Abstract: The Education Era 4.0 demands the adaptation of human resources, especially teachers, to be able to produce students who are creative, think critically, and are communicative. However, there are still challenges in changing the work paradigm of teachers and education personnel towards innovation. Innovation is the key to facing new challenges and improving educational performance. The national education curriculum emphasizes the importance of preparing productive, creative, innovative, and effective human resources. However, data shows a low level of teacher innovation in Indonesia. This research aims to explore the influence of transformational leadership and proactive personality on the innovative work behavior of high school teachers in Cirebon City. Quantitative methods were used by collecting data through questionnaires distributed to teachers. The results show that transformational leadership and proactive personality have a significant effect on teachers' innovative work behavior, indicating that leaders who practice transformational leadership and teachers with proactive personalities tend to be more innovative in their work. These findings provide implications for organizational leaders in encouraging innovation in educational environments.

Keywords: Transformational leadership, proactive personality, innovative behavior, high school teacher.
Improving the quality of superior and advanced education is still a big plan for the Ministry of Education in Indonesia. This of course cannot be separated from the role of various parties, especially the performance of teachers and education personnel in schools. Adequate, competent, and professional teachers and education personnel are the most important factors in achieving the desired level of success in educational programs implemented by schools through the teaching and learning process. As one of the important and main resources in supporting the learning process in schools, increasing empowerment and professional development as a teacher needs to be carried out on an ongoing basis so that schools can achieve their goals optimally (Natalia Mutiara Purnomo, 2023).

In the current Era of Educator 4.0, human resources must be able to adapt to be able to innovate. With the increasing development of science and technology in the 21st century, schools must be able to form creative students who can think critically and communicate. Good schools can produce quality output and in this case, the Principal, Teachers, and Education Personnel have a very important main role as input managers. (Natalia Mutiara Purnomo, 2023)

Currently, it appears that there are still many teachers and education personnel who still do not have innovation in their work. Work is still often done by waiting for orders from superiors without any initiative of their own. Apart from that, the way of doing work tends to be the same as the old way without any innovation from teachers in this modern era. Which essentially requires new ways or innovations for teachers and education staff to work. Innovation is important in facing new challenges and improving performance (Berliana & Arsanti, 2018) and (Khasanah & Himam, 2018). Educators and education staff who can innovate are known to have innovative work behavior. Innovative work behavior is behavior that can create new ideas and put them into practice (Schermerhorn & Bachrach, 2010) (Asbari, Santoso, & Purwanto, 2019) (Endarwati & Riani, n.d.). This innovative work behavior is very important for all teaching and education staff to have. With innovative work behavior, breakthroughs will be produced. These breakthroughs will ensure the school continues to exist in good quality.

The 2013 national education curriculum mandates that the education process in Indonesia must be able to prepare Indonesian human resources who are productive, creative, innovative, and effective. Law Number 14 of 2005 Article 10 paragraph 1 concerning teachers and lecturers mandates that teachers must have pedagogical skills, personality skills, social skills, and professional skills obtained through professional education. These four skills are comprehensive and unified and are characteristics of professional teachers. One of the demands of professional teachers is to innovate. According to (Messmann, Mulder, & Gruber, 2010), innovation and innovative behavior are important issues in the world of education. However, there is still no analysis of the work teachers do to develop innovation. Although there is recognition that teachers have an important role in developing innovation. (Janssen, 2004) states that the development of this innovation requires individual participation. Therefore, activities that focus on innovation are very important for each individual to understand. From an organizational psychology perspective, these activities are called innovative work behavior. (Kumi, 2016) added that innovative behavior in teachers needs to receive more attention, from teachers, superiors, and the
government as the policyholder. Teachers as individuals, educators, tutors, and mentors are required to increase innovative behavior so that changes in the world of education can occur, namely that the educational process can run effectively and efficiently. In the person of a teacher, there is a figure who is believed to be able to explore, discover, and manage various potentials related to the abilities, intellect, values, attitudes, and life skills of his students toward maturity. Quality teachers are innovative teachers who can arouse students’ great enthusiasm to become agents of world change in the global era. (Hariandi, Oktaviani, Rahmadhani, Ningrum, & Ningrum, 2023)

