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Research Paper

Cross-Sectional Analysis of the Effect of Age on Self-Talk, Public Speaking Anxiety, and Resilience

Anshika Sharma[1]*, Rubani Kaur Narang[2]

ABSTRACT

Self-talk and resilience are key factors influencing how individuals process and respond to stress, and public speaking anxiety is experienced by individuals across academic, professional, and social settings. Despite the crucial role these variables play in emotional and cognitive functioning, few studies have examined the relationship between these variables. Therefore, this study addresses this gap by exploring how self-talk, resilience, and public speaking anxiety interact with each other. Moreover, we investigate whether age plays a role in shaping these variables. Data are collected from 86 participants using a structured questionnaire, which includes the following scales to measure the respective constructs: the Brinthaupt Self-Talk Scale, Connor–Davidson Resilience Scale, and Public Speaking Anxiety Scale. The participants are divided into three age groups: adolescents (n = 22), young adults (n = 27), and middle-aged adults (n = 37). Statistical analyses are conducted using Pearson's correlation and a one-way analysis of variance. The results reveal that self-talk and its subdomains of self-critical, self-management, and social assessment self-talk are significantly positively correlated with public speaking anxiety. However, self-reinforcing self-talk is significantly negatively correlated with public speaking anxiety. Moreover, while self-talk is not significantly correlated with resilience, its subdomains of self-critical and social assessment self-talk are significantly negatively correlated with resilience. Conversely, self-reinforcing self-talk has a significant positive correlation with resilience. We observe a significant negative correlation between public speaking anxiety and resilience. Additionally, age significantly affects both public speaking anxiety and resilience, with adolescents and young adults reporting higher anxiety and lower resilience compared with middle-aged adults. Our findings capture the interactions of self-talk, public speaking anxiety, and resilience, contributing to the literature on positive and developmental psychology. These results highlight the potential of self-talk interventions in educational and therapeutic settings to reduce anxiety and build resilience, particularly among younger populations.

Keywords: *Age, Public Speaking Anxiety, Resilience, Self-Talk*

Self-Talk

Individuals often take time to engage in self-talk, and this internal dialogue helps in processing emotions and cope with challenges. For many, it acts as a defense mechanism to

[1]Student, ITL Public School, Pocket 2, Dwarka Sector 9, Dwarka, Delhi
[2]Research Scholar, Pangea Society, Delhi, India
*Corresponding Author

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manage stress, boost confidence, or navigate difficult situations. Self-talk has been conceptualized in several ways.

Vygotsky (1978) differentiated between private and social speech, highlighting how people talk to themselves may not be identical to how they talk to others. Moreover, Vocate (1994) defined self-talk as talking to oneself silently or out loud. He also described self-talk as an important factor for self-management. Chroni (1997) stated that self-talk can be verbal and non-verbal, ranging from a word or thought to a smile or frown. Bunker, Williams, and Zinsser (1993, p. 226) viewed self-talk as "anytime you think about something, you are in a sense talking to yourself."

The key idea of cognitive behavioral therapy is that thoughts affect our behavior and emotions. Self-talk can affect public speaking anxiety (PSA) depending on the use of positive affirmations, which can reduce anxiety, or negative affirmations, which increase anxiety. Therefore, self-talk can either help or make it more difficult to control nervousness when speaking in public. For example, Ellis (1977) was a pioneer in cognitive behavioral therapy and emphasized how irrational self-talk can lead to anxiety and how restructuring it can reduce distress, including performance-related anxieties like public speaking. This work laid the groundwork for understanding how internal dialogues (self-talk) influence anxiety. Kross and Ayduk (2011) introduced the idea that using non-first-person pronouns in self-talk ("You can do this" vs. "I can do this") can enhance emotional regulation.

Most studies on self-talk typically define it as speech that is self-referential or directed toward oneself. Researchers have explored various forms of self-talk, such as positive and negative self-statements (Kendall, Howard, & Hays, 1989), inner speech or silent self-talk (McCarthy-Jones & Fernyhough, 2011), and spoken self-talk or private speech (Duncan & Cheyne, 1999). A substantial body of research investigates the mechanisms and purposes underlying self-talk as well as the potential impact of variations in its content on the individual. Identified functions of self-talk include facilitating general self-regulation (Carver & Scheier, 1998; Mischel, Cantor, & Feldman, 1996); promoting self-distancing (Kross, Ayduk, & Mischel, 2014); offering instructional and motivational support (Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011); and enhancing self-awareness, self-evaluation, self-knowledge, and self-reflection (Morin, 2018; White, Uttl, & Holder, 2015).

Self-criticism involves self-talk focused on negative experiences, such as statements like "I should have done something differently" or "I feel ashamed of something I've done." By contrast, self-reinforcement encompasses self-talk related to positive experiences, including expressions such as "I am really happy for myself" or "I want to reinforce myself for doing well." Self-management refers to self-talk associated with general self-regulation processes, for example, "I am mentally exploring a possible course of action" or "I want to remind myself of what I need to do." Finally, social assessment pertains to self-talk concerning past or anticipated social interactions, illustrated by statements like "I try to anticipate what someone will say and how I'll respond" or "I want to analyze something someone recently said to me."

