

A study of the effectiveness of psychological safety in the profession: The case of Japanese childcare workers

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Summary

The purpose of this study was to identify the effectiveness of psychological safety (Edmondson, 1999, 2012; Edmondson and Lei, 2014) in the childcare profession in Japan. Recently, there has been considerable interest in early childhood care. For example, a long-term follow-up study by Heckman (2013) found that quality and environmental richness of early childhood care could promote economic efficiency. An OECD (2019, 2020) report also showed that quality early childhood education and care affects children's early development and subsequent post-school performance, health, and well-being. In Japan, childcare workers are expected to build relationships of trust with each child and provide high-quality childcare that fosters independence and self-esteem (Ministry of Health, Labour and Welfare, 2018). However, in Japan, reports of accidents during childcare and abuse by childcare workers are increasing year by year. The reasons for this include a lack of information sharing among childcare workers and a lack of a sense of cooperation (Nakama City, 2023; Makinohara City, 2024). It is essential for childcare workers to communicate with each other, share information, and exchange ideas to provide safe, secure, and high-quality childcare. Therefore, this study examines the effectiveness of psychological safety in childcare profession.

1. Introduction

The purpose of this paper is to identify the effectiveness of psychological safety in the profession, particularly in the childcare profession in Japan.

Recently, early childhood care has attracted the interest of many countries. For example, a long-term follow-up study by Heckman (2013) found that quality and environmental richness of early childhood care could promote economic efficiency. The OECD (2019, 2020) report also showed that quality early childhood education and care affects children's early development and subsequent post-school performance, health, and well-being. The Sustainable Development Goals (SDGs) 4.2 also states that 'By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education.'

However, early childhood care workers are subject to high levels of stress, including burnout (Blöchliger *et al.*, 2018; Schaack *et al.*, 2020), which eventually affects their mental and physical health and leads to quitting their jobs (Lee *et al.*, 2019). As a result, quitting their jobs is an obstacle to providing high-quality early childhood education and care (Zinsser and Zinsser, 2016; McMullen *et al.*, 2020; Sönmez and Betül, 2020).

Similarly, in Japan, there is a chronic shortage of childcare workers, early quitting due to overwork, and stress from workplace relationships (Ministry of Health, Labor and Welfare, 2021). Childcare workers are expected to build trusting relationships with each child and provide high-quality childcare that fosters independence and self-esteem (Ministry of Health, Labor and Welfare, 2018). However, in reality, reports of accidents during childcare and abuse by childcare workers are increasing year by year. For example, there have been cases of children being left behind on shuttle buses in 2021 and 2022. In both cases, children were left behind on shuttle buses on their way to school and died of heatstroke. The causes of the accidents have been reported to be careless attendance confirmation by childcare workers, insufficient information sharing among childcare workers, and a lack of a sense of cooperation (Nakama City, 2023; Makinohara City, 2024). There have also been a series of cases of abuse by childcare workers.

Given these challenges, it is essential that childcare workers to communicate with each other, share information, and exchange ideas to provide safe and secure childcare and build quality childcare. Numerous studies have shown that sharing information, problems, and opinions without being hampered by authority gradients such as position or experience is effective in preventing errors and accidents, as seen in the Crew Resource Management often used in the airline industry (Helmreich *et al.*, 1999; Salas *et al.*, 2001; Furusawa *et al.*, 2011).

Therefore, this study is based on 'a shared belief held by members of a team that the

team is safe for interpersonal risk taking' (Edmondson, 1999, p. 354); the aim is to examine whether psychological safety is effective for the childcare profession.

2. Developments in Psychological Safety Research

2-1 Research on Psychological Safety

Focusing on organisations and teams, Edmondson's psychological safety research has attracted the interest of many people worldwide. Empirical studies have been conducted in multiple countries and regions in various industry contexts (Edmondson, 1999, 2012; Edmondson and Lei, 2014). Studies have shown that psychological safety promotes team performance (Edmondson and Lei, 2014; Frazier *et al.*, 2017) and that psychological safety improves work engagement (Liu and Ge, 2020; Heyns *et al.*, 2021) and reduces stress (Tahara and Ogawa, 2022). However, there has been insufficient research on psychological safety in Japan's childcare sector. Therefore, the following section examines research on psychological safety in that sector.

2-2 Research and Hypotheses on Psychological Safety in the Childcare Sector

Zinsser and Zinsser (2016) stated the importance of building a work climate in which preschool teachers feel psychologically safe and engaged in the rewarding work of early childhood education. They also noted that management support, management prioritisation, and organisational participation and involvement are influential in building a workplace climate. Zinsser *et al.* (2016) also found that childcare workers who received support from managers felt less depressed, more satisfied with their work, and supported in challenging behaviours. Thus, they indicate that managers are influential in creating a psychologically safe work climate. Thus, although research has been conducted on the management of directors regarding the development of a psychological safety climate, psychological safety for childcare workers, the subject of this study, has not yet been fully clarified.

