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Impact of Organizational Socialization on Construction Workers' Prosocial Safety Citizenship Behavior

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Abstract

Due to the complexity of work and long work cycle in the construction industry, construction workers' safety is always under serious threat. This paper aims to reveal the mechanism of the influence of organizational socialization (OS) on construction workers' prosocial safety citizenship behavior (SSCB) with affective commitment (AC) as the mediating variable. Structural Equation Modeling (SEM) was constructed to conduct an empirical study based on 368 valid questionnaires recovered from formal research. Using SPSS 25.0 and AMOS 26.0, the influence model and research hypotheses of construction workers' SSCB were validated. The study shows that AC plays a fully mediating role in the positive effect of OS on construction workers' SSCB, and: Organizational safety culture socialization (OSCS) > Interpersonal relationships socialization (IRS) > Job competence socialization (JCS) > Organizational politics socialization (OPS).

Keywords: Organizational Socialization, Prosocial Safety Citizenship Behavior, Affective Commitment

Introduction

With the development of national economy, China's construction industry has been expanding and is essential for the growth of the economy. However, construction workers' safety is always under serious threat due to the complex and complicated construction techniques and long production cycle of the construction industry. The traditional safety behavior management mainly emphasizes whether construction workers follow all safety regulations and whether they can work in a safe way (Bosak et al., 2013). The use of this management method has reduced the occurrence of safety accidents. However, if construction workers just stereotypically comply with the

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established safety system without participating in the whole team, the safety management will have little effect on reducing the occurrence of accidents (Liu et al., 2020).

In view of this, American scholars Hofmann et al,(2003) extended the concept of organizational citizenship behavior (OCB) to the field of safety when studying the citizenship behavior of employees in some high-risk industries, and proposed the brand new concept of safety citizenship behavior (SCB). SCB is a voluntary individual behavior that emphasizes employee initiative and mutual support and is divided into two categories, SSCB and proactive safety citizenship behavior (ASCB) (Curcuruto et al., 2016). SSCB improves the organization's general level of safety by helping other members of the organization (Curcuruto& Griffin, 2018; Wang et al.,2020) .

Existing research has mainly studied the organizational level, the leadership level, or the individual level in an isolated manner, and all of them are mainly static studies, while there is a lack of research on the variability of SSCB during the gradual integration of individuals into the group. In a complex project organizational environment, how can managers seek to balance work requirements and resources and maintain construction workers' safety initiative in the long term? This is the concern of this paper. In the long run, individuals will gradually develop safety-related proactive behaviors and perceptions during the socialization process of integrating into the organization (Fang, 2011), which can contribute positively to the safety of the whole organization. Based on it, this essay aims to investigate the mechanism behind the influence of SSCB from the OS perspective. The following hypotheses are proposed:

H1: OS positively impacts the productivity of construction workers' SSCB

H1a: OSCS positively impacts the productivity of construction workers' SSCB.

H1b: JCS positively impacts the productivity of construction workers' SSCB.

H1c: IRS positively impacts the productivity of construction workers' SSCB.

H1d: OPS positively impacts the productivity of construction workers' SSCB.

H2: OS positively impacts the productivity of construction workers' AC.

H2a: OSCS positively impacts the productivity of construction workers' AC.

H2b: JCS positively impacts the productivity of construction workers' AC.

H2c: IRS positively impacts the productivity of construction workers' AC.

H2d: OPS positively impacts the productivity of construction workers' AC.

H3: AC positively impacts the productivity of construction workers' SSCB.

H4: AC plays a mediating role in the relationship between construction workers' OS and SSCB.

