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ORIGINAL RESEARCH

A Challenging Transition: Factors Influencing the Effort-Reward Imbalance and Coping Strategies of Beginning Teachers in China

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Purpose: The initial phase can be difficult for teachers: beginning teachers are more likely to experience effort–reward imbalance (ERI) and its harmful effects. To reduce this risk, this study analyzed the factors that impact ERI among beginning teachers in China and investigated the coping strategies they use.

Methods: The study used qualitative research methods to conduct semi-structured interviews with 20 beginning teachers. Each participant was interviewed for at least 40 minutes via an online platform.

Results: The qualitative results showed that ERI among beginning teachers is influenced by the interaction of internal and external factors. The typical factors identified were organizational justice, leadership style, work motivation, and personality type. Beginning teachers in the Chinese context demonstrated a proactive attitude towards challenging situations and chose moderate approaches to cope with ERI. The effectiveness of these strategies varied due to individual differences and contextual factors.

Conclusion: Overall, the findings emphasized the importance of addressing the challenges of beginning teachers to promote their well-being and improve the quality of education. Reducing the ERI of beginning teachers relies on a tripartite effort between society, schools and teachers themselves.

Keywords: beginning teachers, coping strategies, effort–reward imbalance, external factors, internal factors

Introduction

For beginning teachers, who have recently transitioned from students to educators, it is crucial to be prepared in advance, both professionally and psychologically, to handle potential challenges. Studies from various nations and regions have confirmed the difficulties beginning teachers face, including emotional exhaustion,[1] prolonged exposure to stressful situations,[2] lack of opportunities,[3] and difficulties managing students.[4] Beginning teachers in China encounter these challenges as well. Moreover, the high social expectations placed on every teacher, influenced by Confucian culture, can add additional pressure.[5]

Numerous young people are drawn to teaching because of its high social status and their own enthusiasm for education. However, for many beginning teachers, the gap between their expectations and the reality of the job can lead to an imbalance between their efforts and rewards.[6] Consequently, this study aims to examine the factors that contribute to effort–reward imbalance (ERI) among beginning teachers in China, as well as to identify coping strategies that can help prevent this imbalance and reduce work-related stress.

Theoretical Background
ERI Among Beginning Teachers

The ERI model is a valuable predictor of stress at work.[7] It has three primary components: effort (time, energy, physical exertion, and responsibilities of the position), reward (money, respect, and career advancement), and over-commitment

(emotional dedication to work). A lack of reciprocity between effort and reward (ie, high effort and low reward) at the workplace can result in unfavourable feelings and continuous neuroendocrine system changes, eventually influencing health.[8] Since the teaching profession requires a high level of intrinsic motivation,[6] over-commitment is commonly observed. This can exacerbate the impact of ERI on job-related stress.

However, teachers' success is generally judged based on student achievements, which are not immediately visible because they rely heavily on students' motivation and ability to learn.[9] This means it is difficult for the leaders, colleagues, and parents who evaluate teachers to see their accomplishments directly.[10] Teachers struggle to be rewarded for their efforts, creating a chronic imbalance.[11,12] Due to the short time in the profession, beginning teachers have more difficulty gaining recognition for their work. Their enthusiasm can be easily affected by their poor teaching skills and lower learning motivation.[13] Thus, they are more likely to face ERI than experienced teachers. The identity change from pre-service to beginning teacher requires teachers to develop their motivation by navigating between conflicting understandings of their role as teachers due to rapid social transitions. Ye et al developed a "culture-motivation" model by surveying 107 beginning teachers with less than six years of experience and 122 pre-service teachers.[14] The study found that beginning teachers were less motivated to teach compared to pre-service teachers and that most respondents perceived teaching as a demanding and unrewarding job, and that beginning teachers were more sensitive to organisational equity factors such as job pay and work environment than veteran teachers.