Public Speaking Anxiety

Students in schools and colleges frequently engage in public speaking through stage presentations, classroom discussions, and formal assignments. Beyond the academic setting, strong public speaking skills are often essential in the workplace and are recognized as a key

factor for professional success. Public speaking anxiety is very common among college students and the general population. Some estimates are that as many as 20%–85% of people experience more or less anxiety when they need to speak in public (Bodie, 2010; McCroskey, 1977).

Anxiety or apprehension when communicating is a regular part of everyday existence. Richmond and McCroskey (1995) stated that in everyday life, negative reactions from others, novelty, conspicuousness, and unfamiliar situations can make people anxious about communicating. Public speaking anxiety is highly prevalent and leads to excessive psychological and physiological reactivity. It is present in a majority of individuals with social anxiety disorder (SAD), and there is substantial evidence that it may be a distinct subtype of social anxiety (Blöte, Kint, Miers, & Westenberg, 2009). It is amenable to treatment including new technologies such as exposure to virtual environments and the use of cognitive behavioral self-help programs delivered via the Internet.

Social anxiety is a prevalent psychological experience marked by an intense fear of being negatively evaluated in social contexts. It exists along a continuum of severity (Dell'Osso, Buoli, Hollander, & Altamura, 2003; McNeil, 2010). At its mildest, it functions as an adaptive evolutionary mechanism, prompting individuals to monitor their social behavior in order to avoid exclusion (Gilbert, 2001). At its most severe, however, it manifests as SAD, which impairs daily functioning. Emerging research indicates that many individuals experience moderate or subclinical forms of social anxiety that do not meet diagnostic criteria but still cause significant distress (Knappe et al., 2009; Merikangas et al., 2010).

Effectively managing emotional and physical discomfort is essential for successful public speaking. Research has shown that individuals with SAD have significant difficulties with emotion regulation, many of which are relevant to those with subclinical anxiety. For example, Werner, Goldin, Ball, Heimberg, and Gross (2011) found that individuals with SAD were more likely to engage in expressive suppression—concealing outward signs of anxiety—during a recorded speech. They also exhibited more avoidance than non-anxious individuals, aligning with earlier studies (Campbell-Sills & Barlow, 2007; Gross & John, 2003).

Additionally, Niles and Craske (2018) identified deficits in both explicit (intentional) and incidental (automatic) emotion regulation among those with PSA. This suggests not only increased efforts to regulate emotions but also reduced success in doing so. These emotion regulation difficulties, though well-documented in clinical populations, are likely to affect nonclinical individuals facing socially stressful tasks such as public speaking.

Resilience

According to the American Psychological Association (2022), resilience is "the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress." Everyone goes through stressful situations, and most people experience some kind of trauma during their lives, making it important to understand how resilience can be built and strengthened. Doing so not only helps people cope better with challenges but also reduces the chances of harmful coping habits and stress responses linked to mental health conditions like depression and post-traumatic stress disorder.

Resilience is a dynamic concept (Rutter, 2013). It is the capacity of adaptively overcoming stress and adversity while maintaining normal psychological and physical functioning

(Russo, Murrough, Han, Charney, & Nestler, 2012; Rutter, 2012; Southwick & Charney, 2012). Most definitions of resilience include the overcoming of stress or adversity or a relative resistance to environmental risk (Bowes & Jaffee, 2013). Rutter (2012) used the term resilience to state that some people stay mentally well even after going through some difficult experiences that would normally be expected to cause serious problems. Resilience can also be seen as the helpful or positive actions and processes that lower the chances of harmful outcomes when someone is in a risky or stressful situation (Greenberg, 2006).

Human development plays a key role in how people adapt and build resilience during times of crisis (Baltes & Carstensen, 1996; Baltes, Lindenberger, & Staudinger, 1999). Supporting personal growth across the lifespan can enhance overall well-being. Research has shown that resilience helps individuals cope with stress and adapt to life changes or challenges (Beasley, Thompson, & Davidson, 2003; Mathis & Lecci, 1999). To strengthen resilience, it is important to understand how it is influenced by personal development and well-being.

Several studies have found a strong, statistically significant link between resilience and well-being (Klohnen, 1996; Werner & Smith, 1992; Tugade & Fredrickson, 2004; Masten & Reed, 2002; Tauriņa, 2012). Specifically, resilience is closely related to aspects of eudaimonic well-being—such as self-acceptance, positive relationships, autonomy, purpose in life, personal growth, authenticity, and a sense of belonging—especially in young adulthood. People with high resilience tend to feel confident about the future, believe they can influence their environment and society, have clear life goals, and show a strong sense of self-acceptance (Klohnen, 1996; Tugade & Fredrickson, 2004).