The Conceptual Framework of this paper is shown below in Figure 1:

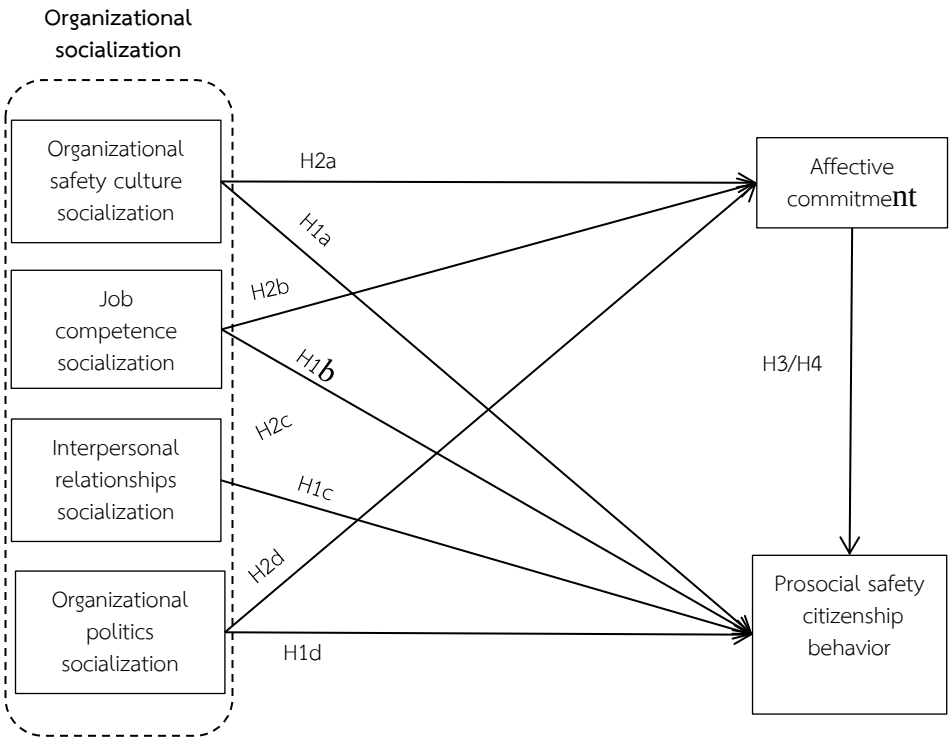


Figure 1. Conceptual Framework

Literature review

1. Modern accident causation theories

Fu et al. (2013) proposed the behavioral safety "2-4" model by summarizing the modern accident causation theory and the modern accident causation theory. The "2" in this theoretical model means that the occurrence of accidents mainly consists of two major levels: organizational behavior and individual behavior; safety culture (guiding behavior), safety management system (movement behavior), safety attitude, safety ability, safety habits, etc. (habitual behavior), and unsafe actions and unsafe objects (disposable behavior), which represent the four phases. These 4 stages represent a complete reaction chain of accident occurrence, and their corresponding accident cause chain is Root Cause - Root Cause - Indirect Cause - Direct Cause. This paper analyzes the influencing factors of construction workers' unsafe behaviors in terms of both organization and individual based on modern accident causation theory.

2. Social Exchange Theory

Social Exchange Theory is more widely used in the study of safety behavior to explain the behavioral outcomes of employees under the influence of environmental factors such as leadership support, work environment, and work-family conflict. Organizational values in terms of adherence to safety rules and procedures are perceived by employees as a commitment to safety and accident prevention, causing employees to reciprocate by participating in safety-related activities (Clarke, 2006) Newazet al.(2019), Newazet al.(2020) looked into the safety practices of direct supervisors and their contribution to workers' safety behavior. This paper applies social exchange theory to explain the relationship between construction workers' OS level and the influence of SSCB.

3. Current status of OS research

OS process refers to the process of new employees' transformation from "outsiders" to "insiders". In previous research on OS process, the three-stage model proposed by Feldman (1981), which is based on the theory of power change, has been accepted by many scholars. Chinese scholars' research on OS started after 2005. Wang & Ling (2006) defined OS as the process in which employees continuously adjust themselves in terms of values, goals, and behaviors in order to achieve mutual adaptation and promotion with the organization; Yan et al. (2011), based on the identity theory, argued that OS is the process of a new employee spontaneously reshaping his/her work role and generating a sense of identity in a new environment. Yan et al. (2011), based on identity theory, believe that OS is a cognitive development process in which new employees in a new environment actively and spontaneously reconvert and reshape their work roles to produce role recognition and social identity.

