

KIRD

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Chungil Chae

Thu, 5 March 2026

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The Impact of Past Achievements and Career Stagnation on the Vitality of Public Science and Technology R&D Personnel

Citation

Abstract

Previous reserach abstract is the following, ``This study empirically investigates the impact of past performance and career plateau on the vigor of public R&D personnel within a performance management system focused on quantitative research achievements. In public science and technology research institutions, researchers' vigor serves as a source of creativity and innovation, playing a crucial role in the nation's sustainable development and enhancing its scientific and technological competitiveness. While past performance can positively stimulate psychological resources and motivation, boosting vigor, career plateau---both structural and job content plateau---may negatively affect vigor by lowering expectations for growth opportunities. This study aims to clarify the specific effects of past performance and career plateau on vigor and examine how past performance influences vigor through career plateau. The findings reveal that past job performance positively impacts researchers' vigor, showing that factors such as task accomplishment, self-efficacy, positive reinforcement, and challenge can foster vigor. Furthermore, past performance was found to reduce both job content and structural plateaus, though the effect size was relatively modest. Among the two dimensions of career plateau, structural plateau was shown to have a negative impact on vigor, highlighting how structural factors---such as limited promotion opportunities in public science and technology institutions---can diminish researchers' vigor. Conversely, job content plateau did not have a statistically significant negative effect on vigor, suggesting that the impact of job challenges or changes on vigor may be relatively minor in the context of domestic

public research institutions. Finally, structural plateau demonstrated a negative mediating effect in the relationship between past performance and vigor, indicating that increased quantitative achievements can alleviate structural plateau, thereby mitigating its adverse effect on vigor. These results suggest that public research institution researchers who achieve higher performance may develop greater expectations for career advancement, allowing them to maintain or enhance their vigor. Thus, past performance plays a crucial role in fostering researchers' vigor, offering important implications for the motivation and career management of R&D personnel. This study provides practical insights into career management strategies aimed at enhancing the vigor of public R&D personnel. Given that high performance increases vigor and alleviates career plateau, organizations should consider implementing various support systems and actively introducing reward systems to encourage performance achievement.'

Planning

Schedule

- tba

Progress

- Progress 1
- Progress 2

Authorship and Authors

Author Contribution

- Supervision: Chungil (Chad) Chae
- Project administration:
 - Chungil (Chad) Chae
- Conceptualization:
 - Chungil (Chad) Chae

- Data accusation:
- Data curation:
- Formal analysis:
- Chungil (Chad) Chae
- Investigation:
- Methodology:
 - Chungil (Chad) Chae
- Resources:
- Validation:
- Visualization:
- Writing -- original draft:
 - Chungil (Chad) Chae
- Writing -- review & editing:
 - Chungil (Chad) Chae

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- [Google Scholar](#)
- Chae (2024)



Chungil Chae (Chad), Ph.D., is an Assistant Professor in Business Analytics at Wenzhou-Kean University, specializing in data analytics, human resource development, and knowledge-sharing in multinational organizations. With a Ph.D. from Pennsylvania State University, his research

integrates business intelligence, workforce education, and computational social science. Dr. Chae has an extensive publication record in top-tier journals and has received multiple academic awards, including the Outstanding Paper in the Emerald Literati Awards. He has held positions as a post-doctoral scholar at Penn State and has contributed to various funded research projects in cognitive science and business analytics. His expertise extends to teaching business analytics, data mining, and management courses while actively engaging in curriculum development and academic service.

Author Bio 1

- tba

image or logo

bio here

Acknowledgement

- tba

Declearation

IRB

Funding

AI

Research Logs

Research Log

XXXX-XX-XX

- entry.

Meeting Log

XXXX-XX-XX

10:00-10:30: Kick-off meeting

Analysis Version

Version 0.0.1

- Starting draft

Draft Version

Ver 0.0.1

- Starting draft

Research Note

Ideas and Thoughts

Research Q & A

Procedures

Theoretical Framework

Related Theories

Theoretical Relationship

Theoretical Framework

Hypothesis

Methodology and Method

Methodology

Method

Data Collection

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Literature Review

Searching and Inclusion & Exclusion

Round 1

Search keywords and category

keywords combination

Round 2

Search keywords and category

keywords combination

Round 3

Search keywords and category

keywords combination

PRISMA

Reference List

Category, Classification and Decision Note for Selected Literature in Rounds

Round 1

Round 2

Round 3

Additional (during and after writing)

Reserach Problems

Key References

Quotes and Paraphrases

Products

References

Chae, C. (2024). Introduction to chad (chungil) chae. <https://chadchae.github.io>