Self-Talk and Public Speaking Anxiety

Feeling anxious or uneasy about communication is a common part of everyday life. As Richmond and McCroskey (1995) noted, negative reactions from others, unfamiliar situations, and being the center of attention can all contribute to communication anxiety. Research has also shown that speech anxiety involves a complex set of thoughts and emotions, affecting both individuals who are generally anxious and those who are not, especially in public speaking contexts (Daly, 1989). These observations suggest that giving formal presentations in a college classroom can significantly heighten communication anxiety.

A meta-analysis by Kross et al. (2014) found that self-talk can positively influence individual performance. Similarly, research has reported beneficial effects of self-talk techniques in various sports, including golf (Harvey, Van Raalte, & Brewer, 2000), sprinting (Mallett & Hanrahan, 1997), tennis (Landin & Hebert, 1997), swimming (Rushall & Shewchuk, 1989), and rowing (Rushall, 1982). Moreover, Hunter, Bedell-Avers, Hunsicker, and Mumford (2014) found that self-critical self-talk significantly predicted overall levels of communication anxiety, further supporting the relevance and rationale for conducting a study in this area. A promising strategy to deal with PSA is cognitive reappraisal, which involves reframing one's thoughts or internal dialogue about a situation and involves the use of self-talk.

Given this background of self-talk playing a role in shaping the psychological experience of public speaking, we proposed the following hypotheses:

- H1: Self-talk is positively correlated with PSA.
- H1a: Self-critical self-talk is positively correlated with PSA.

- H1b: Self-reinforcing self-talk is negatively correlated with PSA.
- H1c: Self-management self-talk is positively correlated with PSA.
- H1d: Social assessment self-talk is positively correlated with PSA.

Self-Talk and Resilience

Not much research has explored the link between resilience and self-talk, even though self-talk could offer a helpful avenue for coping with stress and challenges (Papaioannou & Hackfort, 2014). Coulson (2006) found that college students who used self-talk were more resilient and had better problem-solving skills than those who did not. Hames and Joiner (2012) studied college students and found that positive self-talk helped people with high self-esteem recover better from stress, but it did not help as much for those with low self-esteem. Additionally, Reyes (2016) found that self-talk helped explain how being motivated to take action was connected to being resilient in college students.

Although both self-talk and resilience have been the focus of extensive empirical research, inconsistencies in definitions and the use of distinct, often narrow, populations have hindered cohesive scientific advancement. Resilience, for instance, has been characterized as "ordinary magic" (Masten, 2011), yet it is predominantly studied in individuals who have experienced traumatic events (Jones & McNally, 2020; Masten & Osofsky, 2010; Yehuda & Flory, 2007). Similarly, the self-talk literature is largely centered on athletic populations (Hardy, 2006; Hatzigeorgiadis, 2006; Mahoney & Avener, 1977; Van Raalte, Brewer, Rivera, & Petitpas, 1994), despite evidence that self-talk is reported by 80%–96% of adults (Brinthaupt, Hein, & Kramer, 2015; Winsler, Naglieri, & Manfra, 2006). In a study involving undergraduates reflecting on recent stressful experiences, self-talk emerged spontaneously in 70% of the conversations (Reyes, Brackett, Rivers, White, & Salovey, 2015). The overreliance on narrowly defined and often unrepresentative samples contributes to a broader issue within social psychology, where phenomena are frequently investigated in ways that fail to reflect real-world contexts (Funder, 2015). Consequently, especially in the resilience literature, there remains a lack of theoretically grounded research driven by the everyday experiences of diverse populations.

Based on the potential associations between these two variables, we proposed the following hypotheses:

- H2: Self-talk is positively correlated with resilience.
- H2a: Self-critical self-talk is negatively correlated with resilience.
- H2b: Self-reinforcing self-talk is positively correlated with resilience.
- H2c: Self-management self-talk is negatively correlated with resilience.
- H2d: Social assessment self-talk is negatively correlated with resilience.

Resilience and Public Speaking Anxiety

To the best of our knowledge, no studies have explored the relationship between PSA and resilience. However, research has largely looked into the association of resilience with anxiety in general and social anxiety in particular. The relationship between resilience and anxiety has attracted increasing scholarly interest, as resilience has been shown to mitigate the impact of stressors that may otherwise contribute to the development of anxiety-related conditions (Sheerin et al., 2018). A strengths-based perspective, which emphasizes promotive and protective factors, may offer particular promise for addressing social anxiety. Indeed, evidence suggests that fostering individual strengths can be effective in supporting individuals with SAD (Mayo-Wilson et al., 2014).

