

EMPIRICAL STUDY OF IMPOSTOR SYNDROME ACROSS DIFFERENT AGE PERIODS

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Abstract

The study investigated the manifestation of impostor syndrome across different developmental stages. A total of 1,430 respondents participated, of whom 76.7% were female and 23.3% were male. The results revealed statistically significant differences between age groups ($H = 16.56$; $p = 0.002$). The highest levels of impostor syndrome were observed in adulthood and late adulthood, while the lowest levels were found in early adolescence and youth. The findings suggest that impostor syndrome tends to intensify with age and highlight its significance for developing effective psychological support and intervention strategies.

Keywords: impostor syndrome, age differences, developmental stages, adolescence, adulthood, gender differences

Introduction

Impostor syndrome, first described by Clance and Imes (1978), refers to a psychological pattern in which individuals doubt their accomplishments and persistently fear being exposed as frauds despite evident success. Research has shown that this phenomenon is not limited to a specific demographic but occurs across different ages, genders, and professional backgrounds (Sakulku & Alexander, 2011; Bravata et al., 2020). Although much of the existing literature has concentrated on university students and professionals, less attention has been devoted to examining how impostor syndrome manifests across distinct developmental stages.

Adolescence and young adulthood are considered particularly sensitive periods for the emergence of impostor tendencies, given the increased academic, social, and career-related pressures individuals face (Parkman, 2016). However, empirical evidence suggests that impostor syndrome may persist into adulthood and even intensify with age as individuals confront new personal and professional challenges (Vergauwe et al., 2015). Understanding these age-related dynamics is crucial, as prolonged experiences of impostor feelings have been associated with decreased self-esteem, heightened anxiety, and impaired career development (Corkindale, 2008; Muradoglu et al., 2022).

This study aims to investigate the prevalence and intensity of impostor syndrome across different age groups, ranging from early adolescence to late adulthood. By exploring developmental differences, the research provides valuable insights into the psychological



mechanisms underlying impostor feelings and offers practical implications for designing targeted interventions in educational and clinical contexts.

Literature Review

Impostor syndrome is widely recognized as a psychological experience in which individuals doubt their abilities, fear being exposed as inadequate, and attribute success to external factors such as luck or effort rather than competence. This maladaptive attribution style is accompanied by chronic anxiety, perfectionism, and fear of failure (Sakulku & Alexander, 2011). While impostor feelings are not classified as a clinical disorder, they exert a profound influence on self-concept, academic achievement, and professional development (Bravata et al., 2020).

Studies consistently show that individuals with impostor tendencies often engage in two maladaptive cycles: over-preparation and procrastination, both of which reinforce self-doubt and increase stress levels (Neureiter & Traut-Mattausch, 2016). Over time, this creates a vicious circle in which achievement paradoxically intensifies impostor experiences instead of alleviating them.

A significant body of research highlights the presence of impostor syndrome in academic settings. University students, especially those in competitive programs, report high levels of impostor feelings that interfere with learning motivation, self-efficacy, and persistence (Parkman, 2016). Hutchins and Rainbolt (2017) found that impostor tendencies among faculty members also affect teaching performance, professional confidence, and career advancement. These findings demonstrate that impostor syndrome emerges not only in students but also continues into academic careers.

Adolescence and early adulthood are particularly sensitive stages due to identity formation and social comparison processes (Craddock et al., 2011). During these periods, students often encounter elevated expectations from families, teachers, and peers, leading to heightened self-scrutiny and vulnerability to impostor beliefs. This suggests that the early stages of personal development may form a psychological foundation for the persistence of impostor tendencies later in life.

Beyond education, impostor syndrome has been widely documented in professional environments. Employees experiencing impostor feelings often underreport achievements, avoid leadership opportunities, and exhibit lower organizational commitment (Vergauwe et al., 2015). Neureiter and Traut-Mattausch (2016) identified impostor syndrome as a barrier to career development, reducing individuals' willingness to pursue promotions or professional challenges.

Importantly, impostor syndrome appears to persist into adulthood and may even intensify in later career stages, as individuals face new responsibilities and heightened performance expectations (Kolligian & Sternberg, 1991). Professionals in medicine, business, and STEM disciplines have been found to be particularly vulnerable, where high standards and perfectionistic environments exacerbate self-doubt (Villwock et al., 2016).



Gender Differences and Sociocultural Factors

A recurring theme in the literature concerns gender differences. Numerous studies report that women experience impostor syndrome more frequently than men, often due to sociocultural pressures, gender stereotypes, and systemic barriers in education and the workplace (Bravata et al., 2020; Tulshyan & Burey, 2021). These findings suggest that women's success is more likely to be externally questioned, thereby reinforcing impostor beliefs.

