on the formation of the meaning of work that positively changing perceptions of work, such as positive reflection on the past or positive reframing of the work, could act as positive cues for work, increasing work meaningfulness.

Considering that positive reframing involves reappraisal of stressful events and environments in a positive way, the subject of positive sensemaking here should not be limited to positive experiences. Sensemaking begins by recognizing the gap between existing beliefs and events experienced in the organization. These events or environments include not only positive experiences beyond expectations but also negative experiences beyond expectations. Indeed, according to a theoretical study of Driver (2007) and qualitative studies of Bailey & Madden (2016), Mitra & Buzzanell (2017), the meaning of work can result from not only positive but also negative experiences. Furthermore, the Psychology literature also demonstrates that certain negative experiences can be evaluated as

meaningful experiences despite the triggering of negative emotions (Tov & Lee, 2016).

However, existing studies have mainly considered positive factors in locating sources of work meaningfulness (Bailey & Madden, 2016; Driver, 2007). This approach can be seen as not only “a tyranny of the positive attitude (Held, 2002)” but also an exclusion of the role of pain (Frost, 1999), which is inevitably accompanied by organizational life and thus should be considered as important (Kanov, 2020). Moreover, this also excludes the possibility and role of posttraumatic growth (Tedeschi & Calhoun, 2004) and cognitive restructuring (Skinner et al., 2003), which enables overcoming negative experiences to achieve a self-growth and changing perceptions of negative experiences in a positive way, respectively. Thus, this study studies positive reframing of stressful events or environments at work, as a source of work meaningfulness to further the scope of work meaningfulness research.

*H2: Positive reframing of the present work increases work meaningfulness.*

*H3: Positive reframing of the present work mediates the causal effect of positive reflection on the past on work meaningfulness.*

### **3. Sensemaking on the Work Life: Self-Continuity**

If the perception of current work is positively reconstructed based on positive reflections on the past, this comprehensive sensemaking on one's past and present work together would be stronger when an individual has a greater level of self-continuity. Self-continuity refers to the perceived

connectedness of one's past and the present. Self-continuity could be constructed via following three main paths (Becker et al., 2018): maintaining an individual's essence over time without changes (Chandler et al., 2003), creating narratives that could explain changes so that the individual can come up with one's own stories of what the individual has gone through to become who he or she is now (Chandler et al., 2003), and having links that remind oneself of the past (Vignoles et al., 2017). I expect that finding the unchanging nature of oneself, forming narratives that explain the path that one has gone through, and recalling the past at the present would enhance the effect of positive reflection of the past on the subsequent positive reframing of the present.

Furthermore, individuals who are more aware of the connections between the past and the present will be better able to explain what they have experienced in the organization so far. In other words, the individuals will have a greater understanding of the experience within the organization (Tov et al., 2019). Individuals then would perceive their work as more valuable by recognizing that the work they have done so far in the organization is important work that has been done consistently with a specific purpose and has led to self-growth. In other words, the recognition of the connection between the past and the present would result in a better promotion of work meaningfulness by strengthening the effect of positive reflection on positive reframing and the mediation effect of positive reframing.

Consistently, Bailey and Madden (2016, 2017) demonstrated in their qualitative research that individuals perceive the meaning of their work

when they perceive interconnections between different time points and see the significance and purposiveness of their accomplishments from a broader temporal perspective. A series of studies on nostalgia and life meaningfulness have also demonstrated that self-continuity improves meaningfulness (Sedikides & Wildschut, 2018; Sedikides, Wildschut, Routledge, Arndt et al., 2016; van Tilburg et al., 2019).

*H4: Self-continuity moderates the causal effect of positive reflection on the past on the positive reframing of the present work in such way that the causal effect is stronger when self-continuity is high than when self-continuity is low.*

*H5: Self-continuity moderates the mediation of positive reframing on the past in the causal effect of positive reflection on the past on work meaningfulness in such way that the mediation is stronger when self-continuity is high than low.*

## **IV. METHODS**

To test the moderated mediation model proposed in this study, I conducted a between-subject research taking a non-experimental design. The research design and sampling method are presented. Subsequently, main variables, control variables for ad-hoc analysis, demographic and job-related variables included in the survey and their measures are discussed, followed by the description of data analysis strategies used in this research.

### **1. Research Design**

To test the moderated mediation model of the study, I collected data from 324 working adults in Korea from June 8 to June 16, 2021. As the study used self-report measure for data collection, the data is at risk of Common Method Bias (Park et al., 2007; Podsakoff, MacKenzie, Lee et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). Therefore, this paper uses two different sets of surveys to prevent Common Method Bias, measuring the predictor, mediator, moderator, and other variables in the first set and measuring the outcome variable and other variables in the second set (Park et al., 2007; Podsakoff, MacKenzie, Lee et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). The temporal gap between each measurement was set to seven days to ensure the separation of data sources. Furthermore, for prevention of careless responding in surveys, I presented the purpose of the research and requested careful and sincere responding before the respondents started the survey. Additionally, open-ended items

were included in the demographics part of the survey to assess carelessness of the respondents.

## **2. Sample**

500 participants were recruited from dataSpring, a global research panel provider, and 324 participants completed both first and second survey. The first survey was randomly distributed to panels meeting all of the following conditions: (1) a worker who is employed by an organization, (2) a healthy adult aged 18 years or older, and (3) a Korean citizen who speaks Korean as native language. First, the participant had to be a worker who is currently working at an organization as this study required answering questionnaires on work experiences from the past and the present. In addition, this study used only healthy adults aged 18 years or older to protect the rights of vulnerable population. Lastly, the participant was required to be a citizen of South Korea and speak Korean as native language to comprehend the survey instructions and written in Korean and provide answers in Korean.

Panels who wished to participate in the research accessed the survey webpage on Qualtrics and read information on the research purpose and procedures. The participants then answered three questions to confirm their eligibility for research participation. Only eligible participants could proceed to the next page and answer 36 items for main variables and variables for ad-hoc analysis. Lastly, the participants answered 8 items to provide demographic and job-related information. After seven days from the completion of the first survey, participants could access the second set of

survey. The second survey consisted of 30 items on main variables and variables for ad-hoc analysis.

### **3. Measures**

Definition and measures of the variables used in this study are discussed in the following section. All variables were measured using a 7-point Likert scale, except for demographic and job-related information. The measures and the items in English are listed with Cronbach's Alpha in Table 3 (see the Appendix for the Korean version of the measures). All measures showed an acceptable to excellent level of reliability with Cronbach's Alpha values ranging from .799 to .936.

#### **Independent Variable**

Drawing from a line of research on positive work reflection during leisure activities (Meier et al., 2016; Sedikides, Wildschut, Routledge, Arndt et al., 2015; Vuori et al., 2012), this study defines positive reflection on the past, the independent variable, as visualizing and making narratives on positive events experienced during work to find positive aspects of the work. For measurement items, I translated and adapted the *Positive Work Reflection Scale* of Binnewies et al. (2009) to fit the scope of this research. The Positive Work Reflection Scale of Binnewies et al. (2009) consists of four items, and three of the items are from Fritz and Sonnentag (2006). The adapted version used in this research includes items such as "*I have realized what I like about my job*" and "*I have considered what I like about my job*" (Binnewies et al., 2009; Fritz & Sonnentag, 2006).



### **Dependent Variable**

Work meaningfulness, the dependent variable of this study, is defined as the significance of one's work perceived by individuals, which stems from a sense of broad purpose and realization of oneself via the work (Martela & Pessi, 2018). This study used 10 items of the *Korean Work and Meaning Inventory* (K-WAMI) (Choi & Lee, 2017), which is a translated and validated version of the *Work and Meaning Inventory* in Steger et al. (2012). Sample items are “*I have discovered a job that has a satisfying purpose*” and “*I know my work makes a positive difference in the world*” (Steger et al., 2012).