Resilience, like social anxiety, is increasingly understood as a culturally situated construct (Masten, 2014; Theron, Liebenberg, & Ungar, 2015; Ungar, 2008). For example, Ungar's (2008) cross-national study of at-risk adolescents in 11 countries found that while responses to stressors—such as seeking emotionally supportive relationships—were consistent across cultures, the accessibility and delivery of protective resources varied considerably. These findings underscore that the processes by which individuals navigate and negotiate support are context-specific, shaped by sociocultural structures and norms. Accordingly, resilience outcomes may differ depending on cultural perceptions of mental health, including stigma and help-seeking behavior (Chen, 2018; Jagdeo, Cox, Stein, & Sareen, 2009)—factors that are especially relevant in the context of social anxiety.

Although higher levels of resilience are generally associated with lower levels of anxiety (Beutel et al., 2010; Charney, 2003), the specific relationship between resilience and social anxiety remains underexplored. Existing studies typically rely on traditional conceptualizations of resilience, emphasizing internal psychological traits such as optimism, self-efficacy, and problem-solving ability (Ko & Chang, 2018; Marx, Jackson, Schnurr, & Friedman, 2017). However, contemporary frameworks advocate for a more holistic understanding that incorporates social–ecological dimensions, including access to supportive relationships, growth opportunities, and culturally appropriate community resources (Ungar, 2012). These external protective factors may be equally, if not more, important than individual traits in fostering resilience (Theron et al., 2015). This broader perspective is particularly pertinent to social anxiety, as individuals who struggle with PSA often avoid or underutilize formal support systems (Spence & Rapee, 2016). In these scenarios, informal networks and contextual resilience factors may significantly buffer anxiety symptoms (Yngve, 2016). Accordingly, it was hypothesized that resilience would be negatively correlated with PSA.

H3: Resilience is negatively correlated with PSA.

Effect of Age on Resilience, Self-Talk, and Public Speaking Anxiety

Research on resilience in both children and adults consistently highlights how certain personality traits can help people cope with stressful life experiences. One of the most important traits identified is ego resiliency, which is the ability to adapt, recover, and bounce back from adversity (Block & Block, 1980; Block & Kremen, 1996). Long-term studies show that children with high ego resiliency tend to be confident, insightful, and emotionally perceptive and develop warm, healthy relationships with others (Block, 1971, 1993). Conversely, children with low ego resiliency are more likely to experience behavioral issues, symptoms of depression, and increased drug use as teenagers (Block, Block, & Keyes, 1988; Block & Gjerde, 1990).

This pattern holds true for adults as well. Research led by Fredrickson, Tugade, Waugh, and Larkin (2003) shows that adults with high ego resiliency not only handle stress better emotionally but also recover more quickly on a physiological level. For instance, Tugade and Fredrickson (2004) found that people with higher ego resiliency had faster cardiovascular recovery after facing a lab-induced stressor. Fredrickson et al. (2003) found that such individuals experienced fewer depressive symptoms in the aftermath of the September 11th attacks.

Studies investigating whether self-talk differs with age appear to be lacking. Research has examined the role of verbalizations in task preparation across children, younger adults, and

older adults, revealing that older adults benefit from verbalizations and that inner speech modulates developmental changes in executive functioning (Kray, Eber, & Lindenberger, 2004). Therefore, exploring how self-talk relates to age-related declines in executive functioning could offer valuable insight. As cognitive abilities are closely tied to everyday tasks and life expectancy (Amirian, Swaab, & Brennan, 2010; Suchy, Derbidge, & Cofer, 1997), finding strategies that help preserve those abilities is crucial. Encouraging self-talk as a regular habit could improve how individuals think through tasks and stay mentally sharp.
Research exploring the correlation between age and PSA is limited. Existing studies on PSA tend to focus on general populations without an age-specific analysis, leaving a gap in understanding how this form of anxiety may vary across the lifespan. Nevertheless, we hypothesized the following:
H4: Age has a significant effect on (a) self-talk, (b) PSA, and (c) resilience.

There is a significant gap in the existing literature regarding the relationship between self-talk, resilience, and PSA—particularly in relation to age and within the general population. Although these individual variables have been widely studied, most existing research tends to examine them in isolation or within specific groups, such as athletes, where self-talk is often viewed through a performance-oriented lens. Few studies comprehensively explore the interplay among these psychological factors in everyday contexts, especially among individuals outside of high-performance environments. This study sought to bridge that gap by examining how self-talk and resilience interact with PSA across a more diverse and representative sample.

By addressing this underexplored intersection, the study not only contributes to the growing body of psychological literature but also has the potential to inform mental health strategies, foster emotional well-being, and support the development of practical interventions aimed at improving communication confidence in broader society.

METHOD

Design

This study adopted a quantitative research design to examine the correlation between self-talk, resilience, and PSA. The data was collected from 86 participants using a structured questionnaire administered via Google Forms. A convenience sampling method was employed to recruit participants. The sample consisted of individuals from varied educational and professional backgrounds to ensure diversity in experiences related to public speaking. The participants' ages ranged from 13 to 64 years. Data was collected from across India.