Also, little research is available on the effects of psychological safety on the childcare profession in Japan. Ozawa and Ogawa (2023) described the relationship between coping with differences in views on childcare, job satisfaction, and psychological safety, whereas Aoki (2022) confirmed research trends in psychological safety in childcare and considered it a useful concept for childcare worker turnover. To address the lack of research on psychological safety in the field of childcare in Japan, we devised the following hypotheses.

Hypothesis 1: Increased psychological safety among childcare workers will increase

teamwork among childcare workers.

Hypothesis 2: Increased psychological safety among childcare workers will increase work engagement and mediate work engagement, which will reduce stress and improve job satisfaction performance.

Hypothesis 3: Psychological safety is fostered when the work culture of the childcare centre is a collaborative culture.

3. Research

3-1 Research Targets and Procedures

A survey was conducted with 881 childcare professionals working in 61 public childcare centres in Y City, Japan¹. The survey period was from August 2022 to September 2022. The survey received 580 responses (65.8%), none of whom had substantial missing data. The survey used an electronic application system operated by Y city, and a quantitative survey was conducted using electronic input for Y city employees. All survey items were rated on a five-point scale from 1 (disagree) to agree (5). The survey items were noted in the constructs of the results; however, some wording was adapted to fit the childcare profession.

3-2 Method of analysis²

Descriptive statistics were calculated for each item, and those for which a ceiling effect was observed were excluded from the analysis. Factor analysis was performed using the main-factor method and varimax rotation. In doing so, items with factor loadings of less than 0.5 were excluded based on an initial eigenvalue of 1 or more, a large drop in the scree plot, and potential for interpretation. Cronbach's alpha coefficients were also calculated, and reliability studies were conducted. Correlation analysis between the construct factors was conducted to confirm the strength of the association. The results of the correlation analysis were used as the basis for validating the covariance structure analysis. The statistical significance level was set at 5%.

4. Result

4-1 Factor Analysis

¹ A written explanation was provided to the participants stating that participation in the survey was voluntary and that anonymity would be ensured when the survey results were disseminated. Participant consent was obtained by completing the questionnaire provided.

² IBM SPSS Statistics V 29 and IBM SPSS Amos V 29 were used for statistical analysis.

Psychological safety: In addition to Edmondson's (2019) seven-item psychological safety scale, three items from Aoshima and Yamaguchi's (2021) scale of situations of statements and one item from the Psychological Safety Scale (Misawa *et al.*, 2020) were used, resulting in 12 items. Of these, one item with extremely biased responses was excluded, and a factor analysis was conducted, resulting in two factors. The first factor was 'psychological safety' ($\alpha = 0.80$), such as being able to speak one's mind openly. The second factor was 'acceptance from others' ($\alpha = 0.71$), related to a receptive attitude from other staff members, such as "If I fail in my job, other staff members will blame me."

Teamwork: Eighteen items were selected from the 24 items of the Teamwork Scale for Primary and Secondary School Teachers (Misawa *et al.*, 2020), excluding six items that were inappropriate for the childcare profession. Of these, two items for which bias was found in the responses were excluded. Factor analysis of the remaining 16 items was conducted. After excluding five items with factor loadings less than 0.50, 11 items and two factors were selected. The first factor was 'knowledge and information sharing' ($\alpha = 0.85$). The second factor was 'mutual adjustment' ($\alpha = 0.81$)

Work Engagement: The nine-item scale of the Utrecht Work Engagement Scale Short Version (UWES-9) (Schaufeli and Bakker, 2003) was used; it was divided into two factors rather than the expected three factors. Furthermore, one item with a factor loading of less than 0.50 and one item with no difference in loadings between factors were excluded, and factor analysis was conducted again using the same procedure. This resulted in one factor, 'work engagement' ($\alpha = 0.83$).

Job satisfaction: The six items of the 'job satisfaction' scale from the satisfaction measurement scale for the workplace environment, job content, and salary of kindergarten teachers and childcare workers by Tamura *et al.* (2009) were set as stated. Of these, one item that showed an extreme response bias was excluded. The remaining five items were analysed as a single factor named 'job satisfaction' ($\alpha = 0.76$).

Performance (devotion to own duties). Seven items were set for 'devotion to one's job' on the performance level measurement scale of Ikeda and Furukawa's (2008) contextual performance scale. Factor analysis of the six items revealed one item with a factor loading of less than 0.50, which was excluded. Only one factor was found, 'devotion to own duties' ($\alpha = 0.82$).

Performance (contribution to others): A factor analysis was conducted using four items from Ikeda and Furukawa's (2008) 'Contribution to colleagues' development,' one factor of which was extracted and named 'contribution to others' ($\alpha = 0.86$).

Performance (workplace contribution): A factor analysis was conducted using the four items of Ikeda and Furukawa's (2008) 'Contribution to workplace performance'; one

factor was extracted and named 'workplace contribution' ($\alpha = 0.84$).

Stress: Eleven items on mental and physical stress reactions from the Brief Occupational Stress Questionnaire (Ministry of Health, Labour and Welfare, 2016) were set as stated. Factor analysis was conducted, and one item with a factor loading of less than 0.50 and one item with no loading difference between factors were removed. The first factor was 'mental stress' ($\alpha = 0.89$). The second was 'physical stress' ($\alpha = 0.89$).

