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Validation of Resilience Scale for School Heads

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Abstract
This study presents the validation of a resilience measurement scale tailored for govt. school heads in Rawalpindi. Based on the Four C's model of resilience, the scale evaluates resilience in terms of control, commitment, challenge, and confidence. Initially 30 statements were developed. The scale was refined to 24 statements after content validation by three experts. A rigorous methodology, including item generation and expert validation was employed. The results revealed a highscale content validity index (S-CVI) i.e., 0.92. A 5-point semantic differential rating scale was used;its extreme ends were high and low.

Keywords: Resilience, School Heads, Measurement Scale, Content Validity

Introduction

School heads play their critical and vital role in achieving school objectives efficiently and effectively. In doing so, they need to be resilient. Resilience is widely acknowledged as an essential attribute for school heads who must handle complex and challenging environments. It refers to the ability to adapt, recover, and thrive when faced with adversity, forming a foundation for effective decision making and leadership. Social sciences researchers developed some tools to measure heads resilience. Although existing resilience measurement scales are used across various contexts, they have limitations. For instance, the Connor-Davidson Resilience Scale (CD-RISC), which is a popular self-report measure, focuses on individual aspects such as personal competence and positive acceptance of change (Campbell-Sills & Stein, 2007; Gonzalesetal., 2016; Windleet al., 2011). Nonetheless, it ignores the socio-ecological and contextual factors, which are very important in explaining resilience in the context of educational leadership. By the same token, the Brief Resilience Scale (BRS) examines recovery from stress but does not cover the wider constructs of emotional regulation and environmental support (Ye et al., 2022). Some workplace measures such as the Resilience at Work Scale (RAW) and the Workplace Resilience Inventory appraise the ability to withstand stress in the workplace. However, for the assessment of resilience of the educational heads, they often tend not to be very useful because they have a narrow focus that goes beyond the organization (Walpita & Arambepola, 2022). Tools that are more community oriented such as the

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Conjoint Community Resilience Assessment Measure (CCRAM) and Communities Assessing Resilience Toolkit (CART) are aimed at resilience in relation to preparedness but have poor relative to consistency in the meaning of resilience constructs (McNeill et al., 2022). Likewise, the Child and Youth Resilience Measure (CYRM-12) and the Hardiness Scale (HS-15) are effective for certain groups but, as mentioned, they are not made for populations who are in an educational context (Soheili et al., 2020; Ko et al., 2017).

The entire set of scales discussed earlier is important; however, some skeptics challenge the development of strong, contextually appropriate scales that can be employed to assess levels of resilience in an educational context, especially in the context of Pakistan. This gap brings forth the importance of developing an education head resilience scale that is relevant for the policies in Pakistan. This study is important in filling this void since the scale aims to be developed for the heads of schools who are rarely able to fully encapsulate the stressors and decision making demands posed upon them. Resilience enables them to meet these demands. Such a scenario of not having a coherence instrument leads to difficulty in diagnosing which areas to develop and how to develop them at a targeted angle.

Thus, this study focuses on the least developed and validated scale, targeted for educational managers i.e. a resilience scale for school heads, so as to fill the gap. This new scale aims to improve understanding of the specific challenges encountered by heads of schools and how they respond to them and inform the design of continuous professional development activities aimed at developing resilience, stress, and leadership management abilities. Furthermore, this may assist in recognizing educational managers who require additional assistance. As the educational landscape in Pakistan evolves, school heads face rising academic and socio-economic pressures. Resilience is vital for them to thrive in their demanding roles. This resilience scale may support educational heads in navigating these challenges. Moreover, the findings of this study can inform similar efforts internationally, advancing the broader field of resilience in educational contexts.

This study bridges the gap in resilience measurement by creating a scale tailored for educational managers and heads in Pakistan. It contributes to practical leadership applications and theoretical advancements in resilience research, fostering more effective, adaptable, and resilient leaders.