Sample

Participants were invited to complete an online questionnaire designed to examine the relationship between self-talk, resilience, and PSA. Participation was voluntary, and no incentives were provided. Our sample included 86 participants, comprising 53 women and 33 men. Participants were categorized into three age groups: adolescents (n = 22), young adults (n = 27), and middle-aged adults (n = 37). Educational backgrounds varied, with 20 participants being school students, 10 school graduates, 20 holding a bachelor's degree, 33 having completed a master's degree, and 1 participant holding a doctorate, while 2 responses were undetermined. Geographically, the participants represented a wide range of regions across India, including Delhi (n = 40), Maharashtra (n = 21), Madhya Pradesh (n = 11), Haryana (n = 5), Uttar Pradesh (n = 4), Karnataka (n = 3), Rajasthan (n = 1), and Chandigarh (n = 1).

Scales

- **Brinthaupt Self-Talk Scale:** The Self-Talk Scale (STS), developed by Brinthaupt, Hein, and Kramer (2009), measures the frequency of self-talk across four functional dimensions: self-criticism, self-reinforcement, self-management, and social assessment. It includes 16 items (four for each dimension) rated on a 5-point Likert scale (1 = *never*, 5 = *very often*), with higher scores indicating more frequent self-talk. Subscale scores range from 4 to 20, and the total score ranges from 16 to 80. Unlike earlier tools focused on content (positive or negative thoughts), the STS emphasizes the purpose and context of self-talk, capturing private and inner speech. It has demonstrated strong reliability (Cronbach's α = .78–.92).
- **Connor–Davidson Resilience Scale:** The Connor–Davidson Resilience Scale (CD-RISC-25; Connor & Davidson, 2003) is a self-administered scale containing 25 items that exhibit good psychometric properties. It is a widely used tool for measuring psychological resilience—the ability to adapt to stress, trauma, and adversity. It uses a 5-point Likert scale (0 = *not true at all*, 4 = *true nearly all the time*), with scores ranging from 0 to 100. It has shown strong psychometric properties, including high reliability and validity across diverse populations. The CD-RISC-25 assesses the multidimensional nature of resilience.
- **Public Speaking Anxiety Scale:** The Public Speaking Anxiety Scale (PSAS; Bartholomay & Houlihan, 2016) was designed to diagnose and track the treatment of speech anxiety. It consists of 17 Likert-scaled items across three subscales: cognitive (8 items), behavioral (4 items), and physiological (5 items). Responses are provided on a 5-point Likert scale (1 = *not at all*, 5 = *extremely*). The PSAS was developed to assess the three-component model of anxiety as described by Lang (1971). Items for this scale were selected by revising and rewording items from numerous other PSA scales. Additional items were created by assessing the overall manifestation of PSA to produce a comprehensive measure of speech anxiety. Reliabilities across the three subscales ranged from .747 to .881. Evidence of concurrent, convergent, and discriminant validity was established.

Method of Data Collection

Data was collected using a self-administered online questionnaire circulated through Google Forms. Participants were informed about the purpose of the study and provided informed consent before proceeding. No identifying information was collected. The form included demographic questions (age, gender, region, and educational qualification) and items from the three psychological scales (STS, CD-RISC-25, and PSAS).

Method of Analysis

Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) Version 29. The descriptive statistics of the data were obtained using SPSS. Pearson's correlation analysis was employed to assess the strength and direction of linear relationships between the three measured variables. Additionally, a one-way analysis of variance (ANOVA) was performed to examine differences in these variables across different age groups, allowing for the assessment of age-related variation.

Ethical Considerations

All procedures followed the ethical guidelines outlined by the American Psychological Association. Participation was voluntary, anonymity was ensured, and informed consent was

obtained from all participants. Participants were clearly informed about the objectives of the research, their right to withdraw at any time, and the confidentiality of their responses.

RESULTS

Table 1 shows the means and standard deviations of all variables as well as the correlation between them. Self-talk (*M* = 55.38, *SD* = 8.18) was significantly positively correlated with its four dimensions of self-critical (*M* = 12.52, *SD* = 3.12, *r* = 0.746), self-reinforcing (*M* = 13.94, *SD* = 3.14, *r* = 0.274), self-management (*M* = 14.76, *SD* = 2.81, *r* = 0.755), and social assessment (*M* = 14.16, *SD* = 3.62, *r* = 0.796) self-talk. More importantly, self-talk was significantly positively correlated with PSA (*M* = 43.79, *SD* = 15.23, *r* = 0.334); however, the strength of this correlation was weak. Public speaking anxiety was also significantly positively, but weakly, correlated with self-critical (*r* = 0.478), self-management (*r* = 0.243), and social assessment (*r* = 0.493) self-talk. A significant negative and moderate correlation was identified between PSA and self-reinforcing self-talk (*r* = –.389).