Workplace climate: Four items for 'collaborative climate' and three items for 'congruent climate' were selected from the scale of school organisational climate (Misawa *et al.*, 2020). A factor analysis was conducted, excluding two of these items, for which there was extreme bias in the responses. When one item with a factor loading of less than 0.50 was excluded, it was extracted as two factors, and one factor was 'collaborative climate' ($\alpha = 0.71$). The other was 'sympathetic climate' ($\alpha = 0.74$).

4-2 Results for Hypothesis 1

The results of the structural analysis of covariance for the relationship between psychological safety and teamwork indicated positive significance. 'Psychological safety' and 'mutual adjustment' ($\beta = .391, p < .001$), 'acceptance from others' and 'mutual adjustment' ($\beta = .463, p < .001$), 'acceptance from others' and 'knowledge and information sharing' ($\beta = .293, p < .001$), and 'psychological safety' and 'knowledge and information sharing' ($\beta = .584, p < .001$) were particularly strongly implicated. Thus, Hypothesis 1 was supported.

4-3 Results for Hypothesis 2

A positive involvement was found in Hypothesis 2, from 'psychological safety' to 'work engagement' ($\beta = .534, p < .001$). A positive relationship was also verified for 'job satisfaction' ($\beta = .340, p < .001$) and 'dedication to one's own job' ($\beta = .403, p < .001$) mediated by 'psychological safety' and 'work engagement.' 'Contribution to others' ($\beta = .452, p < .001$) and 'contribution to the workplace' ($\beta = .490, p < .001$) were improved via 'devotion to one's duties.' For stress, a direct effect was found for 'mental stress' ($\beta = -.875, p < .001$) and 'physical stress' ($\beta = -.531, p < .001$) from psychological safety, especially 'acceptance from others.' Thus, Hypothesis 2 was partially supported.

4-4 Results for Hypothesis 3

Finally, the results of the analysis of 'collaborative climate' and 'congruent climate' showed a very strong positive effect from 'collaborative climate' ($\beta = .986, p < .001$) on 'psychological safety' and also a strong negative relationship from 'congruent climate' (β

= $-.804, p < .001$) on 'psychological safety.' There was also involvement in 'acceptance from others' from the 'cooperative climate' ($\beta = .509, p < .001$) and 'acceptance from others' from the 'congenial climate' ($\beta = -.466, p < .001$), respectively. These results also supported Hypothesis 3.

5. Discussion

The analysis of Hypothesis 1 suggests that increased psychological safety in the childcare profession would also increase teamwork. Particularly strong engagement with 'knowledge and information sharing' was indicated by the ability of the childcare professionals to express their opinions without hesitation. They could also talk about opposing views, challenges, and difficult issues without discovery or concealment. In decision-making situations in groups, it is possible to fall into the groupthink described by Janis (1972), in which people follow the majority opinions and find it difficult to express their opinions. This finding suggests that ensuring psychological safety and enhancing teamwork can prevent childcare accidents, inappropriate childcare, and abuse.

Analysis of Hypothesis 2 suggested a mediating effect rather than a direct effect of 'contribution to others' ($.246, p < .001$) and 'contribution to the workplace' ($.262, p < .001$) from 'work engagement.' This result reflects the professional characteristics of childcare workers. 'Devotion of one's duties' refers to taking the initiative to solve work problems and being proactive at work. This dedication to one's work broadens their perspective and leads to 'contribution to others,' such as mentoring, and 'contribution to the workplace,' such as being attentive to workplace trends. Increased psychological safety can influence interpersonal relationships and reduce relationship stress. It can also increase work engagement and job satisfaction, as people feel that their abilities can be utilised within the organisation. Therefore, psychological safety can effectively prevent early job turnover.

With regard to Hypothesis 3, it is clear that psychological safety cannot be fostered in a 'sympathetic climate' where it is difficult to express one's opinions, but that psychological safety can be enhanced by aspiring to a 'collaborative climate' where a positive exchange of opinions can occur. In childcare, this forum for exchanging opinions is referred to as a forum for dialogue, and 'in workplaces where there is repeated dialogue, it is easy to share the childcare philosophy and policies of one's school, and the workplace is oriented towards improving the quality of childcare while sharing the same direction and objectives' (Ministry of Health, Labour and Welfare, 2020). Fostering a collaborative culture has a positive impact on the quality of childcare as it encourages staff to interact, reflect on the content of childcare, and create new ideas.

6. Conclusion

Existing research has shown that managerial support and management are influential in fostering psychological safety in the childcare workforce (Zinsser and Zinsser, 2016; Zinsser *et al.*, 2016), and as for future challenges, Edmondson (2012, 2019) states that leadership is important for creating a psychologically safe workplace. However, the safety climate of childcare settings has not been adequately examined to date. Therefore, the importance of this paper lies in the fact that it sets up a hypothesis and clarifies psychological safety from the perspective of childcare workers.

Of course, the management of managers also needs to be examined. Future research from the perspective of a High-Reliability Organization (Weick and Sutcliffe, 2007) with psychological safety will also be necessary in this regard.

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