Causes of ERI in Beginning Teachers

Most recent research focused on employees has discovered that ERI is affected by personality,[15] organizational equity,[16] and economic status.[17] Weiß incorporated social comparison of worktime control into the antecedent research of ERI and found that longitudinal comparison within individuals can influence ERI.[18] For employees, comparisons with their past and colleagues can trigger ERI. In contrast, there is much less information about the factors that impact ERI among beginning teachers. Based on the existing research, we suspect that stressors and ambivalence about their work may trigger ERI in this population. Harmsen et al summarized five factors that can cause stress in beginning teachers: high psychological task demands, negative social aspects, poor organizational aspects, lack of development opportunities, and negative pupil aspects.[19] A study conducted in China found that transforming teachers' social identities from high-status professionals to service providers has created cognitive conflicts for beginning teachers.[20] Their motivation is susceptible to sociocultural and environmental changes.[14] No research has linked beginning teachers' cognitive conflicts and motivational changes before and after their job commencement to ERI.

In addition, to reduce the burden of extracurricular tuition on students and promote their development, China has implemented a "double reduction" policy in the last two years, requiring teachers to devote more time to after-school services and extend their school hours.[21] These realities are a challenge for every beginning teacher. Therefore, the causes of ERI among beginning teachers in China include not only the daily stressors of teaching but also internal cognitive, emotional, and motivational factors, as well as the influence of the external social environment.

Beginning Teachers' Coping Strategies

In order to reduce the impact of ERI on their mental and physical health, beginning teachers need to assess problems that arise and choose appropriate coping strategies.[22] The transactional model of stress classifies coping styles as primarily problem-focused or emotion-focused. Some researchers advocate analyzing both stressors and coping styles to see the complete cognitive process individuals use to cope with stress.[23]

Based on the model, Sharplin et al identified three main coping strategies for beginning teachers: direct action (focusing on stress source elimination), palliative (modifying internal or emotional reactions), and avoidance (escaping from stress).[24] For emotional challenges at work, beginning teachers can address their problems directly by advocating change (Lindqvist et al 2021) or choose strategies to regulate their emotions.[25] In terms of effectiveness, problem-focused and emotion-focused methods are different ways to deal with stressors. One is not inferior or superior, but individual cognitive differences may influence them.[26] Our study suspects that coping strategies may also be culturally influenced: in countries with a collectivist culture,[27] including China, beginning teachers may choose more palliative strategies to cope with ERI problems to avoid conflict and the risk of relationship breakdown.

The Current Study

This study aimed to qualitatively explore how beginning teachers perceive ERI in their work and gain insight into their coping strategies. Given the limited research into the factors influencing ERI among beginning teachers and the little understanding of coping strategies in the Chinese cultural context, the primary research questions were: (1) What factors cause ERI among beginning teachers in China? And (2) What coping strategies do these teachers utilize to mitigate the negative effects of ERI?

Materials and Methods

Participants

The criteria for being recruited for this study were as follows: beginning secondary school teachers (ie less than 5 years of teaching experience) who experienced varying degrees of ERI in their work. Twenty participants from different provinces across China were recruited online. Table 1 reports the demographic variables. All participants in the study signed an informed consent form containing a recording of the interview conversation and the use of the anonymized responses for academic research publication. The participants' names were randomly coded to protect privacy. This study was approved by the Ethics Committee of Northeast Normal University.

Table 1 Demographics of Study Participants (n = 20)

Code	Age	School Level	Years Taught	Content Area	School Type
M1	26	Middle	1.00	Geography	Public
F2	27	High	0.75	Geography	Public
F3	26	High	0.75	Geography	Public
F4	28	High	2.00	Geography	Public
F5	27	High	1.00	Psychology	Public
F6	27	Middle	4.50	English	Private
F7	24	Middle	1.50	Math	Public
F8	28	Middle	2.00	English	Public
F9	26	High	3.00	Chemistry	Private
F10	24	High	2.00	Geography	Public
F11	24	High	1.00	Biology	Public
F12	25	Middle	3.00	Physics	Private
F13	24	Middle	2.00	Politics	Private
F14	29	High	4.00	Geography	Public
M15	30	High	2.00	Chinese	Public
F16	24	Middle	3.00	Chinese	Private
F17	23	High	1.00	Politics	Public
M18	25	High	1.00	Chemistry	Private
F19	28	Middle	3.00	English	Public
F20	25	Middle	3.00	Physics	Public

Notes: Random coding of participants.
Abbreviations: F, female; M, male.