### **Mediator**

Positive reframing is defined as endeavors to make a change of view toward stressful events and conditions to come up with more positive interpretations (Skinner et al., 2003). Drawing from this definition, this study defines the first mediator, positive reframing of the present work, as endeavors to make a change of view toward stressful events and conditions at the workplace to come up with a more positive interpretation. To measure the positive reframing of the present work, I employed the *Coping Orientation to the Problem Experienced (COPE)* Scale by Carver et al. (1989), which was translated and validated by Choe (2000). Among the translated items, I use four items on *positive reinterpretation and growth*. The sample items include “*I try to see it in a different light, to make it seem*

*more positive*” and *“I try to grow as a person as a result of the experience”* (Carver et al., 1989).

### **Moderator**

Self-continuity, the moderating variable, refers to the perceived connectedness between one’s past and the present (Davis, 1979; Parfit, 1971; Sedikides, Wildschut, Routledge, & Arndt, 2015; Vignoles, 2011). In this study, self-continuity is defined as perceived connectedness between one’s past and present at the workplace. This was measured by eight items from the *Self-Continuity Scale* in Sedikides, Wildschut, Routledge, and Arndt (2015). The items were translated and modified to reflect the definition used in this study. Sample items are *“I feel connected with my past”* and *“I feel important aspects of personality remain the same across time”* (Sedikides, Wildschut, Routledge, & Arndt, 2015).

### **Control Variables for Ad-Hoc Analysis**

Considering the relationship between affect and meaningfulness (Allan et al., 2019; Steger et al., 2012), positive affect and negative affect could be measured in each survey set as control variables for ad-hoc analysis. In this study, positive affect is defined as the extent to which an individual experiences pleasant mood while negative affect is defined as the extent to which an individual experiences unpleasant mood (Watson et al., 1988). Positive affect and negative affect could be measured using *Positive and Negative Affect Schedule (PANAS)* (Watson et al., 1988). To measure positive affect and negative affect in Korean, this study used 20 items from

the *Revised Korean Version of Positive and Negative Affect Schedule* (*Revised K-PANAS*) (Park & Lee, 2016), a translated and validated version of the original measure. Specifically, respondents were asked to read items showing different moods and indicate the extent to which the item describes their current state. Sample items for positive affect include “*interested*”, “*strong*”, and “*proud*”, while sample items for negative affect include “*hostile*”, “*afraid*”, and “*irritable*” (Watson et al., 1988).

### **Demographic and Job Information**

The following demographic and job information was collected for basic statistical analysis purposes. First, this study collected demographic variables as follows: gender, age, educational background, and income. Age was measured as a continuous variable. The education background referred to the highest level of degree, diploma, or certificate the participant has received, including those in progress. Income was measured by asking to which of the five income-group the participants belong.

In addition, this study also collected job-related information: work experience, job level, industry group, and job. The work experience, measured as continuous variable, referred to the total number of years the participant has spent at the workplace, including the years spent in previous organizations. Job levels, industrial groups, and job categories are collected following the classification from the 2017 *Human Capital Corporate Panel* (HCCP) survey (Hwang et al., 2017) published by the *Korea Research Institute for Vocational Education & Training* (KRIVET).

**Table 3. Measures and Items in English**

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**Positive Reflection on the Past:**

*Positive Work Reflection Scale* in Binnewies et al. (2009)

Cronbach's Alpha: .905

No. Items

- 1 *I have realized what I like about my job.*
- 2 *I have thought about the positive points of my job.*
- 3 *I have considered the positive aspects of my job.*
- 4 *I have thought about good sides of my job.*

---

**Positive Reframing:**

*Positive Reinterpretation & Growth* items from *Coping Orientation to the Problem Experienced (COPE)* Scales in Carver et al. (1989)

Cronbach's Alpha: .821

No. Items

- 1 *I look for something good in what is happening.*
- 2 *I try to see it in a different light to make it seem more positive.*
- 3 *I learn something from the experience.*
- 4 *I try to grow as a person as a result of the experience*

---

**Self-Continuity:**

*Self-Continuity Scale* in Sedikides, Wildschut, Routledge, and Arndt (2015)

Cronbach's Alpha: .878

No. Items

- 1 *I feel connected with my past.*
- 2 *I feel connected to who I was in the past.*
- 3 *I feel important aspects of personality remain the same across time.*
- 4 *I feel there is a continuity in my life.*

- 5 *I feel the past and present flow seamlessly together.*
- 6 *I feel the present is a mere continuation of the past.*
- 7 *I feel there is continuity between the past and present.*
- 8 *I feel the past merges nicely into the present.*

---

**Work Meaningfulness:**

*Work and Meaning Inventory* in Steger et al. (2012)

Cronbach's Alpha: .934

No. Items

- 1 *I have found a meaningful career.*
- 2 *I view my work as contributing to my personal growth.*
- 3 *My work really makes no difference to the world.*
- 4 *I understand how my work contributes to my life's meaning.*
- 5 *I have a good sense of what makes my job meaningful.*
- 6 *I know my work makes a positive difference in the world.*
- 7 *My work helps me better understand myself.*
- 8 *I have discovered work that has a satisfying purpose.*
- 9 *My work helps me make sense of the world around me.*
- 10 *The work I do serves a greater purpose.*

---

**Positive Affect and Negative Affect**

*Positive and Negative Affect Schedule (PANAS)* in Watson et al. (1988)

Cronbach's Alpha: .892(PA, 1<sup>st</sup>), .926(NA, 1<sup>st</sup>), .915(PA, 2<sup>nd</sup>), .945(NA, 2<sup>nd</sup>)

No. Items

- 1 *Interested*
- 2 *Distressed*
- 3 *Excited*
- 4 *Upset*

- 5     *Strong*
  - 6     *Guilty*
  - 7     *Scared*
  - 8     *Hostile*
  - 9     *Enthusiastic*
  - 10    *Proud*
  - 11    *Irritable*
  - 12    *Alert*
  - 13    *Ashamed*
  - 14    *Inspired*
  - 15    *Nervous*
  - 16    *Determined*
  - 17    *Attentive*
  - 18    *Jittery*
  - 19    *Active*
  - 20    *Afraid*
- 

#### **4. Analytical Strategy**

After the data collection, careless responses were detected using open-ended item responses, longstring method (DeSimone & Harms, 2018; Huang et al., 2012; Meade & Craig, 2012; Park et al., 2020; Schonla & Toepoel, 2015), and Mahalanobis distance (Curran, 2016; DeSimone & Harms, 2018; Kline, 2016; Mahalanobis, 1936; Meade & Craig, 2012; Park et al., 2020). As for open-ended items, responses with illogical answers were detected as careless responses. The longstring value and Mahalanobis distance were calculated using the R package, *careless: Procedures for Computing Indices*

*of Careless Responding* (Yentes & Willhelm, 2018) on *R: A language and environment for statistical computing 4.0 (R 4.0)* (R Core Team, 2020).

Responses that were detected as careless responses either in the first survey or the second survey were screened out. Outliers were then detected and screened among the remaining samples, using the Interquartile Range (IQR) method. Specifically, if the data contained a value that is larger than the sum of 75<sup>th</sup> percentile value and the 1.5 times IQR, or if the data contained a value that is smaller than the difference between 25<sup>th</sup> percentile value and the 1.5 times IQR, the data was screened out. The descriptive statistics needed for the IQR method were conducted using *R 4.0* (R Core Team, 2020) and *jamovi* (The jamovi project, 2021).

Using the final sample, I conducted a confirmatory factor analysis to check the research model's goodness of fit and conducted an exploratory factor analysis using the Harman's Single-Factor technique to assess the common method variance (Harman, 1960; Podsakoff, Mackenzie, Lee et al., 2003). I then summarized the demographic and job information provided by the sample. I also conducted descriptive statistics to describe the central tendency and variability of the data and checked correlations among variables. All factor analyses, descriptive analyses, and correlation tests were conducted on *R 4.0* (R Core Team, 2020) and *jamovi* (The jamovi project, 2021). Confirmatory factor analyses required additional use of *lavaan: Latent Variable Analysis* (Rosseel, 2018), while exploratory factor analyses required additional use of *psych: Procedures for Psychological, Psychometric, and Personality Research* (Revelle, 2019) as R packages.