According to the RPJMN (2015-2019), one of the priority problems in the development of the education sector as stated in the national medium-term plan document is the low quality of teachers in the learning process. As explained by (Asfihana, Salija, Iskandar, & Garim, 2022), 2% of teachers in Indonesia are classified as innovative teachers out of a total of 5.6 million teachers. This means that 98% of teachers are not innovative even though teachers can still use the internet to develop innovation. In Indonesia, it is still considered very low when viewed from innovation performance. Based on the Global Innovation Index for the last three years from 2017 to 2019, 2017 Indonesia was ranked 87th out of 127 countries with a score of 30.10 on a scale of 0-100. Indonesia’s score is still far from Switzerland, which is in first place with a score of 67.69. In 2018, Indonesia was ranked 73rd out of 126 countries with a score of 22.47. Indonesia’s score is still far from Switzerland, which is in first place with 45.93. In 2019, Indonesia was ranked 85th out of 129 countries with a score of 29.72. Indonesia’s score is also still far from Switzerland with a difference of 37.48. Dutta, Lanyin, & Wunsch, 2017-2019.

This data shows that there is a need to increase Indonesia’s human resources, one of which is by increasing the innovative behavior of teachers.

He added that innovative teacher behavior is also very important in the process of developing the educational profession, and school organizations, and also for our development as a knowledge society. Therefore, innovative behavior must be at the center of the teaching profession. In addition, to increase teachers' innovative behavior, it is important to know which factors influence innovative behavior in schools (Thurlings, Evers, & Vermeulen, 2015). The above is an important reason for researchers to research further by conducting a journal review regarding the factors that influence innovative behavior in teachers.

This research aims to determine the influence of transformational leadership on innovative performance behavior in high school teachers in Cirebon City, another aim is to determine the influence of proactive personality on innovative performance behavior in high school teachers in Cirebon City, and to determine the influence of transformational leadership and proactive personality together - the same for innovative performance behavior among high school teachers in Cirebon City.

LITERATUR REVIEW

Transformational leadership

Transformational leadership is one of the central and most influential leadership models in the field of educational administration (Bush, 2014; Hallinger, 2003) This theory, expanded by Bernard Bass and Bruce Avolio, describes the behavior of business leaders. Transformational leaders are said to focus on inspiring their followers or subordinates to "commit to a shared vision and goals within the organization or company, provide challenges in solving
problems innovatively, and develop leadership capacity in followers through coaching, mentoring, and providing with challenges and support.” (Bass & Riggio, 2006). Indicators of Transformational Leadership based on research by Buil et al., 2019 consist of:
1. I have leaders who communicate a clear and positive vision of the future
2. I have leaders who treat staff as individuals, supporting and encouraging their development
3. I have leaders who provide positive encouragement and recognition to staff
4. I have leaders who foster trust, engagement, and cooperation among team members
5. I had leaders who encouraged thinking about approaching problems in new ways and questioned the assumptions of their employees
6. I have a leader who is clear about his values and practices what he preaches
7. I had leaders who instilled pride and respect in others and inspired me by being highly competent.

Proactive Personality
Proactive personality, as a personality who actively takes the initiative in taking various actions and situations that can meet various high needs and rapidly changing customer needs and provide quality service. Proactive personality is also associated with a sense of responsibility for constructive change or the extent to which a person feels personally responsible for interpreting their performance (McCormick, Meijen, Anstiss, & Jones, 2019). Indicators of Proactive Personality based on research by (Buil, Martinez, & Matute, 2019) consist of:
1. I am always looking for better ways to do things in my work
2. I excel at identifying opportunities at work
3. I am constantly looking for new ways to improve the quality of my life, especially in my work.

Innovative Performance
Performance is a record of the results obtained from work that has been carried out in a certain period (Opatha, 2019). Employee performance influences employee contributions to the organization such as quantity of output, quality of output, period of output, presence at work, and cooperative attitude (Yin, Niu, & Liu, 2017). (Mamun, Mohiuddin, Fazal, & Ahmad, 2018) stated that the standard reference for employee performance includes the main output of the school organization, efficiency which refers to the use of scarce resources by the school organization, satisfaction which refers to the success of the school organization in meeting the needs of all parties involved, and adaptation which refers to the size of the school organization’s response to change. Competencies must also be possessed by teaching staff in the form of competencies: pedagogical, personal, social, and professional (Judiani, 2011). Innovative behavior is defined as generating new ideas and working to implement them (Ahuja, Lampert, & Tandon, 2008).