Procedure and Measurement

The interviews were audio-recorded with the informed consent of the participants and followed a semi-structured interview method. Each participant was interviewed for at least 40 minutes via an online platform. The final collection of interview recordings was about 15 hours, and the text of the transcript comprised about 180,000 words. The participating teachers were paid 30 RMB for their time.

During the semi-structured interviews, participants were asked to discuss the following things: (1) recall specific situations of effort/reward in their daily work and their understanding of effort/reward in teachers' work generally; (2) describe the ERI they have experienced and analyze the reasons for it from various perspectives; (3) share the strategies they use to cope with the imbalance in daily life (See Appendix A For Interview Outline). Two doctoral students in psychology with extensive interviewing experience conducted the interviews. They received professional training to ensure consistency and avoid biased data due to different interviewers.

Data Analysis

After the interviews, the data were compiled into a transcript and coded and analyzed using QSR NVivo 12.0. The interview data were coded into "interviewee codes" and analyzed using the inductive thematic analysis (ITA) method.[28] This is the process of searching for recurring phenomena and essential concepts that can explain them in the interview data, grouping data with similar attributes into the same category and naming them based on specific themes. Three doctoral students in psychology coded the data, followed by several discussions and reviews. After the coders agreed on adjustments, a professor in psychology conducted a final review of the content to ensure the validity of the results.

Results
Factors Influencing ERI Among Beginning Teachers

The interview data were summarized and analyzed to comprise 430 reference points about factors influencing ERI. They were processed into 62 codes, which were then condensed into 24 categories and 7 themes (Table 2). The study found that internal individual and external situational factors strongly influenced whether beginning teachers experienced

Table 2 Themes and Categories Influencing the ERI of Beginning Teachers

Internal Individual Factors			External Situational Factors		
Theme	**Category**	**n**	**Theme**	**Category**	**n**
Background	Teaching experience	9*	Organizational characteristic	Organizational justice	13*
	Emotional state	3		Management system	9*
	Daily Stress	2		Organizational climate	7
Trait	Extraversion	10*		Student quality	3
	Conscientiousness	8	Interpersonal factor	Leadership style	11*
	Neuroticism	8		Colleague support	8
	Career adaptability	7		Peer pressure	8
Cognition	Expectancy bias	7		Student feedback	5
	Self-identity	6		Student parents' trust	2
	Career identity	5	Social feature	Social climate	6
Motivation	Approach	12*		Social opinion	3
	Avoidance	6		Policy orientation	3

Note: *Typical = 9–13 cases.
Abbreviation: n, number of participants endorsing each category.

imbalance. Based on the frequency of the cases in each category,[29] nearly half were defined as typical (n = 9–13) and the others were described as partial (n = 2–8). The categories that played a dominant role were organizational justice (65%), approach motivation (60%), leadership style (55%), extraversion (50%), management system (45%), and teaching experience (45%).

Internal Individual Factors

Background

Unlike demographic data, background factors mainly refer to the personal characteristics that the beginning teachers cited as having an impact on ERI. Nine of them (45%) cited the influence of teaching experience. For example, M15 recalled, "Teachers who are experienced teaching will be more comfortable with the problems than we are." This proves that studying imbalance among beginning teachers, a group with less teaching experience is important. A few teachers also mentioned that emotional state (15%) and daily stress (10%) impact ERI:

> If I am in a good mood today, then even if I do more work, I will not be bothered. (F7)

Trait

Personal traits have been found to predict ERI,[30] which was also found in the present study. Four categories were mentioned in relation to this theme: extraversion, conscientiousness, neuroticism, and career adaptability (50%, 40%, 40%, 35%). Half of the participants agreed that cheerful and extroverted people could avoid work stress more easily:"I am not too affected by problems at work, I love teaching, and I love my students… just look at the effort positively, and you can disregard the reward (F17)." Teacher F4 shared her colleague's daily routine: "He always takes the initiative to strive for challenging work and is energetic every day."

 In contrast, committed and sensitive teachers are more likely to perceive imbalances in their work. Teachers with a greater sense of responsibility put in more effort. M1 mentioned, "I choose to work overtime, so my students can learn more." Teachers with sensitive personalities also pay extra attention to rewards and are more likely to feel prejudice and hostility from others. F8 talked about this:

> The leader prefers another teacher to me and always ignores me during the usual discussions. Maybe I am sensitive. I always feel that the leader is more receptive to the opinions of his favoured teacher.