Finally, I tested the hypotheses of this research on *R 4.0* (R Core Team, 2020) and *jamovi* (The jamovi project, 2021). To test causal effect presented in hypotheses 1 and 2, I performed a series of multiple regression using *car: Companion to Applied Regression* (Fox & Weisberg, 2020) as the R package. To test the mediation model described in Hypothesis 3, I conducted a simple mediation analysis using model 4 of *PROCESS Macro for R 3.5.3* by Hayes (2017). As for the moderation of Hypotheses 4, I used model 1 of *PROCESS Macro for R 3.5.3* (Hayes, 2017). Finally, I used model 7 of *PROCESS Macro for R 3.5.3* (Hayes, 2017) to examine the statistical validity of moderated mediation model from Hypothesis 5. All analyses were conducted again with a group of covariates (i.e., age, gender, education level, income, work experience, positive affect, and negative affect).



## V. RESULTS

### 1. Data Screening

In the data screening process, I removed 88 responses from the 324 samples. First, I screened out 77 careless responses (23.8%) from the raw dataset. Cut-off values for each index and the number of careless responses screened are presented in Table 4. Outliers were then detected and screened among the remaining 247 samples, using the Interquartile Range (IQR) method. 25<sup>th</sup> and 75<sup>th</sup> percentile values, IQR, and upper and lower cut-off values for each variable are presented in Table 5. 11 responses in total were detected as outliers and screened out from the data.

After screening careless responses and outliers, the number of final samples was 236, which exceeded the number of participants required for this study. To calculate the required number of samples, I used G\*Power 3.1 (Faul et al., 2009), following the guidelines for choosing sample sizes from Park et al. (2010). Given the effect size f-square of .15, alpha error probability of .05, power of .95, and three predictors in total, the minimum sample size was calculated as 119. Therefore, I concluded that the samples of this study were large enough to test the validity of the research model.

**Table 4. Cut-off Values and the Number of Careless Responses**

Survey Set	Detection Method	Cut-off Value	No. of Careless Responses	Percentage of Careless Responses
1 <sup>st</sup>	Open-Ended Items*	N/A	1	0.3%
	Longstring	>10	17	5.2%
	Mahalanobis Distance	.99	36	6.5%
	<b>Total</b>		<b>53</b>	<b>16.0%</b>
2 <sup>nd</sup>	Longstring	>10	9	2.8%
	Mahalanobis Distance	.99	38	11.7%
	<b>Total</b>		<b>44</b>	<b>13.6%</b>
<b>Total</b>			<b>77</b>	<b>23.8%</b>

**Table 5. Cut-off Values and Number of Outliers**

Variables	IQR	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Upper Cut-Off Value	Lower Cut-Off Value	Number of Outliers	Percentage of Outliers
Positive Reflection	1.5	4.25	5.75	8.00	2.00	3	1.2%
Positive Reframing	1.5	4.5	6.0	8.25	2.25	0	0%
Self-Continuity	1.25	4.25	5.5	7.375	2.375	1	0.4%
Work Meaningfulness	1.4	4.1	5.5	7.60	2.00	2	0.8%
Positive Affect	1.15	3.75	4.9	6.625	2.025	5	2.0%
Negative Affect	1.7	2.3	4.0	6.55	-.25	0	0%
<b>Total</b>						<b>11</b>	<b>4.5%</b>

*Note.* IQR: Interquartile Range, Upper cut-off value = 75<sup>th</sup> percentile + 1.5 IQR, Lower cut-off value = 25<sup>th</sup> percentile – 1.5 IQR

## **2. Preliminary Analyses**

### **Factor Analyses**

I conducted a confirmatory factor analyses as in Table 6 to assess the goodness of fit of the proposed research model. A good model should have Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) above .9 (Bentler & Bonett, 1980). A model is also considered to have a close fit when the Root Mean Square Error of Approximation (RMSEA) is below .05, and a model is considered to have a reasonable level of fit when the RMSEA is between .08 and .05 (Browne & Cudeck, 1993). Among the four models, the four-factor model showed the best goodness of fit ( $\chi^2 = 640.81$ ,  $p < .001$ , TLI = .91, CFI = .92, RMSEA = .071). Both TLI and CFI exceeded .9, and RMSEA was between .08 and .05, showing an acceptable or a close level of fit.

Exploratory factor analysis using Harman's Single-Factor technique (Harman, 1960; Podsakoff, MacKenzie, Lee et al., 2003) showed that percentage of the variance explained by a single factor was 30.5%. Five components had eigenvalue greater than 1. Common method bias is considered to be present when the variance explained by a single factor exceeds 50% and when only one factor has eigenvalue greater than 1. Therefore, I concluded that common method bias is not present in the data.

**Table 6. Confirmatory Factor Analysis Results**

Model	Description	$\chi^2$	$df$	CFI	TLI	RMSEA	$\Delta\chi^2$	$\Delta df$
1	Four-Factor Model	640.81***	293	.92	.91	.07		
2	Three-Factor Model	668.59***	296	.91	.90	.07	27.78	3
3	Two-Factor Model	1244.84***	298	.77	.75	.12	604.02	5
4	One-Factor Model	1624.60***	299	.68	.65	.14	983.79	6

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

CFI: Comparative Fit Index, TLI: Tucker Lewis Index, RMSEA: Root Mean Square Error of Approximation

Four-Factor Model: positive reflection, positive reframing, self-continuity, work meaningfulness

Three-Factor Model: positive reflection and positive reframing combined, self-continuity, work meaningfulness

Two-Factor Model: positive reflection, positive reframing, and self-continuity combined; work meaningfulness

One-Factor Model: positive reflection, positive reframing, self-continuity, work meaningfulness combined

## Demographic and Job Information

Frequencies of the demographic and job-related variables are presented in Table 7. The final samples consisted of 119 male and 117 female. The age ranged from 22 to 59, and the average age was 41.17 ( $SD = 10.19$ ). Most of the participants (89.0%) had completed college-level or higher-level education. Income group of 20<sup>th</sup>–40<sup>th</sup> percentile showed the largest frequency (36.9%) while the 80<sup>th</sup>–100<sup>th</sup> percentile group showed the smallest frequency (5.11%).

Responses to job-related information items indicated that samples came from various backgrounds. They had seven different job levels, and the number of samples decreased as the job level increased with exception of plant workers. Work experience ranged from 0 to 35, and the average work experience was 14 years ( $SD = 13.00$ ). The most frequent job was *Management (Management Support)*.

**Table 7. Frequencies of Demographic and Job-Related Variables**

<b>Gender</b>	<b>Counts</b>	<b>Percentage</b>
Male	119	50.4%
Female	117	49.6%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Age</b>	<b>Counts</b>	<b>Percentage</b>
21–29	45	19.1%
30–39	59	25.0%
40–49	67	28.4%
50–60	65	27.5%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Educational Background</b>	<b>Counts</b>	<b>Percentage</b>
Junior High or Below	3	1.3%
High School	23	9.7%
Associate	41	17.4%
Bachelor	145	61.4%

Master/Ph.D.	24	10.2%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Income Group</b>	<b>Counts</b>	<b>Percentage</b>
–20th percentile	41	17.4%
20–40th percentile	87	36.9%
40–60th percentile	62	26.3%
60–80th percentile	34	14.4%
80–100th percentile	12	5.1%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Job Level</b>	<b>Counts</b>	<b>Percentage</b>
Staff	69	29.2%
Assistant Manager/Chief	65	27.5%
Manager	46	19.5%
General Manager	38	16.1%
Executive	8	3.4%
Plant Worker	5	2.1%
Others	5	2.1%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Work Experience</b>	<b>Counts</b>	<b>Percentage</b>
–5 years	50	20.7%
6–10 years	48	19.9%
11–15 years	46	19.1%
16–20 years	35	14.5%
21–25 years	35	14.5%
26–30 years	15	6.2%
31–35 years	12	5.0%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Industry</b>	<b>Counts</b>	<b>Percentage</b>
Manufacturing	84	35.6%
Financial Service	13	5.5%
Non-Financial Service	139	58.9%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

<b>Job</b>	<b>Counts</b>	<b>Percentage</b>
R&D	18	7.6%
Sales and Service	22	9.3%
Engineer	19	8.1%
Management (Management Support)	69	29.2%
Production	25	10.6%

Product Development & Sales Planning (Finance Firms Only)	7	3.0%
Fund Management & Investment	7	3.0%
Service Workers	26	11.0%
Core Professionals	20	8.5%
Government Officials	16	6.8%
Others	7	3.0%
<b>Total</b>	<b>236</b>	<b>100.0%</b>

### Descriptive Statistics and Correlations

Descriptive statistics and correlations among variables are exhibited in Table 8. *Positive reflection, positive reframing, and negative affect (Survey 2)* did not meet the normality assumption as the Shapiro-Wilk  $p$  did not exceed .05. However, according to the Central Limit Theorem, distribution of the sample mean becomes a normal distribution when the sample size exceeds 30 (Williams, 1978). Therefore, I assumed all variables to have a normal distribution and used parametric statistical analyses to test the hypotheses.