Zhao (2007) found that all four aspects of OS, OCS, JCS, IRS and OPS, can motivate employees and have different impacts on job performance and job satisfaction. Qian (2004) found through empirical research that employees' OS is correlated with employees' proactive behaviors in Chinese companies. Meanwhile, Taormina (2000) found that the correlation between employees' OS content and employees' organizational commitment is greater than the correlation between personal attributes and organizational commitment, and that OS has a strong predictive power for organizational commitment. Yu et al. (2021) showed that organizations implement OS strategies for employees to help new employees familiarize themselves with their roles, master their knowledge and skills, and adapt to the organization's environment, thus increasing employees' emotional attachment to the organization.

4. Current status of pro-social behavior research

Since Hoffman et al. (2003) recommended the idea of SCB, SCB has received great attention from researchers at home and abroad. SCB is an extra-role behavior that employees exhibit in the process of safety production in an enterprise in favor of the organization, with the The purpose is to improve the safety performance of the organization as well as the team.

Curcuruto et al.(2016) Based on the nature of SCB, they are classified into two categories, SSCB and ASCB. SSCB are those that are pro-active in nature, help their coworkers and in safety behavior in terms of seeking welfare for others. Parker et ai.,(2001) proposed that AC has a moderating function in the connection between employee safety behavior and a healthy social environment. Riketta (2002)discovered that an attitudinal characteristic called organizational commitment has a significant impact on employee behavior. Curcuruto & Griffin (2018) found that AC mediates the role of AC in SSCB in the factors influencing employees' SSCB and ASCB.

Based on this, this paper integrates the OS perspective into the SCB theory to identify the relevant factors affecting construction workers' OS of SSCB. Taking AC as a mediating variable, it establishes an influence model of construction workers' OS and SSCB, and explores the influence mechanism and driving mechanism of construction workers' civic behaviors under the OS perspective to make up for the shortcomings of existing studies.

Methodology

In this paper, a questionnaire was used for quantitative analysis. Based on the large sample data obtained from the research, SPSS 25.0 and AMOS 26.0 software were used to test the validity of the data, and SEM was established to fit and validate the model and hypotheses of the impact of SSCB on construction workers.

1. Population and Sampling

Based on the number of employees in China's construction industry and Yamane's formula for sample size calculation. The sample size for this research was calculated to be 364, and the questionnaire was collected using a combination of field research and internet research. The survey data came from construction projects in the more developed eastern and central regions of China's construction industry, from 15 construction projects in six provinces: Shanxi, Jiangsu, Zhejiang, Sichuan, Shandong and Henan. The target respondents were selected to be typical and representative of key positions, including front-line construction workers engaged in different types of work, as well as front-line construction workers' direct managers.

2. Questionnaire development

This paper draws on existing literature research to design the questionnaire, and consults experts in the construction field to ensure that the structure of the scale is reasonable, the indicator items are set reasonably, and the content is easy to understand, which can reflect the system constructed by the theoretical model. Among them, the OS scale draws on the scale compiled by Wang & Ling (2006), revised with the characteristics of the construction safety field, and measured from four dimensions: OSCS, JCS, IRS, and OPS. The AC scale adopts the 4-question item scale of Curcuruto & Griffin (2018), such as, " This team is important to me". The SSCB scale was adopted from Wang et al., (2020) 6-item scale based on a Chinese scenario to study construction workers' SSCB, e.g., "I volunteer for the safety management team". Each question item was rated on a five-point Likert scale from 1 (very poorly) to 5 (very well).

Results

1 Measurement Models

1.1 Reliability Analysis

It can be seen that the Cronbach's alpha coefficients of the dimensions of OSCS, JCS, IRS, OPS, AC and SSCB are 0.967, 0.937, 0.879, 0.905, 0.930, 0.966, respectively, which exceed the 0.7 specified value, indicating good reliability of the measurement scale.