FRAMEWORK OF THINKING
1. The influence of transformational leadership on innovative performance behavior
One trigger that can influence innovative work behavior is transformational leadership. As is known, the role of leadership in an organization is very dominant. A leader must have a transformational leadership style because he can inspire and stimulate his followers or subordinates to bring positive change to the organization. Considering the uncertainty and failure in the innovation process, it can be seen from a leader who is under pressure to find his best performance. Therefore, the success of innovative work processes in an
organization requires a leader who has transformational characteristics because the more transformational the leader is to the organization, the more innovation will arise.

The hypothesis that transformational leadership influences innovative performance behavior was also carried out by several previous studies, namely research by (Noor et al., 2016) which stated that transformational leadership has a significant influence on innovative work behavior, because the better the leader's attitude towards his subordinates, the higher the innovative behavior. subordinates at work. Research conducted by (Oktapratama & Sudibjo, 2023) found that transformational leadership had a positive effect on innovative work behavior. Therefore, the hypothesis is

H1: Transformational Leadership Has a Positive Influence on Innovative Performance Behavior

2. The influence of proactive personality on innovative performance behavior

Innovative work behavior can also be influenced by a proactive personality. The relationship between a proactive personality and innovative performance behavior is quite significant, someone who has a proactive personality at work can show initiative, detect opportunities, and not give up until they achieve success. Therefore, individuals with a proactive personality will strive to work innovatively to achieve goals for themselves and their organization.

The proactive personality hypothesis on innovative performance behavior was also carried out by (Mingjun, Jie, Zhenhong, & Xuqun, 2016) where in his research he said that proactive personality influences innovative work behavior because innovative work behavior can be predicted by the presence of a proactive personality. And research conducted by (Jawahar & Liu, 2016), obtained results showing that proactive personality has a positive relationship with innovative work behavior. Therefore, the hypothesis is

H2: Proactive Personality Has a Positive Influence on Innovative Performance Behavior

3. The influence of transformational leadership and proactive personality on innovative performance behavior

Factors that can influence innovative work behavior are transformational leadership and proactive personality. Leaders who do not have transformational characteristics can cause failure and uncertainty in the innovative process among their followers or subordinates so they are unable to encourage their organization to implement ideas that can bring positive change to their organization. Therefore, transformational leadership must inspire followers to be able to innovate in their work. Apart from that, a person must have a proactive personality at work to be able to provide innovative ideas for a problem or opportunity so that organizational goals can be achieved.

The hypothesis that transformational leadership and proactive personality influence innovative work behavior was carried out by (Khasanah & Himam, 2018), where in their research they found that transformational leadership and proactive personality had a simultaneous influence on innovative work behavior. Therefore the hypothesis is

H3: Transformational Leadership and Proactive Personality Jointly Influence Innovative Performance Behavior
METHOD
In conducting this research the author used a quantitative method, which means carrying out a research process using numbers as a tool to analyze what you want to know. Using quantitative data in this research is because the process requires data in the form of numbers such as the results of data collected through distributed questionnaires (Millena & Jesi, 2021). It is in this analysis process that the author collects data and carries out calculations which will later conclude how innovative teachers are, as well as whether there is a good or bad impact with the value of these calculations.

To collect this data, we collected data by distributing questionnaires to teaching teachers including civil servants, PPPK, and honorary workers in every Cirebon City State High School. The next process is to examine the data that we have collected, the data that we have collected will be loaded into table form or writing.

RESULTS AND DISCUSSION
Based on the results of the author’s research, we get a theory about transformational leadership and proactive personality towards innovative behavior in teachers at Cirebon City State High School. The author believes these things are interconnected with each other, where the leadership and proactive attitude of each influences the results of the performance or innovation of each teaching teacher including, PNS, PPPK and, Honorary in Cirebon City State High School. Where leadership style greatly influences the performance of each teacher (Transformational leadership), each teacher can provide the best input to fellow teachers to carry out their duties and solve any problems that occur (Proactive personality). When the leadership style and each teacher can be active with each other, effective innovations will be created as a result of collaboration between each other (innovative behavior). Researchers assess that transformational leadership and proactive personality towards innovative behavior in every Cirebon City State High School have a good impact on the achievements of their respective schools, where each teacher can provide the latest innovations that are effective starting from the way of teaching, educating and, advancing the good name of the school and Cirebon City in the field of education.