Research Objectives

The objectives of this study are to:

1. Design a resilience scale grounded in theoretical framework.
2. Content validate the scale.

Theoretical Background

Theoretical background for this scale is based on the Four C Model. According to Clough and Strycharczyk, (2012), the Four C model of resilience puts emphasis on four core factors contributing to resilience in individuals or systems. These comprise of Control, Commitment, Challenge, and Confidence. He explained these terms as follows:

Control: It is understood as the belief that there is power that lies within an individual and their ability to control their conditions. It involves self-efficacy and the feeling of making choices, decisions, and actions to eliminate a challenge.

Commitment: This is having a purpose and dedicatedness to one's goals or values; motivated and persistent under challenge.

Challenge: It is about understanding adversity as a challenge to achieve growth and learning. It involves embracing a positive attitude and openness toward new experiences and perspectives.

Confidence: It is the availability of supportive relationships and social networks. It is characterized by access to emotional support, practical help, and attachment.

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In general, this model of resilience presents a coherent and broad framework for understanding and conceptualizing resilience in individuals and systems. The Four Cs of control, commitment, challenge, and confidence, can be seen as bases of intervention or strategies carefully crafted to support and develop resilience while effecting positive adaptation to adversity.

Methodology

Design of Scale

The Four C Model of resilience comprising control, commitment, challenge and confidence was the basis of validation of the resilience measurement scale. The scale was, therefore, meant to measure these dimensions in educational managers such as heads of schools, thus giving an all-round assessment of their level of resilience in a professional setting. The item development process involved a review of existing literature on resilience in leadership roles, under expert consultations, in order to make it relevant in the context of educational management.

Item Development Process

The content of the resilience scale items was based on the literature. At the start, thirty items were drafted to represent the four key components of resilience. These items were formulated so as to represent a range of aspects of resilience in the routine stresses that educational managers cope with. Each construct had 7-8 items so that all dimensions were adequately and evenly represented. The items were constructed in a manner that was unambiguous, concise and suited the professional environment of the school heads.

The first version of 30 items was approved by a panel consisting of three specialists in educational leadership and psychology. These experts evaluated each item in terms of its relevance, language, and overlap with other items. To ensure items focused on the critical dimensions of resilience (Control, Commitment, Confidence and Challenge), it was mandatory that supervised at least two experts decide to include the item in the final scale. Every sub-construct of the scale is represented by six items which illustrate the Four C Model of resilience by Clough and Strycharczyk (2012). This stage of the validation process improves the content validity of the scale and ensures that all factors tapped by the scale are the factors that it intended to measure.

Response Format

The scale used to measure resilience was a response format designed as a five-point semantic differential scale, ranging from low to high. This was chosen because it allows the researchers to gauge how much resilience individuals think they have without much difficulty. A five-point scale is best as it allows for reasonable variation in responses while still being simple for participants. With this option, each one can agree or disagree with any item present and thus get balanced responses from all the sides towards or away from a certain direction (Cohen & Swerdlik, 2017). The fatigue of respondents is also reduced using a 5-point invalid scale, while on the other hand ensuring that reliable data is obtained for analysis. The reason for choosing this format lies in the fact that it helps make sure that the items are very clear in terms of what exactly they mean about resilience since they reside at points on an opposite continuum (e.g., "low control" versus "high control").

Scoring and Interpretation

The total resilience score is generated by summing the scores of the four sub-constructs. Each sub-construct consists of six items, and each item is rated on a five-point scale. Scores are summed for the six items within each sub-construct to give a score for that sub-construct. These sub-construct scores are then aggregated to give an overall resilience score for the respondent. Higher scores on the scale indicate higher levels of resilience, whereas lower scores represent a lower level of resilience.

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The total score can reflect the extent to which a school head copes and adapts to challenges in the school environment concerning emotional regulation, commitment, confidence in decision-making, and being open to challenges.