Table 1 Correlation between self-talk, public speaking anxiety, and resilience

	M	*SD*	1	2	3	4	5	6	7
1. Self-Talk	55.38	8.18	–						
2. Self-Critical Self-Talk	12.52	3.12	.746**	–					
3. Self-Reinforcing Self-Talk	13.94	3.14	.274*	–.127	–				
4. Self-Management Self-Talk	14.76	2.81	.755**	.429**	.025	–			
5. Social Assessment Self-Talk	14.16	3.62	.796**	.602**	–.159	.540**	–		
6. Public Speaking Anxiety	43.79	15.23	.334**	.478**	–.389**	.243*	.493**	–	
7. Resilience	68.98	16.10	–.114	–.347**	.490**	–.089	–.314**	–.609**	–

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

While the correlation between self-talk and resilience (*r* = –.114) was not significant, a very weak negative correlation was observed. Simultaneously, resilience was significantly negatively, but weakly, correlated with self-critical self-talk (*r* = –.347) and social assessment self-talk (*r* = –.314) and significantly positively and moderately correlated with self-reinforcing self-talk (*r* = .490). A strong and significant negative correlation was observed between PSA and resilience (*r* = –.609).

As illustrated in Table 2, the ANOVA revealed a significant effect of age on PSA (*F* = 4.30, *p* = 0.017) and resilience (*F* = 5.276, *p* = 0.007). This indicated that the levels of PSA and resilience differed between adolescents, young adults, and middle-aged adults. According to the mean values, PSA was higher in adolescents (*M* = 48.59, *SD* = 14.53) and young adults (*M* = 47.15, *SD* = 17.69) than in middle-aged adults (*M* = 38.49, *SD* = 12.14). Similarly,

adults appeared to be more resilient (*M* = 74.73, *SD* = 15.26) than young adults (*M* = 67.00, *SD* = 16.75) and adolescents (*M* = 61.73, *SD* = 13.58).

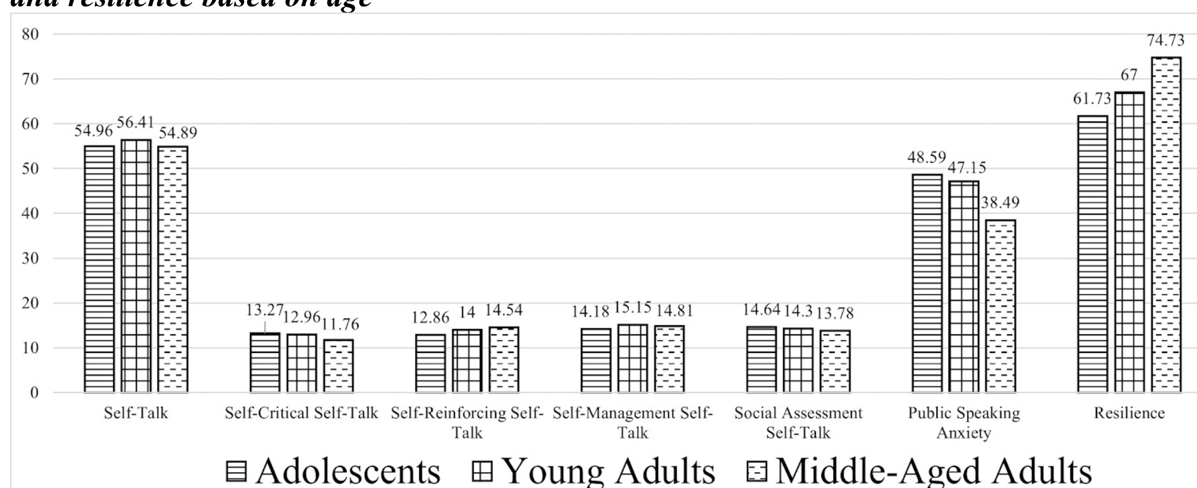
Table 2 Analysis of variance by age

	Adolescents (*n* = 22)		**Young Adults (*n* = 27)**		**Middle-Aged Adults (*n* = 37)**		***F***	**Sig.**
	M	***SD***	***M***	***SD***	***M***	***SD***		
Self-Talk	54.96	7.34	56.41	8.27	54.89	8.73	.303	.739
Self-Critical Self-Talk	13.27	3.33	12.96	2.84	11.76	3.10	2.075	.132
Self-Reinforcing Self-Talk	12.86	3.12	14.00	2.82	14.54	3.29	2.020	.139
Self-Management Self-Talk	14.18	2.67	15.15	2.81	14.81	2.90	.726	.487
Social Assessment Self-Talk	14.64	3.17	14.30	3.42	13.78	4.05	.403	.670
Public Speaking Anxiety	48.59	14.53	47.15	17.69	38.49	12.14	4.302	.017*
Resilience	61.73	13.58	67.00	16.75	74.73	15.26	5.276	.007**