Before testing hypothesis 1 and 2 with regression, I checked whether all assumptions for regression were met. All correlations between main variables were proven to be positive and significant ( $p < .001$ ). The correlation was strongest between positive reflection and positive reframing ( $R = .787$ ) and weakest between self-continuity and work meaningfulness ( $R = .339$ ). None of the correlations exceeded  $R = .90$ . Furthermore, all VIF values were below 10, and all tolerance levels were above .01. Thus, the data met the assumption of no multicollinearity.

**Table 8. Descriptive Statistics and Correlation among Variables**

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Age	41.17	10.19	—										
2. Gender	1.50	.50	-.09	—									
3. Education Level	3.70	.83	.04	-.06	—								
4. Income Level	2.53	1.09	.25***	-.24***	.28***	—							
5. Work Experience	14.00	8.62	.82***	-.14*	.04	.35***	—						
6. Positive Reflection	5.01	1.00	.27***	-.08	.08	.23***	.25***	—					
7. Positive Reframing	5.28	.81	.24***	-.06	.00	.17**	.23***	.79***	—				
8. Self-Continuity	4.93	.81	.02	-.04	.08	.11	.04	.38***	.44***	—			
9. Work Meaningfulness	4.72	.93	.21***	-.01	.06	.28***	.20**	.71***	.66***	.34***	—		
10. PA (Survey 1)	4.33	.88	.19**	-.11	.04	.26***	.15*	.60***	.59***	.31***	.73***	—	
11. NA (Survey 1)	3.15	1.10	-.24***	-.01	-.04	-.05	-.15*	-.37***	-.32***	-.13	-.32***	-.36***	—

Note. N = 236, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

PA: Positive Affect, NA: Negative Affect



### **3. Hypotheses Testing**

#### **Direct Effects of Positive Reflection on Positive Reframing**

I tested whether positive reflection has a positive effect on positive reframing as stated in hypothesis 1. Regression in Table 9 shows that positive reflection on the past positively affects positive reframing on the present work ( $\beta = .67, p < .001$ ). Therefore, hypothesis 1 was supported. Age, gender, education level, income, work experience, positive affect, and negative affect were included in the model as control variables in model 1, and positive reflection was added as a predictor for positive reframing in model 2. Model 2 showed a significant level of change when compared to model 1 ( $F = 171.96, p < .001$ ). Positive affect showed a positive effect in both model 1 ( $\beta = .54, p < .001$ ) and model 2 ( $\beta = .20, p < .001$ ).

**Table 9. Multiple Regression on Positive Reframing**

Variable	Positive Reframing	
	Model 1	Model 2
Age	.01	-.03
Gender	.01	.02
Education Level	-.02	-.05
Income	-.01	-.03
Work Experience	.13	.07
Positive Affect	.54***	.20***
Negative Affect	-.10	.00
Positive Reflection	□	.67***
Overall F	20.12***	52.30***
R <sup>2</sup>	.38	.65
F (Model Comparison)		171.96***
ΔR <sup>2</sup>		.27

Note. N = 236, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

All variables except gender were centered at their means. Gender (1 = Male, 2 = Female)

Figures indicate standardized regression coefficients ( $\beta$ ).

### Direct Effects of Positive Reframing on Work Meaningfulness

Regression on work meaningfulness in Table 10 indicated that positive reframing on the present work has a positive effect on work meaningfulness ( $\beta = .33, p < .001$ ) as in model 3. Thus, hypothesis 2 was supported. Age, gender, education level, income, work experience, positive affect, and negative affect were again included in the model as control variables in model 1. Positive reflection then was used as predictor for work meaningfulness in model 2 while positive reframing was used as predictor in model 3. Lastly, both positive reflection and positive reframing were used as predictor in model 4. Model 2 ( $F = 72.21, p < .001$ ), model 3 ( $F = 40.20, p < .001$ ), and model 4 ( $F = 37.43, p < .001$ ) all showed a significant change when compared to model 1. In model 2, positive reflection on the past

exhibited a positive effect on work meaningfulness ( $\beta = .42, p < .001$ ).

Therefore, I concluded that prerequisites for mediation analyses were met.

However, the effect of positive reframing on work meaningfulness was insignificant when both positive reflection and positive reframing were used as predictor as in model 4. Among control variables, positive affect showed a positive effect on work meaningfulness in all models ( $\beta = .69; \beta = .48; \beta = .51; \beta = .46; p < .001$ ). Moreover, being a female also had a positive effect on work meaningfulness in all models ( $\beta = .09, p < .001$ ).

**Table 10. Multiple Regression on Work Meaningfulness**

Variable	Work Meaningfulness			
	Model 1	Model 2	Model 3	Model 4
Age	-.02	-.04	-.02	-.04
Gender	.09*	.09*	.09*	.09*
Education Level	.01	.00	.02	.00
Income	.09	.07	.09	.08
Work Experience	.09	.05	.04	.04
Positive Affect	.69***	.48***	.51***	.46***
Negative Affect	-.06	.01	-.03	.01
Positive Reflection		.42***		.36***
Positive Reframing			.33***	.10
Overall F	41.90***	57.14***	47.99***	51.33***
R <sup>2</sup>	.56	.67	.62	.67
F (Model Comparison)		72.21***	40.20***	37.43***
$\Delta R^2$		.11	.07	.11

Note. N = 236, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

All variables except gender were centered at their means. Gender (1 = Male, 2 = Female)

Figures indicate standardized regression coefficients ( $\beta$ ).

### Mediating Effects of Positive Reframing

Table 11 shows the direct and indirect effects of positive reflection on work meaningfulness calculated using model 4 of *PROCESS Macro for R 3.5.3* (Hayes, 2017). The indirect effect via positive reframing ( $b = .49$ ) counted for 26.9% of the total effect ( $b = .40, p < .001$ ) while direct effect ( $b = .33, p < .001$ ) counted for 84.6% of the total effect. The indirect effect was significant as confidence interval did not include zero. Therefore, I concluded that hypothesis 3 was not supported.

**Table 11. Direct and Indirect Effects of Positive Reflection**

	<i>p</i>	Effect	SE	LLCI	ULCI
<b>Total Effect</b>	< .001	.40	.05	.30	.49
<b>Direct Effect</b>	< .001	.33	.06	.21	.46
	<b>Mediator</b>	Effect	<b>Boot SE</b>	<b>Boot LLCI</b>	<b>Boot ULCI</b>
<b>Indirect Effect</b>	Positive Reframing	.06	.04	- .01	.14

*Note.* N = 236, model = 4, Bootstrap sample size = 5000, Random Seed = 3519

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

Control variables: age, gender, education level, income, work experience, positive affect, negative affect

### Moderating Effects of Self-Continuity

Table 12 shows the moderation estimates of self-continuity on the effect of positive reflection on positive reframing in model 1 of *PROCESS Macro for R 3.5.3* (Hayes, 2017). The moderation estimates indicate that self-continuity did not moderate the effect of positive reflection on positive reframing as the confidence interval for interaction term of positive reflection and positive reframing included zero (LLCI = -.13, ULCI = .02). Thus, hypothesis 4 was not supported. However, self-continuity was found to have a positive effect on positive reframing ( $b = .44, p < .05$ ). Simple slope estimates are presented in Figure 3.