In order to ensure validity, the scoring system was developed in such a way that it can distinguish well between various levels of resilience displayed, whether at the individual or group level. Moreover, such a 5-point scale can clearly place different levels of resilience and in very straightforward terms for educators and researchers to understand the results (Clough & Strycharczyk, 2012). Drawing from all four sub-constructs provided a consolidated measure of the level of resilience among school heads that could be used to enhance leadership capacity in a targeted manner and also in decision-making.

Content Validity

Content validity was, therefore, determined through the judgment of experts. A panel of three experts in educational leadership, psychology, and resilience studies was engaged to evaluate the relevance and representativeness of the scale items. The experts were asked to rate the items in terms of their relevance using a 3-point scale; hence, the Content Validity Index (CVI) was determined for every item, and also for the whole scale. An item was accepted as relevant when it was rated by a minimum of 2 experts. This process of validation, therefore, provided strong evidence toward content validity for the scale.

Table 1: Calculation of CVI of Self Developed Scale of Resilience

Variable	Constructs	Items	Expert 1	Expert 2	Expert 3	Experts in Agreement	I-CVI
RESILIENCE	Control	I can manage my emotions even in tough situations.	1	1	0	2	0.67
		I am able to stay calm when facing challenges.	1	1	1	3	1.00
		I can control how I react to stressful events.	1	1	1	3	1.00
		I have people I can turn to for help when needed.	1	1	1	3	1.00
		I feel supported by people around me during tough times.	1	1	1	3	1.00
		I have a network of people that offers	1	1	1	3	1.00

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	encouragement.					
Committment	I persist in achieving my goals even when faced with obstacles.	1	1	1	3	1.00
	I keep going despite challenges that come my way.	1	1	1	3	1.00
	I stay determined when things get tough.	1	1	1	3	1.00
	I am adaptable to changes in plans.	0	1	1	2	0.67
	I can adjust my goals to fit new situations.	1	1	1	3	1.00
	I modify my approach when needed to stay on track.	1	1	1	3	1.00
	I can adjust my plans when faced with unexpected changes.	1	1	1	3	1.00
	I am flexible in finding solutions to problems.	1	1	1	3	1.00
	I can tackle problems from different angles.	1	1	1	3	1.00
Challenge	I believe in my ability to handle life's challenges.	1	1	1	3	1.00
	I see myself as capable of using my abilities.	0	1	1	2	0.67
	I have confidence in my skills.	1	1	1	3	1.00
	I have confidence in my ability to accomplish tasks.	1	0	1	2	0.67
	I believe in my capacity to handle difficult situations.	1	1	0	2	0.67
Confidence	I trust myself to succeed in what I undertake.	1	1	1	3	1.00
	I tend to see the positive side of things.	1	1	1	3	1.00

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	I am hopeful about the future despite difficulties.	1	1	1	3	1.00
	I maintain a positive outlook in challenging times.	1	1	0	2	0.67
	Participants Relevance	0.92	0.96	0.88	**S-CVI**	0.92

The Content Validity Index (CVI) for the scale was calculated to be 0.92, indicating that the items were highly relevant to the constructs of resilience as assessed by the expert panel. This high CVI confirms that the scale effectively represents the dimensions of resilience in the context of educational managers.

Final Scale

After experts validation, the initial scale with 30 statements was reduced to 24 because of the repetitive nature of some items. The range of score was between 24 to 120. The final version of the resilience scale consists of 24 items divided into four sub-constructs:

1. Control: 6 items measuring the extent to which school heads feel capable of influencing and managing their work environment.
2. Commitment: 6 items measuring the school heads' extent to their professional roles and their persistence in the face of challenges.
3. Challenge: 6 items measuring the school heads' extent of challenges as opportunities for growth and development.
4. Confidence: 6 items measuring on the school heads' extent of self-assurance in their ability to handle difficult situations.