***. Significant at 0.01 level.*
**. Significant at 0.05 level.*

The findings for self-talk and its dimensions were nonsignificant. Nevertheless, the mean scores indicated that the frequency of self-talk among young adults (*M* = 56.41, *SD* = 8.27) was slightly higher than among adolescents (*M* = 54.96, *SD* = 7.34) and middle-aged adults (*M* = 54.89, *SD* = 8.73). Self-critical self-talk appeared to be more common among adolescents (*M* = 13.27, *SD* = 3.33), followed by young adults (*M* = 12.96, *SD* = 2.84) and middle-aged adults (*M* = 11.76, *SD* = 3.10). Middle-aged adults had the highest mean score for self-reinforcing self-talk (*M* = 14.54, *SD* = 3.29), followed by young adults (*M* = 14.00, *SD* = 2.82) and adolescents (*M* = 12.86, *SD* = 3.12). Young adults had the highest mean score for self-management self-talk (*M* = 15.15, *SD* = 2.81), followed by middle-aged adults (*M* = 14.81, *SD* = 2.90) and adolescents (*M* = 14.18, *SD* = 2.67). Adults had the highest mean score for social-assessment self-talk (*M* = 14.64, *SD* = 3.17), followed by young adults (*M* = 14.30, *SD* = 3.42) and adolescents (*M* = 13.78, *SD* = .403). A comparison of these variables based on age is presented in Figure 1.

Figure 1 Bar graph depicting the comparison between self-talk, public speaking anxiety, and resilience based on age



DISCUSSION

The current study investigated how specific forms of self-talk relate to PSA and resilience. Several significant correlations emerged that align with existing literature, offering insights into the psychological mechanisms underlying PSA and adaptive coping. We found that self-talk was significantly positively correlated with PSA, highlighting the role of frequent self-talk in contributing to anxiety in a social context. Therefore, we accepted H1. Moreover, the analysis revealed significant correlations for each subdomain of self-talk.

First, self-critical self-talk was significantly and positively correlated with PSA. This finding is consistent with previous studies indicating that individuals who frequently engage in negative internal evaluations, such as self-blame or harsh self-judgment, tend to experience higher anxiety in social and performance contexts (Clark & Beck, 2010; Shahar, Britton, Sbarra, Figueredo, & Bootzin, 2012). Such internal criticism likely exacerbates performance-related stress by undermining confidence and increasing self-focused attention. Therefore, we accepted H1a, which stated that self-critical self-talk would be positively correlated with PSA.

Second, self-reinforcing self-talk was significantly and negatively correlated with PSA. This suggests that individuals who engage in positive internal dialogue, such as encouraging or affirming thoughts, tend to experience less anxiety. This finding aligns with the cognitive–behavioral perspective that emphasizes the protective role of adaptive cognitions in managing emotional distress (Beck, 2011; Snyder & Lopez, 2002). Positive self-talk likely enhances self-efficacy, reduces fear, and buffers against negative interpretations of performance. Therefore, we accepted H1b, which stated that self-reinforcing self-talk would be negatively correlated with PSA.

Third, self-management self-talk was also significantly positively associated with PSA. While this type of self-talk generally involves task-focused behaviors like planning and directing oneself, its positive association with PSA may indicate that over-preparation or mental rehearsal could serve as a marker of underlying anxiety rather than effective coping (Papageorgiou & Wells, 2001). Thus, although self-management is typically adaptive, in the context of PSA, it might reflect anxious rumination or perfectionism. This led us to accept H1c, which stated that self-management self-talk would be positively correlated with PSA.

Fourth, social assessment self-talk, which involves mentally rehearsing or anticipating how others might evaluate one's behavior, showed a strong and significant positive correlation with PSA. This supports the notion that the fear of negative evaluation is a central cognitive component of social anxiety and public speaking fear (Edwards, Rapee, & Franklin, 2003; Hofmann, 2007). Individuals who are highly attuned to external judgments may perceive greater social threats in speaking situations, thereby experiencing heightened anxiety. Therefore, we accepted H1d, which stated that social assessment self-talk would be positively correlated with PSA.

As the correlation between self-talk and resilience was not statistically significant, we rejected H2, which proposed that self-talk would be positively correlated with resilience. Nevertheless, self-reinforcing self-talk was significantly positively correlated with resilience, indicating that individuals who use self-affirming language are more likely to exhibit psychological resilience. This is consistent with findings that positive self-appraisals contribute to emotional regulation, recovery from stress, and adaptive coping strategies

(Neenan, 2009; Tugade & Fredrickson, 2004). Therefore, H2b was accepted, which posited that self-reinforcing self-talk would be positively correlated with resilience.

Conversely, both self-critical and social assessment self-talk were significantly negatively correlated with resilience. These findings suggest that a negative internal dialogue, particularly when focused on self-judgment or fear of social evaluation, may slightly diminish an individual's ability to adapt to adversity. This aligns with prior research indicating that maladaptive cognitive styles interfere with coping and emotional flexibility (Shahar et al., 2012; Wagnild & Young, 1993). Therefore, H2a and H2d were accepted, which stated that self-critical and social assessment self-talk, respectively, would be negatively correlated with resilience.