**Table 12. Moderation Estimates of Self-Continuity**

	Positive Reframing			
	Estimate	SE	LLCI	ULCI
<b>Age</b>	.00	.01	- .01	.01
<b>Gender</b>	.02	.06	- .10	.15
<b>Education Level</b>	- .05	.04	- .13	.02
<b>Income</b>	- .03	.03	- .09	.04
<b>Work Experience</b>	.01	.01	- .01	.02
<b>Positive Affect</b>	.16***	.05	.07	.25
<b>Negative Affect</b>	.00	.03	- .07	.06
<b>Positive Reflection</b>	.78***	.20	.39	1.18
<b>Self-Continuity</b>	.44 *	.20	.03	.84
<b>Positive Reflection * Self-Continuity</b>	- .06	.04	- .13	.02

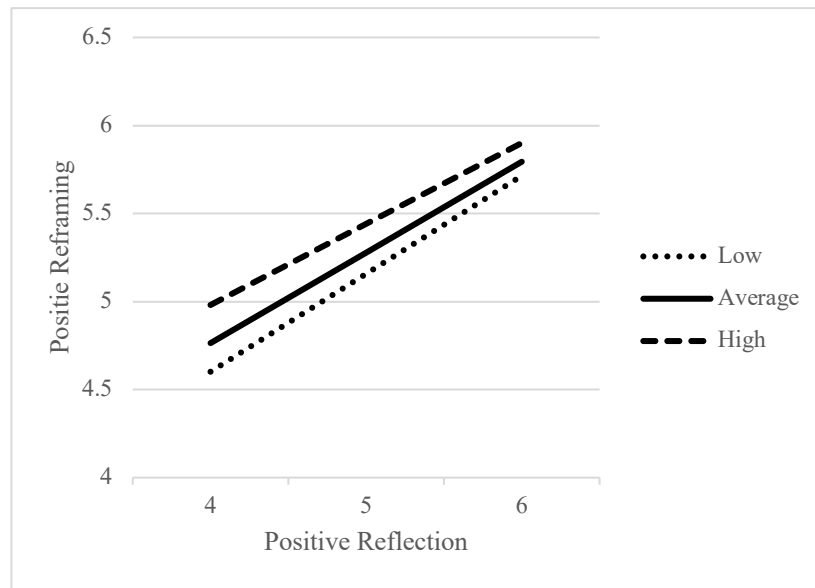
Note. N = 236, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

model = 1, Bootstrap sample size = 5000, Random Seed = 3519

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

Control variables: age, gender, education level, income, work experience, positive affect, negative affect



**Figure 3. Moderating Effects of Self-Continuity**

### **Moderated Mediation Effects**

Table 13 presents direct and conditional indirect effects of positive reflection on work meaningfulness calculated by model 7 of *PROCESS Macro for R 3.5.3* (Hayes, 2017). The conditional indirect effect estimates show the mediating effect of positive reframing at three different levels of self-continuity, the moderator. While the direct effect of positive reflection on work meaningfulness was positive and significant ( $b = .33, p < .001$ ), the indirect effects were insignificant under all three conditions as the confidence intervals calculated from the bootstrapping included zero. Moreover, the boot confidence interval for moderated mediation index of self-continuity in Table 14 also included zero. Therefore, I concluded that moderated mediation effect was not present in the model.

**Table 13. Direct and Conditional Indirect Effects of Positive Reflection**

		Work Meaningfulness				
		<i>p</i>	Effect	SE	LLCI	ULCI
<b>Direct Effect</b>		<.001	.33	.06	.21	.46
	Moderator	Self-Continuity	Effect	Boot SE	Boot LLCI	Boot ULCI
<b>Indirect Effect</b>	Low	4.125	.06	.04	- .01	.15
	Average	4.875	.06	.04	- .01	.14
	High	5.875	.05	.03	- .01	.12

*Note.* N = 236, model = 7, Bootstrap sample size = 5000, Random Seed = 313117

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

Low-level moderator: 16<sup>th</sup> percentile value, Average-level Moderator: 50th percentile value, High-level moderator: 84% percentile value

Control variables: age, gender, education level, income, work experience, positive affect, negative affect

**Table 14. Moderated Mediation Index of Self-Continuity**

	Index	Boot SE	Boot LLCI	Boot ULCI
<b>Self-Continuity</b>	- .01	.01	- .02	.00

*Note.* N = 236, model = 7, Bootstrap sample size = 5000, Random Seed = 313117

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

Control variables: age, gender, education level, income, work experience, positive affect, negative affect

#### 4. Additional Analyses

Results of additional analyses without control variables (age, gender, education level, income, work experience, positive affect, and negative affect) are presented in Table 15 – Table 20. Removing control variables changed some of the statistical conclusion from the original analyses.

As for regressions (see Table 15 and Table 16), positive reframing was found to have positive effect on work meaningfulness ( $\beta = .24, p < .001$ ) when there were no control variables as in model 3 of Table 16.

**Table 15. Multiple Regression on Positive Reframing  
(without Control Variables)**

Variable	Positive Reframing	
	Model 1	Model 2
Positive Reflection	.79***	.67***
Age		-.03
Gender		.02
Education Level		-.05
Income		-.03
Work Experience		.07
Positive Affect		.20***
Negative Affect		.00
Overall F	381.19***	52.30***
R <sup>2</sup>	.62	.65
F (Model Comparison)		2.64*
$\Delta R^2$		.03

Note. N = 236, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

All variables except gender were centered at their means. Gender (1 = Male, 2 = Female)

Figures indicate standardized regression coefficients ( $\beta$ ).



**Table 16. Multiple Regression on Work Meaningfulness  
(without Control Variables)**

Variable	Work Meaningfulness			
	Model 1	Model 2	Model 3	Model 4
Positive Reflection	.71***		.52***	.36***
Positive Reframing		.66***	.24***	.10
Age				-.04
Gender				.09*
Education Level				.00
Income				.08
Work Experience				.04
Positive Affect				.46***
Negative Affect				.01
Overall F	243.25***	175.52***	132.58***	51.33***
R <sup>2</sup>	.51	.43	.53	.67
F (Model Comparison with Model 1)			11.25***	13.91***
ΔR <sup>2</sup> (Model Comparison with Model 1)			.02	.16
F (Model Comparison with Model 2)			51.65***	20.89***
ΔR <sup>2</sup> (Model Comparison with Model 2)			.10	.24

Note. N = 236, \* p < .05, \*\* p < .01, \*\*\* p < .001

All variables except gender were centered at their means. Gender (1 = Male, 2 = Female)

Figures indicate standardized regression coefficients ( $\beta$ ).

Mediation analyses in Table 17 revealed that the direct effect of positive reflection on work meaningfulness ( $b = .49, p < .001$ ) was 73.1% of the total effect of the model ( $b = .67, p < .001$ ). Moreover, the indirect effect via positive reframing was significant ( $b = .18$ ) as the boot confidence interval for indirect effect did not include zero. Thus, positive reframing

showed a mediating effect when control variables were not included in the model as covariates.

**Table 17. Direct and Indirect Effects of Positive Reflection  
(without Control Variables)**

	<i>p</i>	Effect	SE	LLCI	ULCI
<b>Total Effect</b>	< .001	.67	.04	.58	.75
<b>Direct Effect</b>	< .001	.49	.07	.35	.62
	<b>Mediator</b>	Effect	<b>Boot SE</b>	<b>Boot LLCI</b>	<b>Boot ULCI</b>
<b>Indirect Effect</b>	Positive Reframing	.18	.06	.07	.30

*Note.* N = 236, model = 4, Bootstrap sample size = 5000, Random Seed = 3519

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

However, moderation analysis in Table 18 and Figure 4 showed that the moderation effect of self-continuity remained insignificant even when demographic variables, work experience, positive affect, and negative affect were removed from the model. The interaction term of positive reflection on the past and self-continuity was invalid as its confidence interval included zero. Thus, moderation effect of self-continuity was absent in both analyses of this model regardless of presence of control variables.