In this research, construct validity was tested using confirmatory factor analysis of the research instruments used. The factor analysis process adheres to several assumptions, including the
requirement that the KMO test value must exceed 0.50, and the results of Bartlett’s test of sphericity must show significance below 0.05. The next step is to evaluate the factor loading of each item; items with factor loading $\geq 0.4$ are considered valid. The hypothesis was tested using multiple regression analysis, involving one dependent variable and three independent variables. Data analysis was carried out using SPSS statistical software. This research is based on the assumption that transformational leadership and proactive personality are predictors of innovative work behavior. A high level of transformational leadership is believed to correlate with highly innovative behavior in each teacher. Likewise, a high level of proactive personality is expected to increase teaching teachers' innovative work behavior. The results of the hypothesis test are listed in the following table.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of items</th>
<th>Number of items dropped</th>
<th>TIME</th>
<th>Barlett</th>
<th>Loading factor</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative Work Behavior</td>
<td>8</td>
<td>-</td>
<td>0,830</td>
<td>P&lt;0,01</td>
<td>0,524 – 0,749</td>
<td>0,892</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>20</td>
<td>-</td>
<td>0,845</td>
<td>P&lt;0,01</td>
<td>0,554 – 0,839</td>
<td>0,956</td>
</tr>
<tr>
<td>Proactive Personality</td>
<td>26</td>
<td>-</td>
<td>0,931</td>
<td>P&lt;0,01</td>
<td>0,531 – 0,769</td>
<td>0,899</td>
</tr>
</tbody>
</table>

The regression evaluation results from the table above show that factors such as transformational leadership, proactive personality, and work design have a significant relationship with innovative work behavior. The regression coefficient ($R$) is 0.637, with an $F$ value reaching 58.514; $p<0.01$, confirms the significance level of this relationship. With an $R$ square value of 40.5%, it can be concluded that around 40.5% of the variation in innovative work behavior can be explained by a combination of these factors, while the remaining 59.5% is influenced by other variables not included in the model. These findings support the hypothesis that high levels of transformational leadership will result in increases in innovative work behavior among individual teacher educators. Likewise, high levels of proactive personality have also been shown to correlate with better innovative work behavior.

This research aims to explore the relationship between transformational leadership, proactive personality, and innovative work behavior. Most previous research has focused on the impact of proactive personality on leadership, but the reverse influence remains poorly understood. Research examining whether leadership can influence changes in teacher personality and its mechanisms has not been widely conducted in the context of the teacher’s school environment. The findings of this study support the hypothesis that innovative work behavior acts as a link between transformational leadership and the proactive personality of...
teaching teachers. Transformational leadership provides teachers with opportunities to expand their knowledge and create an environment that supports individual learning (Afsar, Badir, & Saeed, 2014). Additionally, transformational leaders encourage their team members to face challenges with a new perspective, while guiding them in developing their full potential. Under the direction of a transformational leader, proactive teachers tend to be more responsive and motivated to seek and exploit opportunities in the workplace, even exceeding their job expectations. The transformational leadership style also has a significant impact on teachers who were previously not proactive, encouraging them to adopt a proactive attitude. Characteristics of transformational leaders include the ability to provide inspiration, motivate teachers to continue to develop, and involve them in finding solutions to problems that arise in their work (Steinmann, Klug, & Maier, 2018). In addition, proactive teachers tend to be actively involved in finding solutions to complex problems. This happens because transformational leadership helps broaden and support teachers’ goals, increasing their self-confidence to achieve performance beyond expectations. Individuals who demonstrate a proactive personality are also more likely to be actively involved in their work environment, increasing engagement at work. As a result, proactive teachers are more likely to utilize their leaders’ support in completing assignments, demonstrate ingenuity in solving problems, and generate new ideas (Adhyke, Eliyana, Sridadi, Septiarini, & Anwar, 2023) It is explained that innovative work behavior requires the emergence of new ideas that suit the needs of the organization, and this is consistent with a proactive personality because teachers with a proactive personality tend to have a strong drive to propose changes, challenge the status quo, and have a vision for the future (Seibert, Kraimer, & Crant, 2001). Proactive teachers may be looking for opportunities to improve the effectiveness of their work environment or obtain feedback to improve their performance (Messmann & Mulder, 2015).