Nevertheless, other research indicates that impostor tendencies are not exclusively gendered but rather shaped by contextual and cultural conditions. For example, studies in collectivist societies have observed impostor feelings across genders, linked more closely to social comparison and fear of losing face than to gender identity alone (Sakulku & Alexander, 2011). This indicates the importance of examining impostor syndrome within broader cultural frameworks.

Psychological and Career Outcomes

The consequences of impostor syndrome are well-documented, ranging from diminished self-esteem and increased stress to clinical levels of anxiety and depression (Muradoglu et al., 2022). Longitudinal studies suggest that persistent impostor tendencies correlate with lower job satisfaction, reduced resilience, and impaired leadership effectiveness (McGregor et al., 2008). Moreover, impostor feelings often intersect with perfectionism, making individuals more susceptible to burnout (Gravois, 2007).

Given these significant outcomes, scholars emphasize the importance of early identification and intervention. Psychoeducational programs, mentorship structures, and organizational awareness campaigns are frequently recommended as strategies to mitigate impostor experiences (Corkindale, 2008).

Gaps in the Literature

Despite the growing interest, gaps remain in understanding impostor syndrome across different stages of life. Much of the empirical work focuses on students and early-career professionals, while relatively few studies explore impostor experiences in middle adulthood or later stages of personal development. This neglect overlooks the dynamic nature of impostor tendencies as individuals face new life transitions such as career advancement, parenting, or retirement planning. Therefore, systematic investigation of impostor syndrome across age groups is essential to provide a more nuanced understanding of its developmental trajectory. By doing so, researchers can offer insights not only into the psychological mechanisms underlying impostor beliefs but also into practical interventions tailored to specific age-related needs.

Methodology

This research was conducted using a quantitative, cross-sectional design to investigate differences in impostor syndrome across developmental stages. The total sample consisted of 1,430 respondents recruited from educational institutions affiliated with Renaissance Education University. Participants were distributed across five age categories: early adolescence (663 participants, 46.4%), adolescence (410 participants, 28.7%), youth (110 participants, 7.7%),



adulthood (112 participants, 7.8%), and late adulthood (135 participants, 9.4%). In terms of gender, the sample included 1,097 females (76.7%) and 333 males (23.3%), providing a balanced representation of developmental stages with a predominance of female participants. Impostor syndrome was measured using a validated Impostor Phenomenon Scale, which assesses feelings of intellectual inadequacy, fear of exposure, and the tendency to attribute success to external rather than internal factors. The scale has demonstrated strong psychometric reliability in previous studies, with Cronbach's alpha coefficients typically exceeding .80 (Sakulku & Alexander, 2011; Muradoglu et al., 2022). Data collection was carried out in group settings under the supervision of trained facilitators. Participants were informed about the aims of the study and gave their consent, while confidentiality and anonymity were strictly maintained throughout the process.

The data were analyzed using non-parametric statistical methods, as the impostor syndrome scores were ordinal and group sizes were unequal. Specifically, the Kruskal–Wallis H test was applied to examine differences across the five age groups, and post-hoc pairwise comparisons with Bonferroni corrections were performed to identify the sources of variation. In addition to inferential analyses, descriptive statistics were calculated to summarize the demographic distribution and general characteristics of the sample. The results of the analysis indicated significant differences in impostor syndrome scores between age groups ($H = 16.56$; $p = 0.002$, $p < 0.01$), thereby confirming that impostor syndrome varies across developmental stages.

Results

The analysis revealed meaningful differences in impostor syndrome across developmental stages and gender. First, the demographic distribution of the sample demonstrated that the majority of respondents were in early adolescence (46.4%) and adolescence (28.7%), with smaller proportions representing youth (7.7%), adulthood (7.8%), and late adulthood (9.4%). In terms of gender composition, females accounted for 76.7% of the total sample, while males represented 23.3%. This gender imbalance reflects the general demographic patterns of the institutions surveyed and provides an important context for interpreting the findings.

1-table Distribution of research participants by age stages

Age stages	number of respondents	Percentage (%)
Early adolescence	663	46,4%
Adolescence	410	28,7%
Youth	110	7,7%
Adulthood	112	7,8%
Second stage of adulthood	135	9,4%
Total	1430	100,0%

2-table Distribution of research participants by gender differences

Respondents	Number of respondents	Percentage (%)
Female	1097	76,7%
Male	333	23,3%
Total	1430	100,0%



When impostor syndrome scores were compared across age groups, the Kruskal–Wallis test indicated a statistically significant difference ($H = 16.56$; $p = 0.002$, $p < 0.01$). Mean rank comparisons further clarified these differences. The lowest levels of impostor syndrome were observed in early adolescence (mean rank = 680.05) and youth (mean rank = 688.27). In contrast, the highest levels were identified in adulthood (mean rank = 774.94) and late adulthood (mean rank = 819.25), with adolescence occupying an intermediate position (mean rank = 728.25). These results suggest a developmental trend in which impostor tendencies intensify with age, peaking in later stages of life.