**Table 18. Moderation Estimates of Self-Continuity**

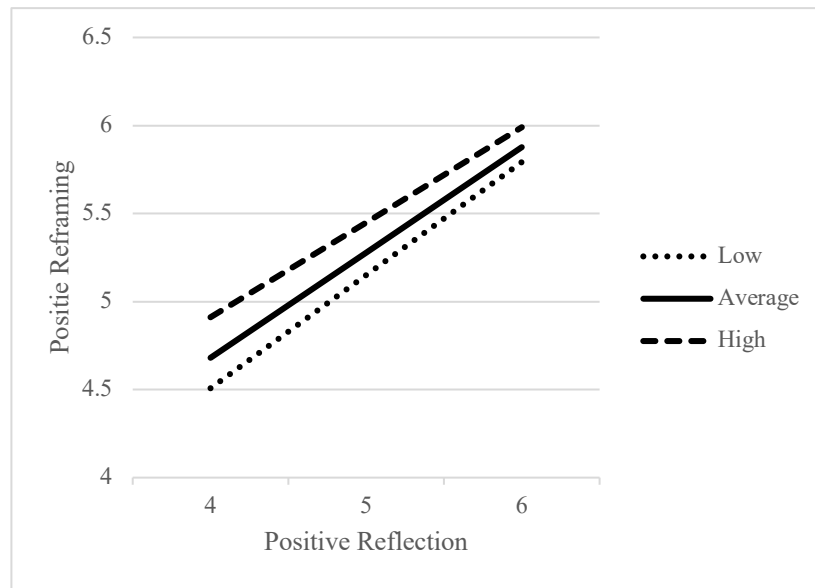
	<b>Positive Reframing</b>			
	<b>Estimate</b>	<b>SE</b>	<b>LLCI</b>	<b>ULCI</b>
<b>Positive Reflection</b>	.88***	.20	.49	1.28
<b>Self-Continuity</b>	.47*	.21	.06	.87
<b>Positive Reflection * Self-Continuity</b>	-.06	.04	-.14	.02

*Note.* N = 236, \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

model = 1, Bootstrap sample size = 5000, Random Seed = 3519

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%



**Figure 4. Moderating Effects of Self-Continuity  
(without Control Variables)**

Lastly, moderated mediation analysis in Table 19 and Table 20 revealed that moderated mediation effect does not exist either when control variables were absent. While direct effect of positive reflection on work meaningfulness was present at the level of  $b = .36$  ( $p < .001$ ), indirect effect via positive reframing was insignificant. Specifically, confidence interval for indirect effects and moderated mediation index all included zero.

**Table 19. Direct and Conditional Indirect Effects of Positive Reflection  
(without Control Variables)**

		Work Meaningfulness				
		<i>p</i>	Effect	SE	LLCI	ULCI
Direct Effect		<.001	.49	.07	.35	.62
	Moderator	Self-Continuity	Effect	Boot SE	Boot LLCI	Boot ULCI
Indirect Effect	Low	4.125	.18	.06	.07	.30
	Average	4.875	.17	.05	.07	.28
	High	5.875	.15	.05	.06	.25

*Note.* N = 236, model = 7, Bootstrap sample size = 5000, Random Seed = 313117

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

Low-level moderator: 16<sup>th</sup> percentile value, Average-level Moderator 50<sup>th</sup> percentile value, High-level moderator: 84<sup>th</sup> percentile value

**Table 20. Moderated Mediation Index of Self-Continuity  
(without Control Variables)**

	Index	Boot SE	Boot LLCI	Boot ULCI
<b>Self-Continuity</b>	-.02	.01	-.04	.01

*Note.* N = 236, model = 7, Bootstrap sample size = 5000, Random Seed = 313117

LLCI: Lower Limit Confidence Interval, ULCI: Upper Limit Confidence Interval

Level of confidence = 95%

## **VI. DISCUSSION**

### **1. Summary of Major Findings**

Although sources of work meaningfulness have received much attention (Allan et al., 2017; Erickson, 2011; Frankl, 1959; Pratt & Ashforth, 2003; Terkel, 1972), there has been a dearth of quantitative studies on justification perspective of work meaningfulness (Boova et al., 2019; Lepisto & Pratt, 2017). Building on sensemaking theory, this study expands the scope of work meaningfulness literature by suggesting that individuals can achieve work meaningfulness via positive sensemaking on the past and the present even when the work environment is unfavorable. The results confirmed hypotheses on direct effects of positive reflection on the past and positive reframing on the present work, thereby highlighting the time-transcendent (Maitlis & Christianson, 2014; Weick, 1995; Weick et al., 2005) and resilient (Bailey & Madden, 2016; Driver, 2007; Mitra & Buzzanell, 2017) role of positive sensemaking. However, as hypotheses on mediation mechanism of positive reframing, moderation and moderated mediation effect of self-continuity were not supported, the role of alignments between positive sensemaking at different time points and the role of self-continuity in promoting the alignments should be reconsidered. Moreover, additional analyses without control variables still require some attention. Specifically, as some of the hypotheses were found to be significant when control variables (i.e., age, gender, education level, income, work experience, positive affect, and negative affect) were removed from the model, it is

recommended that researchers include the control variables of this study in their research for work meaningfulness. Major findings on the hypotheses are summarized in Table 21.

**Table 21. Summary of Results**

No.	Hypothesis	Result
<b>Hypothesis 1</b>	<i>Positive reflection on the past increases positive reframing of the present work.</i>	Supported
<b>Hypothesis 2</b>	<i>Positive reframing of the present work increases work meaningfulness.</i>	Supported
<b>Hypothesis 3</b>	<i>Positive reframing of the present work mediates the causal effect of positive reflection on the past on work meaningfulness.</i>	Not Supported
<b>Hypothesis 4</b>	<i>Self-continuity moderates the causal effect of positive reflection on the past on the positive reframing of the present work in such way that the causal effect is stronger when self-continuity is high than when self-continuity is low.</i>	Not Supported
<b>Hypothesis 5</b>	<i>Self-continuity moderates the mediation of positive reframing on the past in the causal effect of positive reflection on the past on work meaningfulness in such way that the mediation is stronger when self-continuity is high than low.</i>	Not Supported

## **2. Theoretical and Practical Implications**

Building on justification perspective and positive sensemaking theory, this study has suggested and proven that positive sensemaking on the past and positive reframing on the present promotes work meaningfulness, thereby making contributions to Work Meaningfulness Literature and practice. First, this study aimed to take justification perspective in promoting work meaningfulness and expand the group of workers who can benefit from the current work meaningfulness literature. To achieve this goal, this study has adopted positive sensemaking as a mechanism that would help individuals build positive accounts of their work, which involves stressful or constrained conditions in its nature (Carton, 2018; Lysova et al., 2019; Steger & Dik, 2010), and thus find meaningfulness in their work. By confirming hypothesis 1 and 2, this study has discovered a new means of pursuing work meaningfulness other than self-realization, which is consistent with findings of Vuori et al. (2012).

Second, this study is one of the first studies to confirm the role of time in promoting work meaningfulness. While extant studies have sought sources of work meaningfulness at a given time-point, I found the sources from different time-points. This confirms the findings of qualitative studies by Bailey and Madden (2016, 2017) and implies that the scope of work meaningfulness research should be expanded in terms of temporal perspective. Nevertheless, against the expectations of this research, positive reframing did not mediate the effect of positive reflection on work

meaningfulness. Moreover, self-continuity did not enhance the effect of positive reflection on positive reframing and the mediation effect via positive reframing. This would imply that positive reflection on the past and positive reframing on the present might occur via different paths. It also shows that self-continuity related to work meaningfulness has different mechanisms from those of self-continuity related to life meaningfulness as in studies of Sedikides and Wildschut (2018) and Sedikides, Wildschut, Routledge, Arndt et al. (2016). Rather, the consistent effect of positive affect on main variables such as positive reflection, positive reframing, and work meaningfulness implies that positive affect may act as a key mechanism in the effect of positive reflection on work meaningfulness. This is consistent with findings of Ritchie et al. (2016) which suggested that positive affect induced by reflections on positive events relates to the effect of the event on meaningfulness.