 Career adaptability refers to individuals' attitudes and abilities when transitioning to a new job.[31] Less adaptable beginning teachers have fewer self-regulating resources and strengths that allow them to cope with various work tasks:

> I am not yet very comfortable with work, and I always think of quitting when I encounter complex tasks (F5).

Cognition

The core ideas of this theme are bias and identity. Because teaching has been portrayed as a sacred profession, ERI can be triggered when beginning teachers find themselves in a profession that differs from what they expected. Of the participants, 75% reported perceived expectancy bias at work:

> After working, I found that the teaching profession was nothing like I had originally envisaged and more tiring than I had expected (F11).

The inability to develop a proper self-identity (30%) and career identity (25%) were also cited. For example, F3 shared, "I will always be self-denying and feel that I am not doing enough." Similarly, F11 stated, "There is little room for advancement in a teaching job, so sometimes it feels pointless to work hard."

Motivation

When beginning teachers are approach motivated, aiming to improve student performance and prospects, they do so altruistically and are less likely to feel imbalanced because they are not overly concerned about rewards (60%). On the contrary, if beginning teachers are avoidance motivated, working hard to avoid punishment, they will be highly

concerned about the rewards they receive and often experience a sense of imbalance (30%). In comparison to previous factors, motivation is specific and changes according to the situation, so the same individual may experience different motivations within a relatively short period. As F12 said, "I would be furious if I were forced to work overtime, but it would be worth it if it were for the student's learning." This confirms that teachers often have ambivalent attitudes, meaning that their motivation can vary greatly depending on the situation.

External Situational Factors

Organizational Characteristic

This theme included two typical categories: organizational justice and management system. We found that organizational justice was the primary factor influencing whether beginning teachers experience imbalance (65%). If teachers sense organizational injustice, it can create dissatisfaction and imbalance. F2 shared,

> Because I am a new teacher, the school arranged for me to devote extra time to coach students in art festivals, integrated practical activities, and various competitions. However, other teachers do not have to do that.

In addition, a sound management system reduces imbalance. Giving teachers a sense of autonomy, providing a platform for professional development, and setting up a liberal system all reduce ERI among beginning teachers (45%). In one model,

> The school assigns a mentor to each new teacher, and there are exchanges between mentors and apprentices, which is still a good management model (F17).

A few teachers also mentioned organizational climate (35%) and student quality (15%), other aspects that were seen as characteristics of the organization.

Interpersonal Factor

Interpersonal interactions are essential to teachers' daily work experience. Leadership style was classified as a typical category under this theme (55%). The right leadership style increases teacher motivation and reduces work stress. F9 described a good leader she had met: "His decisions are very beneficial to the teachers, and he is in constant communication with every teacher, making everyone feel motivated to work every day." An equal number of participants believed that colleague support and peer pressure affected ERI (40%), but with opposite effects. F4 noted that colleague support makes work more accessible: "I was lucky that all the female teachers in the office were harmonious together and took good care of me as a newcomer." F12, however, felt pressure due to comparison with her peers: "I often compare my career and salary with friends and get anxious when I feel I might be falling behind." Two teachers mentioned communication with students' guardians (10%) and that earning their trust was the teacher's job.

Social Feature

The overall social context can also impact the ERI of beginning teachers. The participants mainly talked about the pressure on teachers at the societal level in terms of social climate (30%), social opinion (15%), and policy orientation (15%). In contrast to other factors, social and cultural factors indirectly influenced ERI through their interaction with other factors (such as expectancy bias, approach motivation, etc.).

Coping Strategies Among Beginning Teachers

In the data, 20 participants provided 75 coded statements related to coping strategies during the interviews, which were summarized to comprise 10 specific and 3 main strategies. The specifics of each strategy and representative statements from the participants are shown in Table 3. Moreover, many cases revealed that most of the typical strategies that beginning teachers use to cope with ERI at work are palliative strategies (80%) and direct-action strategies (60%). In comparison, beginning teachers choose avoidance strategies (35%) in fewer cases.