Discussion

The development and validation of this resilience scale represent a significant advancement in understanding and enhancing resilience among educational managers. By offering a standardized measure, the scale provides insights into how personal and professional resilience impact leadership effectiveness in schools. Its focus on key dimensions of resilience—control, commitment, challenge, and confidence—ensures a comprehensive approach, making it a valuable resource for both researchers and practitioners in the field of education.

One of the key strengths of this instrument is its strong content validity, which has been established through extensive pilot testing. The scale's integrated perspective on resilience allows for a comprehensive examination of how principals navigate challenges and maintain their leadership. Additionally, the instrument is user-friendly, enhancing its usefulness for organizations and practitioners interested in measuring principals' resilience and implementing interventions based on the findings. Importantly, our scale addresses a significant gap in the measurement of principal resilience in research and lays a solid foundation for future studies. However, despite the scale's strengths, several limitations should be acknowledged. Although it was developed and validated for educational managers in Pakistan, further research is needed to assess its applicability in different cultural or educational contexts. Variations in cultural perceptions of resilience and its expression may necessitate additional validation before it can be widely accepted.

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Furthermore, the reliance on self-reported data introduces potential biases, such as social desirability bias, which could impact the accuracy of responses. Incorporating peer or supervisor evaluations alongside self-assessments would provide a more comprehensive view. Additionally, while the scale highlights resilience, it overlooks other critical factors, such as emotional intelligence and leadership styles, which also play a role in effective school management. Addressing this aspect would enhance the scale's completeness. In terms of practical implications, this scale holds significant value. It can serve as a framework for professional development programs designed to better equip school leaders to handle stress and adversity effectively. Such insights offer institutions the necessary information to foster leadership that promotes proactive, practical, and positive learning environments. In addition, its validation paves the way for large-scale studies looking at the relationship between resilience and such outcomes as academic achievement, morale among teachers, and institutional performance to get an in-depth understanding of the dynamics of educational leadership.

This resilience scale serves as both an academic contribution and a practical instrument for enhancing leadership in education. Its strong foundation in theory, coupled with its demonstrated validity, underscores its value in advancing resilience research and practice. While some limitations exist, they provide avenues for future improvement, including cross-cultural validation and the incorporation of additional leadership traits. Ultimately, this scale represents a meaningful step toward empowering educational leaders to thrive amidst the challenges of modern education.

Future research may focus on cross-cultural validation to assess the scale's applicability in diverse educational settings. Longitudinal studies may explore how resilience evolves over time while examining its relationship with other leadership traits like emotional intelligence. Additionally, studies may investigate the impact of resilience on school performance and the effectiveness of targeted resilience-building interventions for educational leaders. Expanding the scale's scope to include peer evaluations and mixed-methods approaches may further find the internal consistency of the scale through pilot testing and practical application in real-world settings.

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Resilience Scale							
Statements							
I can manage my emotions even in tough situations.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I am able to stay calm when facing challenges.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I can control how I react to stressful events.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I have people I can turn to for help when needed.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I feel supported by people around me during tough times.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I have a network of people that offers encouragement.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I persist in achieving my goals even when faced with obstacles.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I keep going despite challenges that come my way.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I stay determined when things get tough.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I am adaptable to	**High**	**5**	**4**	**3**	**2**	**1**	**Low**

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changes in plans.							
I can adjust my goals to fit new situations.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I modify my approach when needed to stay on track.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I can adjust my plans when faced with unexpected changes.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I am flexible in finding solutions to problems.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I can tackle problems from different angles.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I believe in my ability to handle life's challenges.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I see myself as capable of using my abilities.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I have confidence in my skills.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I have confidence in my ability to accomplish tasks.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I believe in my capacity to handle difficult situations.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I trust myself to succeed in what I undertake.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I tend to see the positive side of things.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I am hopeful about the future despite difficulties.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**
I maintain a positive outlook in challenging times.	**High**	**5**	**4**	**3**	**2**	**1**	**Low**