Lastly, this work demonstrates that work meaningfulness can be enhanced by transforming perceptions of negative elements at workplace. Previously, work meaningfulness were believed to arise only from positive factors (Bailey & Madden, 2016; Driver, 2007), but this is an approach that overlooks or ignores painful and negative elements prevalent in real working environments (Kanov, 2020). Accordingly, this work further extends the scope of work meaningfulness research, proving that by switching perceptions of negative factors, the negative factors might also become new sources of work meaningfulness. This is congruent with conclusions of the qualitative studies in Vuori et al. (2012), and it is in line



with a number of research in Psychology as well, such as the study on promotion of meaning through overcoming negative experiences (Tov & Lee, 2016), growth (Tedschi & Calhoun, 2004), and cognitive reconstruction (Skinner et al., 2003).

On the other hand, practitioners can also use the findings of this study to promote work meaningfulness in their organizations and further improve important work-related attitudes and performance variables, such as job performance work engagement of employees. For example, by reflecting on past achievements and hardships within an organization and giving a positive interpretation, one might consider ways to manage the meaning of work at the organizational level that enhances the meaning of the members' work. In addition, as for team-level and individual-level initiatives, managers can develop and spread techniques that help members positively reflect on their past with their leader and coworkers when faced with stressful situations that might hinder achieving work meaningfulness. These initiatives are expected to be particularly effective for workers with jobs that involves chronical restriction of autonomy and for new comers at entry-level positions.

### **3. Limitation and Recommendations for Future Research**

Unlike extant studies (Lysova et al., 2019), this work assumes that one of the two paths of promotion of work meaningfulness, self-realization, might be constrained, and seeks to verify the power of the remaining path, justification. This is a new approach in that it recognizes and incorporates negative and painful situations that arise from real organizations (Carton, 2018; Lysova et al., 2019; Steger & Dik, 2010) and that it locates new ways to experience the meaning of work under such constraints. This approach could also be considered as an attempt to reduce the gap between positive organizational psychology research and practice. To this end, this study basically assumed problematic situations in which change is limited, and theoretically discussed the mechanism in which work meaningfulness could be achieved. However, since this study did not include job characteristics (e.g., Hackman & Oldham, 1976) as control variables in the research design, the study has not examined the situation in which one path is restricted, in a strict sense. For future studies, I recommend including job characteristic variables as moderators in the research model or comparing work meaningfulness and its mechanisms among different groups of workers, such as white-collar managers and blue-collar workers with dirty jobs, to examine how work meaningfulness could be reached when there is a significant constraint on self-realization at work.

Second, this study aimed to identify the path in which the meaning of work is promoted by others. Based on the theory of sensemaking, this work established and partially verified a path model in which positive reflection on past experiences, which can occur during communication with

others, affects work meaningfulness. However, this study did not measure positive sensemaking that occurs in real interpersonal relationships, but measured sensemaking that occurs within individuals instead. To further investigate how positive sensemaking in interpersonal communication contributes to work meaningfulness, it is recommended that researchers take a dyad research design and see whether positive reflection on the past and positive reframing on the present work that occur during communication with others at work promote work meaningfulness.

Third, this work collected data using self-report survey to verify the moderated mediation model proposed in this study. Although the dependent variables and the rest of the variables were measured in two different surveys, the interval between the two time-points may be somewhat close so that it would be difficult to assume that the sources of measurement were completely separated. Furthermore, it seems appropriate to measure variables across at least three time-points to test the moderated mediation model, measuring predictors, parameters, and outcome variables from different time-points. Consequently, it might be difficult to accept and generalize the findings of this research. Measuring and including marker variables in the model or using Structural Equation Modelling is strongly recommended for future research.

Finally, this work used non-experimental methods for testing the causal relationship, mediation, moderation, and moderated mediation. This study tried to minimize the impact of confounding variables by using randomized sampling and control variables, it was impossible to control the environment to the extent reached at experimental research. Therefore,

threats to internal validity might have been caused due to confounding variables.

On the other hand, this study opens up new research questions to be explored in the work meaningfulness literature. First, this work has become one of the first quantitative studies to present empirical evidence of the time transcendence of work meaningfulness. Existing studies have considered the work meaningfulness to be experienced only within a certain time-point (Bailey & Madden, 2017). However, recent qualitative studies have also raised the possibility that work meaningfulness is a time-transcendent construct that is realized when individuals are aware of the interconnectivity between time points and confirm the importance and purpose of their achievements so far (Bailey & Madden, 2016 and 2017). This also aligns well with time-transcendent nature of sensemaking, the main principle of justification perspective (Maitlis & Christianson, 2014; Weick, 1995; Weick et al., 2005). Thus, this work highlighted the time-transcendent nature of work meaningfulness, showing that positive sensemaking on past experiences can enhance positive sensemaking on the present work and work meaningfulness experienced at the current moment. I hope this study leads to a new line of studies that take a broader temporal perspective in work meaningfulness literature in the future.

Furthermore, this study showed that work meaningfulness does not always originate solely from positive factors, but also from changes in perceptions of negative factors, and seeks to expand the scope of work meaningfulness research. In particular, this study presented and demonstrated that positive sensemaking behaviors, such as reconstructing

perceptions toward negative factors experienced in the current workplace, enhance the meaning of work. I expect this study could further promote research on the ways of positive sensemaking on negative factors as this study has shown that one driving force of such positive sensemaking could be borrowed from the past. To be specific, considering Bailey and Madden (2016)'s qualitative study which showed that work meaningfulness can arise from a poignant experience or memories as well, it would be a good approach to study how individuals overcome painful or negative experiences and realize the meaning of work.

## VII. CONCLUSION

This paper identified a new source for promotion of work meaningfulness in positive reflections of the past, a positive sensemaking process.

Furthermore, this study confirmed the effect of positive reframing of present work on work meaningfulness. Thus, this study has become one of the first quantitative studies that extend the scope of work meaningfulness literature to time-transcendent and negative domains. However, contrary to expectations, the results revealed that the indirect effect of positive reflection on work meaningfulness via positive reframing was insignificant. Moreover, self-continuity, the perceived connectivity between the past and present, did not exhibit any moderating effects or moderated mediation effects in the mechanism of promotion of work meaningfulness via positive reflection on the past and positive sensemaking on the present. On the other hand, when control variables such as age, gender, education level, income, work experience, positive affect, and negative affect were removed from the model, the mediation effect was found to be significant, implying that the control variables might play some role in the mediation process and thus should be included as a part of the model in future studies.

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## APPENDIX

### Survey Items in Korean – Survey 1

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#### 긍정적 일 회상

**: Adapted from Positive Work Reflection (Binnewies et al., 2009; Fritz & Sonnentag, 2005)**

다음은 평소에 귀하께서 일에 대해 얼마나 긍정적으로 회상하시는지에 관한 문항들입니다. 각 문항을 주의 깊게 읽고, 해당 문항이 귀하의 회상 경험을 얼마나 잘 나타내는지를 7점 리커트 방식(1: 전혀 그렇지 않다, 2: 그렇지 않다, 3: 약간 그렇지 않다, 4: 보통, 5: 약간 그렇다, 6: 그렇다, 7: 매우 그렇다)으로 응답해주십시오.

- 1 나는 내 일에 대해 내가 좋아하는 점이 무엇인지 깨달았다.
  - 2 나는 내 일의 긍정적인 측면들에 대해 생각하였다.
  - 3 나는 내 일이 주는 이점(플러스 요소)들을 다루었다.
  - 4 나는 내 일의 긍정적인 면을 고려하였다.
- 

#### 대처 척도(Choi, 2000) 중 긍정적 해석과 수용

**: Translated from Coping Orientation to the Problem Experienced (COPE) (Carver & Scheier, 1989)**

다음은 귀하께서 현재 일터에서 겪고 있는 어려움에 대해 어떻게 느끼거나 행동하실지에 관한 문항들입니다. 각 문항을 주의 깊게 읽고 해당 문항이 현재 귀하의 모습과 얼마나 일치하는지를 7점 리커트 방식(1: 전혀 그렇지 않다, 2: 그렇지 않다, 3: 약간 그렇지 않다, 4: 보통, 5: 약간 그렇다, 6: 그렇다, 7: 매우 그렇다)으로 응답해주십시오.