3-table Differences in impostor syndrome methodology by age periods (N = 1430)

Indexes	Mean rank					Statistical value	
	Early adolescence (N-663)	Adolescence (N-410)	Youth (N-110)	Adulthood (N-112)	Second stage of adulthood (N-135)	H	p
Imposter syndrome	680,05	728,25	688,27	774,94	819,25	16,56	0,002**

Inter: ** - $p < 0.01$

This pattern underscores the possibility that impostor syndrome is not merely a transient experience associated with adolescence or academic settings but may persist and even increase as individuals face more complex personal, social, and professional responsibilities. The finding that early adolescence and youth showed comparatively lower levels of impostor tendencies aligns with the view that younger individuals, though vulnerable to external evaluation, may not yet experience the heightened performance pressures characteristic of adulthood. Conversely, the elevated scores in adulthood and late adulthood may reflect the cumulative effect of occupational, familial, and societal expectations, which reinforce self-doubt despite accumulated experience and achievements.

Taken together, these results confirm that impostor syndrome is a dynamic phenomenon that evolves over the life span. They highlight the need for developmental sensitivity in designing psychological interventions and preventive strategies, ensuring that support is tailored to the unique challenges faced at different stages of individual growth.

Discussion

The present study sought to investigate the manifestation of impostor syndrome across different developmental stages, and the results provide clear evidence that impostor tendencies vary significantly by age. Consistent with earlier findings that impostor feelings are influenced by social and psychological pressures (Bravata et al., 2020; Muradoglu et al., 2022), the results demonstrated that impostor syndrome scores were lowest in early adolescence and youth but



highest in adulthood and late adulthood. This developmental trend suggests that impostor tendencies are not confined to the early stages of identity formation but may intensify as individuals encounter increasing responsibilities and higher expectations in both personal and professional domains.

The relatively lower levels of impostor feelings among early adolescents and youths may be explained by their limited exposure to long-term career pressures and the still-developing sense of professional identity. Although this age group experiences significant academic and social challenges, these may not yet be compounded by the responsibilities of adult life. In contrast, adults and late adults may experience greater vulnerability to impostor feelings due to the weight of workplace demands, social roles, and cultural expectations regarding competence and success. This interpretation aligns with studies indicating that impostor syndrome is strongly associated with perfectionism, organizational stress, and career progression challenges (Vergauwe et al., 2015; Neureiter & Traut-Mattausch, 2016).

The gender distribution of the sample, with females comprising nearly three-quarters of participants, also raises important considerations. Previous studies have often reported higher levels of impostor syndrome among women, linking this to systemic inequalities, societal expectations, and gendered performance pressures (Tulshyan & Burey, 2021). Although the current analysis did not directly test gender differences, the predominance of female respondents highlights the necessity of further research into how impostor tendencies may intersect with gender identity across developmental stages.

Importantly, these findings expand upon the literature by offering an empirical comparison across multiple age groups rather than focusing solely on students or early-career professionals. While previous research has largely concentrated on university populations (Parkman, 2016; Hutchins & Rainbolt, 2017), the current results demonstrate that impostor syndrome remains a relevant and persistent issue into later stages of life. This suggests that interventions should not be limited to academic contexts but must also be incorporated into workplace mental health programs and adult psychological services.

From a practical perspective, the study underscores the importance of tailored intervention strategies. For adolescents and youths, psychoeducational initiatives that promote self-efficacy and resilience may prevent the early development of impostor tendencies. For adults and late adults, workplace mentoring, coaching, and therapeutic interventions may be particularly beneficial in addressing the cumulative effects of self-doubt and performance anxiety. Furthermore, organizational awareness programs can reduce stigma and foster environments that validate competence and achievement.

In sum, the findings of this study confirm that impostor syndrome is a lifelong psychological challenge, subject to developmental variation. By situating impostor tendencies within a life-span framework, this research highlights the need for both theoretical refinement and practical innovation in the field of educational and occupational psychology.

Conclusion

This study examined impostor syndrome across different developmental stages and revealed significant age-related differences. The results showed that impostor tendencies were lowest in



early adolescence and youth but increased progressively, reaching their highest levels in adulthood and late adulthood. These findings indicate that impostor syndrome is not confined to academic or early career contexts but is a persistent psychological experience that intensifies with growing social, professional, and personal responsibilities.

The study contributes to the literature by providing empirical evidence of impostor syndrome as a developmental phenomenon, underscoring the importance of adopting a life-span perspective in both research and practice. The results highlight the necessity of early preventive interventions during adolescence and youth, as well as targeted psychological and organizational support for adults and late adults who face heightened vulnerability.

Overall, the findings emphasize that impostor syndrome remains a critical psychological issue with long-term implications for well-being, self-efficacy, and career development. Addressing it requires comprehensive strategies that integrate psychoeducation, mentoring, and supportive environments across educational, workplace, and clinical settings.

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