Evidence suggests that repeated behavior in certain contexts can lead to changes in subordinates’ emotions and characteristics, which, over time, can gradually change their underlying characteristics (Wrzus & Roberts, 2017). An alternative explanation of how transformational leadership influences employees' propensity to innovate is the Job-Demand-Resources (JD-R) model (Bakker & Demerouti, 2017). This theory suggests that job resources, including transformational leadership, inspire and encourage workers to produce beneficial job outcomes, such as innovative behavior. Transformational leaders can create systems that include job resources such as supervision, job diversity, prospects, coaching, social support, voice, and opportunities to learn and develop. (Çop, Olorunsola, & Alola, 2021). Apart from being based on the theoretical concepts previously explained, the results of this research are also supported by information obtained from research related to leadership styles applied in PT. XYZ, Tbk. The researcher conducted a debriefing with one of the employees from the Marketing department to obtain additional information to provide arguments to explain the research results. From the information obtained by researchers, leaders at PT. XYZ, Tbk intellectually stimulates employees by providing maximum opportunities to act creatively and innovatively in solving old problems from a new perspective. The method is to provide thought stimulation so that employees think differently than usual. There are routine activities every two weeks
in the morning carried out by the leadership to communicate the vision and mission in achieving the company’s innovative goals, as well as regular discussion mentoring activities with superiors which are held once a month. Employees will increasingly demonstrate innovative work behavior when leaders pay attention to individual employee needs. By carrying out frequent follow-ups and holding meetings with employees, leaders can also find out the work progress of each employee and find out what personal development employees need. Transformational leaders have a positive influence on their employees by extending and supporting employee goal achievement, making employees more confident to perform beyond set expectations (Susilo, 2018) and with the support of employees' highly proactive personalities, these employees become more responsive, more motivated to actively seek and take opportunities in the workplace even beyond their abilities, and also more motivated to look for new ways to complete tasks to further increase employees' innovative work behavior. Developing transformational leadership in managers could be a viable recommendation to increase employees' innovative work behavior, according to Research et al 2023 can be achieved through training and coaching programs offered at all levels of the organization. Managerial implications. These results are expected to provide implications for leaders in organizations to implement an effective leadership style to encourage employees to demonstrate innovative work behavior in the organization, which in this research is represented by leaders at PT. XYZ, Tbk. From these results, the transformational leadership style is considered quite effective in increasing employee innovative work behavior. The transformational leadership style applied at PT. XYZ, Tbk can be the basis for organizations to continue to maintain and also develop a transformational leadership style that is used to increase employee proactive personalities and innovative work behavior. To maintain and develop a transformational leadership style, organizations can control with regular surveys regarding employee perceptions of leaders in the organization. This can be a form of assessment of leaders in the organization from employees. The survey was conducted to ensure that the transformational leadership style demonstrated by organizational leaders is carried out effectively and sustainably to maintain the current transformational leadership style.

Research Limitations. Several estimation limitations in the conduct of this research must be considered. First, this research uses self-reported assessments to measure each research variable, this research also uses a questionnaire, so researchers cannot control respondents in answering the statements in the questionnaire. Based on these considerations, self-reported assessments have the potential to cause bias related to the answers given by respondents so it is hoped that future research will not only use self-reported assessments that describe individuals' perspectives. For future researchers, it is recommended to be able to carry out assessments from the leader's perspective and the perspective of colleagues so that the data obtained will be more objective in assessing employee proactive work behavior. Second, data collection in this research will only be carried out using the survey method by distributing questionnaires. Exploration of respondent information was very limited because no further information about the respondent could be found. To increase the richness of information, data, and knowledge when summarizing research
results, it is hoped that a combination of qualitative research methods, especially interviews, can be used. Thus, it can help researchers explain more detailed and complete arguments regarding the research results obtained. Future studies could also explore other mediating variables that may influence the relationship between transformational leadership and innovative work behavior, such as work engagement, to provide a more comprehensive understanding of the factors that contribute to innovative work behavior in the workplace.

CONCLUSION

This research found a significant relationship between transformational leadership, proactive personality, and innovative work behavior in high school teachers in Cirebon City. The results show that innovative work behavior functions as a link between transformational leadership and the teacher’s proactive personality. Transformational leadership provides teachers with opportunities to develop and create an environment that supports individual learning, while a proactive personality encourages teachers to take initiative and seek opportunities in the workplace. In this context, transformational leaders are able to stimulate teachers to innovate by expanding and supporting the achievement of their goals. However, this study has limitations, including the use of self-assessment by respondents and limitations in respondents’ exploration of information. The managerial implication of this research is the importance of implementing a transformational leadership style in increasing employee innovative work behavior, with recommendations for developing training and coaching programs. Additionally, this research suggests the use of regular surveys to monitor employee perceptions of leadership styles in organizations.

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