- 1 지금 일어나고 있는 일에서 좋은 점을 찾는다.
  - 2 그 문제를 다른 각도에서 보려 함으로써, 문제를 보다 긍정적으로 보이게 한다.
-

- 
- 3 경험으로부터 무언가를 배운다.
  - 4 이 경험을 통해서 인간적으로 더 성숙해지고자 한다.
- 

### 자아연속성

#### **: Translated from Self-Continuity (Sedikides et al., 2015)**

다음은 귀하께서 느끼는 과거와 현재, 미래 간의 연속성에 관한 문항들입니다. 각 문항을 주의 깊게 읽고 해당 문항이 현재 귀하의 생각과 얼마나 일치하는지를 7점 리커트 방식(1: 전혀 그렇지 않다, 2: 그렇지 않다, 3: 약간 그렇지 않다, 4: 보통, 5: 약간 그렇다, 6: 그렇다, 7: 매우 그렇다)으로 응답해주시시오.

- 1 나는 내 과거와 연결되어 있다고 느낀다.
  - 2 나는 과거의 나와 연결되어 있다고 느낀다.
  - 3 나는 인생의 중요한 면들이 시간이 흘러도 동일하게 남아있다고 느낀다.
  - 4 나는 내 삶에 연속성이 있다고 느낀다.
  - 5 나는 과거와 현재가 함께 매끄럽게 흘러간다고 느낀다.
  - 6 나는 현재가 과거의 연속이라고 느낀다.
  - 7 나는 과거와 현재 간에 연결성이 있다고 느낀다.
  - 8 나는 과거가 현재와 잘 합쳐진다고 느낀다.
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#### **한국판 정적 및 부정적 정서 척도(Revised Korean Version of Positive and Negative Affect Schedule; Revised K-PANAS) (Park & Lee, 2016)**

#### **: Translated from Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)**

다음은 귀하께서 현재 느끼고 계신 감정 또는 기분들에 관한 문항들입니다. 각 문항을 주의 깊게 읽고 해당 문항이 귀하를 얼마나 잘 나타내는지 7점 리커트 방식(1: 전혀 그렇지 않다, 2: 그렇지 않다, 3: 약간 그렇지 않다, 4: 보통, 5: 약간 그렇다, 6: 그렇다, 7: 매우 그렇다)으로 응답해주시시오.

- 1 흥미롭다

- 2 짜증스럽다..
  - 3 괴롭다.
  - 4 맑은 정신이다.
  - 5 신이 난다.
  - 6 부끄럽다.
  - 7 화가 난다.
  - 8 영감을 받는다.
  - 9 강인하다.
  - 10 긴장된다.
  - 11 두렵다.
  - 12 죄책감이 든다.
  - 13 확고하다.
  - 14 겁이 난다.
  - 15 주의 깊다.
  - 16 적대적이다.
  - 17 초조하다.
  - 18 열정적이다.
  - 19 활기차다.
  - 20 자랑스럽다.
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## Survey Items in Korean – Survey 2

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한국판 일의 의미 척도(Korean Version of Work and Meaning Inventory; K-WAMI) (Choi & Lee, 2017)

: Translated version of Work and Meaning Inventory (WAMI; Steger et al., 2012)

다음은 귀하께서 느끼는 일의 의미에 관한 문항들입니다. 각 문항을 주의 깊게 읽고 해당 문항이 귀하를 얼마나 잘 나타내는지 7점 리커트 방식(1: 전혀 그렇지 않다, 2: 그렇지 않다, 3: 약간 그렇지 않다, 4: 보통, 5: 약간 그렇다, 6: 그렇다, 7: 매우 그렇다)으로 응답해주시시오.

- 1 나는 의미 있는 일(직업)을 찾았다.
  - 2 나는 내가 하는 일이 나의 개인적 성장에 기여한다고 본다.
  - 3 내가 하는 일은 세상에 아무런 변화를 주지 않는다.
  - 4 나는 내가 하는 일이 내 삶의 의미에 어떻게 기여하는지 알고 있다.
  - 5 나는 무엇이 내 직업을 의미 있게 만드는가에 대한 감이 있다.
  - 6 나는 내가 하는 일이 세상에 긍정적인 변화를 일으킨다는 것을 안다.
  - 7 내 일은 내 자신을 더 잘 이해하는 데 도움이 된다.
  - 8 나는 만족할만한 목적을 가진 일을 발견했다.
  - 9 내가 하는 일은 내 주변 세상을 이해하는 데 도움이 된다.
  - 10 내가 하는 일은 보다 큰 뜻에 기여한다.
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한국판 정적 및 부정적 정서 척도(Revised Korean Version of Positive and Negative Affect Schedule; Revised K-PANAS) (Park & Lee, 2016)  
: Translated from Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)

다음은 귀하께서 현재 느끼고 계신 감정 또는 기분들에 관한 문항들입니다. 각 문항을 주의 깊게 읽고 해당 문항이 귀하를 얼마나 잘 나타내는지를 7점 리커트 방식(1: 전혀 그렇지 않다, 2: 그렇지 않다, 3: 약간 그렇지 않다, 4: 보통, 5: 약간 그렇다, 6: 그렇다, 7: 매우 그렇다)으로 응답해주십시오.

- 1 흥미롭다
  - 2 짜증스럽다..
  - 3 괴롭다.
  - 4 맑은 정신이다.
  - 5 신이 난다.
  - 6 부끄럽다.
  - 7 화가 난다.
  - 8 영감을 받는다.
  - 9 강인하다.
  - 10 긴장된다.
  - 11 두렵다.
  - 12 죄책감이 든다.
  - 13 확고하다.
  - 14 겁이 난다.
  - 15 주의 깊다.
  - 16 적대적이다.
  - 17 초조하다.
  - 18 열정적이다.
  - 19 활기차다.
  - 20 자랑스럽다.
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## 초 록

본 연구는 자아실현 경로가 제약되었을 때 정당화 경로를 통해 일의 의미를 달성할 수 있는 방법을 찾아내는 것을 목표로 한다. 본 연구는 일의 의미성 연구의 범위를 시간 초월적 및 부정적 영역으로 확대하는 최초의 정량적 연구 중 하나로서, 정당성 관점 및 센스메이킹 이론에 기반하여, 과거에 대한 긍정적인 회상이 현재 일에 대한 긍정적 재구조화를 촉진시키고, 현재 일에 대한 긍정적 재구조화는 일의 의미성을 촉진시킨다는 가설을 제시한다. 또한, 본 연구는 현재 일에 대한 긍정적인 재구조화가, 긍정적 회상이 일의 의미에 미치는 효과에 있어 매개변인으로 작용할 것이라 예측한다. 마지막으로, 본 연구는 자아연속성이 긍정적 회상이 긍정적 재구조화에 미치는 효과와 긍정적 재구조화가 긍정적 회상과 일의 의미성 간의 인과관계에서 갖는 매개효과를 강화시킬 것이라는 조절효과 가설과 조절된 매개효과 가설을 설정한다. 한국 직장인 236 명으로부터 두차례에 걸쳐 수집한 설문데이터로 다중회귀분석과 *PROCESS Macro*를 이용한 간접효과 분석, 조절효과 분석, 그리고 조건부 간접효과 분석을 실시한 결과, 긍정적 회상이 긍정적 재구조화에 미치는 정적 효과와 긍정적 재구조화가 일의 의미성에 미치는 정적 효과를 확인할 수 있었다. 그러나 긍정적 재구조화는 통제변인을 제거하였을 경우에만 긍정적 회상과 일의 의미성 간의 인과관계에서 매개효과를 갖는다는 것을 확인하였다. 또한, 자아연속성은 통제변인의 유무와 관계없이 긍정적 회상과 긍정적 재구조화 간의 관계에서 조절효과를 갖지 않으며, 조절된 매개효과 역시 갖지 않는 것으로 나타났다. 본 연구는 자아실현이 아닌 정당화 관점을 취하여 긍정적 센스메이킹이 일의 의미성에 미치는 영향을 살펴봄으로써, 일의 의미성 연구와 현실 직무환경 간의 간극을 줄이고자 하였다. 또한, 일의 의미성의 원천을 과거와 부정적 요인으로 확장하였다는 의의를 갖는다.

**주요어 :** 일의 의미성, 긍정적 센스메이킹, 긍정적 회상, 긍정적 재구조화, 자아연속성

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