Table 1 Reliability Analysis of Measurement Indexes of Formal Survey

Variables	OSCS	JCS	IRS	OPS	AC	SSCB
Cronbach's α	0.967	0.937	0.879	0.905	0.930	0.966

1.2 Validity Analysis

1.2.1 KMO and Bartlett's Test

It can be seen that each scale's KMO is greater than 0.7, and the Bartlett's sphericity test has a significance level of 0.000, which indicates that the scales are suitable for factor analysis.

Table 2 The Fitness Tests of Factor Analysis

Variables	KMO	Bartlett's Sphericity Test		
		approximate chi-square	df	Sig.
OS	0.810	3917.249	66	0.000
AC	0.764	890.162	3	0.000

SSCB	0.926	2760.796	15	0.000

1.2.2 Validation Factor Analysis

(1) Aggregate validity test

A validated factor analysis of SEM was conducted using AMOS 26.0 analysis software, and the results of are shown in Table 3

Table 3 Convergent Validity of Measurement Model 1

Variables	Indicators	SFL	CR	AVE
OSCS	OSCS1	0.956	0.908	0.967
	OSCS2	0.960		
	OSCS3	0.942		
JCS	JCS4	0.913	0.835	0.938
	JCS5	0.955		
	JCS6	0.872		
IRS	IRS7	0.776	0.709	0.879
	IRS8	0.917		
	IRS9	0.827		
OPS	OPS10	0.901	0.764	0.907
	OPS11	0.899		
	OPS12	0.820		
AC	AC1	0.886	0.817	0.930
	AC2	0.912		
	AC3	0.914		
SSCB	SSCB1	0.869	0.828	0.967
	SSCB2	0.920		
	SSCB3	0.949		
	SSCB4	0.933		
	SSCB5	0.929		
	SSCB6	0.856		

From the output results, the standardized factor loading of each observed variable of OSCS, JCS, IRS, OPS, AC and SSCB are all greater than 0.7; the combined reliability CR values of each latent variable are 0.908, 0.835, 0.709, 0.764, 0.817,0.828,respectively, which are all greater than 0.6; and the AVE values of the mean

variance extracted are 0.967, 0.938, 0.879, 0.907,0.930,0.967, respectively, which have values above 0.5, suggesting that the scale has a high degree of convergent validity.

(2) Model fitness test

The fitness of the analysis results are shown below in Table 5

Table 4 *Confirmatory Factor Analysis Model Fitness*

Name of Index	χ^2/df	RMSEA	GFI	TLI	NFI	CFI	IFI
Recommended value	1<χ^2/df<3	<0.08	>0.9	>0.9	>0.9	>0.9	>0.9
Model fit indices	2.234	0.058	0.914	0.967	0.952	0.973	0.973

It can be seen that all the fitness indicators of the validated factor analysis model meet the standard requirements, indicating that the sample data and the proposed model fit each other well, and the model's goodness of fit is more satisfactory and the scale structure is reliable. summary, the structure of each variable of SSCB drivers and the scale reliability and validity have been verified.

2. Structural models

2.1 Mediation Effect Test

The total effects test and mediation effect test results are shown in Table 5

Table 5 Standardized Bootstrap total effects test

Path	EI	SE	Bias-corrected 95%CI			Percenntile 95% CI		
			Lower	Upper	P	Lower	Upper	P
Total OSCS-SSCB	0.263	0.066	0.133	0.395	0.000	0.150	0.371	0.008
Total JCS-SSCB	0.094	0.057	0.004	0.202	0.027	0.003	0.189	0.038
Total IRS-SSCB	0.207	0.077	0.048	0.346	0.013	0.081	0.332	0.010
Total OPS-SSCB	0.109	0.054	0.001	0.215	0.049	0.017	0.197	0.047
OSCS-AC-SSCB	0.076	0.027	0.032	0.139	0.000	0.035	0.123	0.000
JCS-AC-SSCB	0.051	0.020	0.019	0.096	0.000	0.021	0.087	0.001
IRS-AC-	0.100	0.030	0.054	0.173	0.000	0.054	0.153	0.000