Table 3 Coping Strategies Demonstrated by Participants

Strategies	n	Specific Contents (eg)
Palliative strategies	16*	**Accepting** (F10) "I think it is about reconciling with yourself; for some students, there are things you cannot control the direction of, so it is better to just go with the flow."
		Social support (F5) "I think support is important, I guess, although that person does not necessarily help me with the actual problem, there is companionship."
		Emotional regulation (F12) "When I have an emotional outburst, I regulate it myself. I run in the playground at night or exercise to release negative emotions."
Direct-action strategies	12*	**Confront the problem** (F9) "I would start with the problem and get to the root of the problem."
		Getting information (F17) "When I was tempted to run away from teaching, I went to experience many other careers and found that it was still a good job."
		Seeking help (F6) "Learning a bit from colleagues, going to their classes, finding ways to do it, and then just keep learning and improving."
		Establish boundaries (F20) "To turn down temporary additions of work from my leader. I would say I had many classes, and I could not adjust to my time and that sort of excuse, and then I was rarely approached after that."
Avoidance	7	**Ignoring** (F8) "When I encounter a problem, I want to avoid it by turning on my phone, playing games, or watching videos. It is like pushing it down and not keeping it in my head."
		Denying (F3) "I do not think it is a problem I can solve. This kind of stress is not something anyone can knot up."
		Withdrawing (F11) "If I cannot manage it, I will leave. Changing jobs and becoming a librarian would be good because I do not have to interact with people."

Note: *Typical = 9–16 cases.
Abbreviation: n, number of participants endorsing each category.

Palliative Strategies

The form of coping used most frequently by teachers, palliative strategies involve accepting, social support, and emotional regulation. Participants mentioned that ERI caused by external situational factors (eg organizational justice, leadership style, relationships with colleagues) is difficult to address directly. The only ways to reduce its adverse effects are to accept the problem or find support from family and friends. If an unavoidable imbalance leads to negative emotions, there are many ways to regulate these emotions, including exercise, food, and shopping. These coping strategies may not get to the root of the problem, but they are often used because they are less costly and can alleviate the current situation.

Direct-Action Strategies

More than half of the participants indicated that they use strategies such as confronting the problem, getting information, seeking help, or establishing boundaries as an immediate solution when they experience ERI. In this case, the cause of the imbalance was usually related to the teachers themselves, so it could be resolved through personal efforts (eg teaching methods, cognitive bias, teaching motivation). These strategies are effective but require strong mental resilience and self-efficacy for beginning teachers.

Avoidance

In a few cases, some teachers chose avoidance strategies. Ignoring, denying, and withdrawing are also considered psychological defence mechanisms. However, avoiding problems can lead to more severe consequences, a danger also mentioned by F2 in an interview:

> I chose not to think about it because I was worried I would not be able to resolve the imbalance. Nevertheless, after a term, I was diagnosed with moderate depression in the hospital.

These avoidance strategies did not solve the problem or help teachers regulate their emotions and were thus considered the least effective.

Discussion

This study conducted a qualitative analysis of the factors that contribute to effort–reward imbalance (ERI) among beginning teachers in China, as well as the coping strategies they utilize. Inductive thematic analysis was employed to examine the data, indicating that both internal and external factors influenced ERI. Additionally, the majority of beginning teachers demonstrated the ability to employ effective coping mechanisms to manage work-related ERI.

Firstly, in terms of external factors, beginning teachers recognized the importance of organizational justice, which was also a significant predictor of ERI in past research.[16] Moreover, they frequently mentioned leadership styles and management systems, which Liu and Hallinger found critical to teachers' development and retention during their first five years of teaching.[32] In particular, China's double reduction policy places greater demands on principals and campus culture, thus requiring teachers to adopt a more flexible teaching approach.[33] As such, principals who establish appropriate and equitable policies are essential to creating a climate of procedural justice,[34] which reduces ERI among beginning teachers.