As a significant correlation was not observed between self-management self-talk and resilience, H2c was rejected. Overall, these correlations reinforce existing theories highlighting the differential impact of positive versus negative self-talk on anxiety and resilience. The findings suggest that fostering a constructive internal dialogue may be an effective strategy for reducing PSA and enhancing psychological resilience.

Finally, our findings yielded a strong and statistically significant negative correlation between PSA and resilience, indicating that individuals with higher levels of resilience tend to experience lower levels of PSA. This finding aligns with existing literature suggesting that resilience acts as a protective factor against various forms of anxiety, including performance-related anxiety. Highly resilient individuals may possess better emotion regulation abilities, adaptive coping mechanisms, and cognitive flexibility, which could buffer the stress and apprehension associated with public speaking (Tugade & Fredrickson, 2004). Therefore, H3, which stated that resilience would be significantly negatively correlated with PSA, was accepted.

This study aimed to examine the effect of age on self-talk, PSA, and resilience. The ANOVA results revealed that age significantly influenced PSA and resilience but had no significant effect on self-talk or its subdomains. Public speaking anxiety decreased with age, with adults reporting the lowest PSA levels, suggesting improved emotion regulation over time. Simultaneously, resilience increased with age, with higher scores observed among middle-aged adults, followed by young adults and adolescents. This indicated that one's ability to bounce back from challenges may strengthen through accumulating life experiences. Therefore, as age had a significant effect on PSA and resilience, H4b and H4c, respectively, were accepted.

However, we found no significant effect of age on self-talk, leading to the rejection of H4a. Nevertheless, adolescents obtained higher scores for self-critical self-talk, whereas adults reported more self-reinforcing self-talk. These patterns may partially explain their respective anxiety and resilience levels.

Limitations

While the present study offers valuable insights, several limitations should be acknowledged. First, the sample size (N = 86) was relatively small, which may limit the statistical power and robustness of the findings. A larger and more diverse sample may have strengthened the generalizability of the results. Second, the use of an online convenience sampling method restricts the representativeness of the sample, as participants were not

randomly selected and may not reflect the broader population. This may introduce potential biases related to demographics, internet accessibility, or self-selection.

Additionally, although the study examined various domains of self-talk, it did not account for relevant contextual or situational factors, such as actual experience with public speaking, individual personality traits, or environmental stressors, that could moderate or influence the observed relationships. Future research should consider incorporating such variables to gain a more comprehensive understanding of how self-talk functions in different psychological and real-life contexts.

Implications

The findings of this study have theoretical and practical implications. Theoretically, the results contribute to the growing body of literature on cognitive and emotional processes involved in PSA. Specifically, the differential relationships between the self-talk subdomains and both PSA and resilience support existing cognitive–behavioral models, such as those proposed by Clark and Beck (2010), which emphasize the role of internal dialogue in shaping emotional responses.

From a practical standpoint, these findings highlight the potential utility of self-talk interventions in managing PSA and enhancing resilience. Training individuals, particularly students or professionals who frequently engage in public speaking, to recognize and replace self-critical or socially evaluative thoughts with self-reinforcing dialogue may reduce performance-related anxiety and promote greater emotional stability.

Moreover, this study highlights the importance of looking beyond the symptoms of anxiety or stress. For mental health professionals, educators, and coaches, it is also important to understand how people talk to themselves as these internal conversations can support or sabotage their confidence. By helping individuals become aware of and change unhelpful self-talk patterns, we may be able to strengthen their ability to cope with challenges and build lasting resilience in everyday life.

Future research should explore how practical, real-world interventions like self-talk training can make a long-term difference. Understanding how changing the way people speak to themselves impacts their anxiety and overall well-being could open up new and more effective approaches to emotional support and personal development.

CONCLUSION

This study explores the relationship between self-talk, resilience, and PSA, along with the impact of age on these variables. The findings reveal a significant positive correlation between self-talk and PSA and a strong negative correlation between PSA and resilience. No significant correlation is found between self-talk and resilience; however, the subdomains of self-critical and social assessment self-talk are negatively correlated with resilience, and self-reinforcing self-talk is positively correlated with resilience. Age significantly affects both resilience and PSA, with middle-aged adults showing higher resilience and lower anxiety than the younger groups. These results add to the psychological literature by highlighting how emotional and cognitive factors vary with age. Future research should include more diverse or clinical populations, particularly older adults, for whom the link between self-talk and resilience may offer promising findings. The use of qualitative methods (e.g., interviews and thought diaries) can lead to deeper insights into how individuals experience and manage self-talk in real-life situations, especially in performance

or stress-related contexts. Additionally, the findings underscore the need for early interventions focused on building resilience and managing PSA, especially among adolescents, to support emotional development and reduce anxiety from a younger age.

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Conflict of Interest
We declare no conflicts of interest.

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