SSCB								
OPS-AC-SSCB	0.080	0.027	0.037	0.146	0.000	0.039	0.128	0.000

It can be analyzed that the total effect of OSCS on SSCB is 0.263, the total effect of JCS on SSCB is 0.094, the total effect of IRS on SSCB with a total effect of 0.207, and OPS on SSCB with a total effect of 0.109, neither of which contains 0 within the value intervals of Lower and Upper of the Bias-Corrected versus Percentile95% CI, suggesting that a total effect of each dimension of OS on the effect of SSCB exists. For construction workers' SSCB: OSCS > IRS > OPS > JCS .

The mediating effect was 0.076 for OSCS-RBSE-SSCB, 0.051 for JCS-RBSE-SSCB, 0.100 for IRS-AC-SSCB, and 0.080 for OPS-AC-SSCB, which is within the Bias- Corrected versus Percentile 95% CI's of Neither Lower nor Upper value intervals contained zeros, suggesting that AC mediates the SSCB of OSCS, JCS, IRS, and OPS on construction workers.

The results of the direct, indirect and total effect tests of each dimension of OS on construction workers' SCB are shown in Table 6

Table 6 *Mediating effects of OS and SCB*

Variables	AC			SSCB		
	Direct effect	Indirect effect	Total Effect	Direct effect	Indirect effect	Total effect
OSCS	0.238***	-	0.238***	0.187	0.076***	0.263**
JCS	0.158***	-	0.158***	0.043	0.051***	0.094*
IRS	0.312***	-	0.312***	0.108	0.100***	0.207*
OPS	0.250***	-	0.250***	0.029	0.080***	0.109*
AC	-	-	-	0.319***	-	0.319***

As can be seen from the table, the indirect and total effects of OSCS, JCS, IRS, and OPS on SSCB were significant, while none of the direct effects were significant, indicating that AC plays a fully mediating role in the construction workers' SSCB in OSCS, JCS, IRS, and OPS.