According to the results, handling interpersonal relationships in the workplace is also crucial for beginning teachers. Kelchtermans mentioned that maintaining "professional core relationships" in the organization, including those with colleagues, principals, students, and parents, is an essential component of a teacher's job.[35] If beginning teachers cannot effectively handle relationships with their superiors and colleagues, it can lead to serious imbalance issues.[3] Due to differences in position, beginning teachers tend to be more passive than experienced teachers in their relationships with their superiors. Thus, leadership style is closely related to a positive experience at work, and a good leader can enhance the sense of belonging among beginning teachers and decrease attrition.[36] To reduce the occurrence of ERI and promote personal development, beginning teachers need to maintain their relationships and gain the support of experienced colleagues. Alternatively, they can find peer partners who can provide mutual guidance.[37] These findings provide empirical evidence related to how future beginning teachers can find work-related support.

Interestingly, external factors may also interact with internal factors to jointly impact ERI. Ye et al identified a "culture-motivation" model, positing that social-cultural influences are integral to beginning teachers' motivation.[14] Under the influence of unfair treatment, interpersonal conflicts, and social changes, it is easy for teachers to sense imbalance and experience a drop in their approach motivation.

In addition, participants mentioned negative feelings caused by cognitive bias related to their perception of the teacher identity before and after entering the profession. This may have been caused by inconsistent expectations of treatment and content or a lack of recognition of their own abilities or professional identity.[38,39] Despite facing similar social and work environments, teachers prone to depression and exhibit low levels of extraversion tend to have higher levels of ERI, while those with a high sense of responsibility tend to exert more effort.[30] Beginning teachers can proactively prevent ERI based on their personality traits and improve their ability to cope with complex tasks and challenges.

Notably, participants often adopted a moderate approach (palliative strategy) to resolve crises at work. In terms of stressors, beginning teachers assess the extent to which they can solve a problem on their own and decide whether to address it directly or more gently. From a cultural perspective, the Chinese have always adhered to collectivism, and interdependent self-construction makes the connection between people even closer.[40] Using a palliative strategy to deal with crises allows teachers to avoid conflicts with their colleagues and superiors and further enhance their relationships with family and friends.[27] Palliative strategies reduce stress by adjusting internal and emotional responses.[41,42] Beginning teachers solve problems by seeking positive support, sharing with peers and relieving emotions through exercise. Palliative strategies do not mean that problems are not solved, but allow beginning teachers to focus more on direct-action. The two strategies are intertwined and work together to solve ERI problems for beginning teachers.[24]

More than half of the teachers surveyed chose problem-focused coping strategies to address the problem at its source and confront the source of stress. The direct-action strategy has been proven to be the most effective in many studies, including this one,[24,43] but it requires beginning teachers to have a strong sense of efficacy, achievement motivation, and support from school leaders.[44,45] Recent research has found that beginning teachers, as newcomers to the workplace, need to possess the two prerequisites of establishing teacher ambiguity and challenging perceived negative mindsets

when using change advocacy strategy.[43] Based on the participants' reports of its effectiveness, we encourage future beginning teachers to choose problem-focused coping strategies to confront challenges. We also suggest that school leaders pay more attention to beginning teachers' feedback and support them in bringing change to their campuses.

Of course, this study also had several limitations. Firstly, due to the limitations of the research method, we could not directly establish a structural model of the relationship between the variables through the data analysis. Therefore, future research can use longitudinal tracking surveys to explore the specific causal relationships between the variables. Secondly, previous research found gender differences among teachers regarding perceived stress and the use of different strategies.[46] Our study mainly recruited female participants, so we could not analyze gender differences. Finally, we did not conduct targeted group interventions for beginning teachers, so it was impossible to accurately measure which coping strategy was the most effective for dealing with ERI. Future research can provide specific recommendations for beginning teachers by comparing the strategies.

Conclusion

In summary, the current research has contributed to the literature on ERI and the coping strategies of beginning teachers from a cultural perspective. We found that beginning teachers must have high self-efficacy and approach challenges from internal and external sources with positive attitudes. As indirect influencing factors, social and policy changes can affect beginning teachers' cognition and motivation, creating instability in their efforts and rewards. Additionally, Chinese beginning teachers tend to choose moderate strategies due to their cultural context. This perspective can help schools and society provide appropriate support for beginning teachers, reduce the occurrence of ERI, and improve job satisfaction.

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Disclosure

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