2.2 Standardized path coefficients for the finalized model

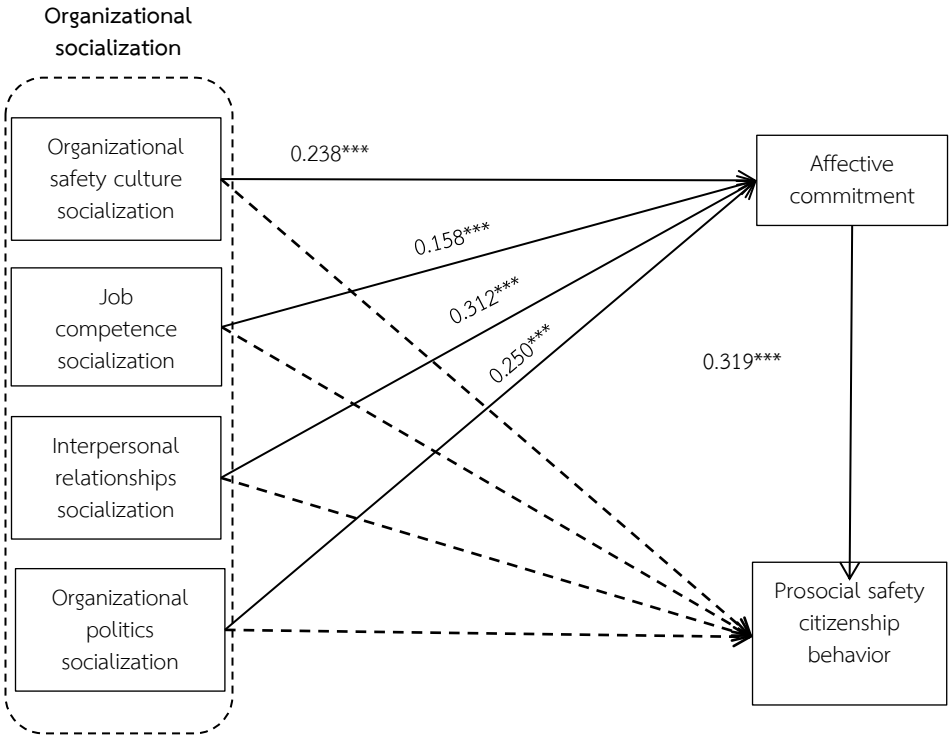


Figure 2 Standardized Path Coefficients for the Finalized Model

The findings demonstrate that AC fully mediates the beneficial benefits of OSCS, JCS, IRS and OPS on construction workers' SSCB. The OS of construction workers positively predicts AC. As the degree of employees' OS increases, employees gradually transform from organizational outsiders to organizational insiders, and the emotional connection with the organization deepens, employees' AC towards the organization will increase, which is consistent with the findings of Taormina (2000) and Yu et al. (2021). Construction workers' AC has a positive predictive effect on SSCB. As AC alludes to the sentimental bond of workers, identification and commitment to the organization, including identification with the organization's values and goals, and pride in being a member of the organization. Therefore employees with high AC are more likely to regard themselves as family members or citizens of the organization, and will take the initiative to make efforts for the benefit of the organization, protect the resources of the organization, and are more willing to care about helping colleagues around them and motivating the SSCB.This is in line with the conclusions of Parker et ai, (2001) and Curcuruto&Griffin (2018), among others. Thus, AC acts as a bridge between OS and SSCB.

Discussion and conclusions

Summary of Finding

Taking construction workers as the research object, this study examines the SSCB effect mechanism from the OS perspective on construction workers. 368 valid questionnaires were recovered through the research, based on the large sample data, SEM was established, and the model was subjected to reliability analysis, validation factor analysis, goodness-of-fit analysis, and path coefficient analysis, which validated the model and research hypotheses of the influence of OS on SSCB.

Research indicates that each dimension of OS has a significant positive effect on construction workers' AC, and AC has a significant positive effect on construction workers' SSCB. AC completely mediates the beneficial impact of OSCS, JCS, IRS and OPS on construction workers' SSCB, and: OSCS > IRS > OPS > JCS .

Recommendations

In response to these findings, this paper makes the following recommendations for management practices:

1. Emphasis on management and improvement of construction workers' OS

In the actual research we found that many units will provide induction training for new employees, and some units will also provide regular training and learning of various skills for serving employees, but many trainings are in form and have little effect. From the findings of the study, employee OS content has a relatively significant predictive effect on orange width self-efficacy, AC and SSCB. Therefore, managers should pay attention to the management and improvement of employee OS, and focus on strengthening the training and guidance on organizational safety culture, job competence and interpersonal relationship in the process of employee OS. They should design reasonable training programs and contents, and establish a continuous learning organization and other measures to effectively improve construction workers' OS level.

2. Focus on the development of AC for construction workers

AC's mediating function as well as AC itself have obvious predictive effect on SSCB. Therefore, it is necessary to pay attention to the cultivation and care of employees' AC, by paying attention to the physiological and psychological health of employees, helping employees to solve their difficulties, etc., prompting employees to have emotional connection to the organization, giving necessary support and help in the process of employees' OS, and inducing employees' emotional dependence on the organization to better stimulate their active safety behaviors.

3. Ensure that management practices and procedures are open and transparent

The sample data indicate that the respondents' OPS degree of citizenship behavior are low, while the empirical findings indicate that employee OPS is predictive of AC. This suggests that in order to improve construction workers' OPS level, managers should improve the enterprise's rules and regulations, and strive to have a clear procedure to refer to when problems arise, so as to reduce the obstacles of employees' OPS.

3. Research Contributions

Based on SCB, this paper integrates the OS perspective into the SCB theory to explore the trend of SSCB in the OS process, breaking through the existing static research on individual safety behavior, which not only expands the scope of application of the OS theory, but also provides a theoretical basis for an in-depth understanding of the dynamic impact of the OS process on the SSCB of construction workers, and enriches the longitudinal research on SCB.

At the same time, by analyzing the mechanism of the influence of OS on the SSCB of construction workers, it enriches the safety management content of construction enterprises and helps them to formulate targeted and differentiated incentive policies, which is not only conducive to the short-term reduction of accidents in the workplace safety, but also contributes to the long-term stabilization and development of the organization's level of safety, and enhances the effect of the comprehensive management of the enterprise.

References

Bosak, J., Coetsee, W. J., & Cullinane, S. J. (2013). Safety climate dimensions as predictors for risk behavior. **Accident Analysis & Prevention**, 55, 256-264.

Clarke, S. (2006). The relationship between safety climate and safety performance: a meta-analytic review. **Journal of Occupational Health Psychology**, 11(4): 315-327.

Curcuruto, M,Griffin, A M. (2018).Prosocial and proactive "safety citizenship behavior" (SCB): the mediating role of affective commitment and psychological ownership. **safety Science**, 104: 29-38.

Curcuruto, M,Mearn,s K.J.,Mariani, M.G.(2016).Proactive role-orientation toward workplace safety: psychological dimensions, nomological network and external validity. **Safety Science**, 87:144-155.

Fang, R. (2011). The Organizational Socialization Process: Review and Development of a Social Capital Model. **Journal of Management**, 37 (1):127-152.

Feldman, D. C. (1981). The multiple socialization of organization members. **academy of management review**, 6(2), 309-318.

Fu, G., Yin, W.T., & Dong, J.Y. (2013). Behavioral safety "2-4" model and its application in coal mine safety management. **coal Journal**, 38(7).

Hofmann, D.A.,Morgeson, F.P.,Gerras, S.J.(2003).Climate as a moderator of the relationshipbetween leader-member exchange and content specific citizenship: safety climate as an exemplar. **Journal of Applied Psychology**, 88(1): 170-178.

Liu, D.J., Zhang, Z.X., & Zhang, H. (2020). The effects of employees' CSR attributions on their helping behaviors: a chain mediation model. **economic Economics**, 4, 108-115.

Newaz, M.T., Davis, P., & Jefferies, M. et al. (2019).Using a psychological contract of safety to predict safety climate on construction sites. **Journal of Safety Research**, 68: 9-19.

Newaz, M.T., Davis, P., & Jefferies, M. et al. (2020). Examining the psychological contract as mediator between the safety behavior of supervisors and workers on construction sites. **journal of Construction Engineering and Management**, 146(1): 04019094.

Parker, S. K., Axtell, C. M., & Turner, N. (2001). Designing a safer workplace: importance of job autonomy, communication quality, and supportive supervisors. **Journal of occupational health psychology**, 6(3), 211.

Qian, Y. (2004). **Exploring the structure of organizational socialization factors and their relationship with behavioral performance of corporate employees**. (Doctoral dissertation, Jinan University).

Taormina, R. J., & Bauer, T. N. (2000). Organizational socialization in two cultures: Results from the United States and Hong Kong. **The International Journal of Organizational Analysis**, 8(3), 262-289.

Wang, D., Wang, X., Griffin, M. A., & Wang, Z. (2020). Safety stressors, safety-specific trust, and safety citizenship behavior: a contingency perspective. **Accident Analysis & Prevention**, 142,. 105572.

Wang, M.H., & Ling, W.Q. (2006). **An overview of research on employee organizational socialization** (Doctoral dissertation).

Yan, M., Tu, H.W., & Li, J. (2011). Definition and structural dimensions of organizational socialization of new employees from the perspective of identity theory. **advances in Psychological Science**, 19(5), 624-632.

Yu, X, Yuan, Y, Zhang, Y.X., & Tang, Y.Z. (2021). The effects of organizational socialization strategies on organizational commitment of new generation employees in technology enterprises - A moderated mediation model. moderated mediation model. **Science and Technology Progress and Countermeasures**, 38(6), 147-154.

Zhao, G.X., Wang, M.H., Ling, W.Q. (2007). Structural dimensions of organizational socialization content of corporate employees. **Journal of Psychology**, 39(6) 1102-1110.