

EXPLORING THE RELATIONSHIP BETWEEN POSITIVE YOUTH DEVELOPMENT COMPONENTS AND ANXIETY LEVELS AMONG ADOLESCENTS

EGLANTINA DERVISHI

Department of Psychology and Pedagogy,
Faculty of Social Sciences, University of Tirana,
Tirana, Albania;
eglantina.dervishi@unitir.edu.al;
Orcid ID: <https://orcid.org/0000-0003-1015-1948>

SARA ÇUKA

Department of Psychology and Pedagogy,
Faculty of Social Sciences, University of Tirana,
Tirana, Albania;
sara_cuka.fshsstudent@unitir.edu.al

ARJANA MUCAJ

Department of Psychology and Pedagogy,
Faculty of Social Sciences, University of Tirana,
Tirana, Albania;
arjanamucaj@yahoo.it;
ORCID ID: 0000-0001-9894-9123

ALBANA CANOLLARI-BAZE

Schiller International University, Paris, France;
albana.canollari-baze@faculty.schiller.edu;
ORCID ID: 0000-0003-2565-9963

Abstract: This study explored the relationship between key components of Positive Youth Development (PYD) — Competence, Confidence, Social Connection, Character, and Care — and varying anxiety levels in adolescents. The objective was to identify how these components correlate with anxiety and highlight areas where interventions could be focused to support mental well-being. The study utilized descriptive and correlational analyses of data collected from a sample of adolescents (N=92). Five C of PYD components were measured alongside anxiety levels, which were categorized into minimal, mild, moderate, and severe. Descriptive statistics, such as means, medians, modes, and standard deviations, were calculated for each PYD component and anxiety category. Regression analysis was performed to examine the relationship between the PYD components and anxiety severity. The descriptive analysis showed that all PYD components had moderately high average values, with Competence (M=3.3, SD=0.7), Confidence (M=3.1, SD=0.8), and Social Connection (M=3.4, SD=0.6) being the most prominent. Regression analysis revealed significant negative correlations between higher levels of PYD components and lower levels of anxiety, especially in categories of moderate and severe anxiety. Competence,

Confidence, and Social Connection were the most predictive of lower anxiety levels, with stronger negative correlations observed in higher anxiety categories. For instance, Competence had a correlation of -0.45 for minimal anxiety and -0.60 for severe anxiety. The findings suggest that enhancing PYD components, particularly Competence, Confidence, and Social Connection, is associated with lower anxiety levels in adolescents. Interventions to foster these components may contribute to improved mental health outcomes, including reduced anxiety. The study underscores the importance of a holistic approach to youth development to promote both psychological well-being and social competence.

Keywords: 5 Cs. positive youth development, adolescents, anxiety, competence, confidence, connection, mental health

JEL Classification: I12, J13, O15

Introduction

Adolescence represents a crucial period of human development, marked by rapid physical, emotional, and social transformations that significantly shape an individual's psychological well-being (Backes & Bonnie, 2019; Christie & Viner, 2005; Žukauskienė, 2014). This phase is often characterized by heightened sensitivity to environmental and social pressures, which can make adolescents particularly vulnerable to mental health challenges (Orben, Tomova & Blakemore, 2020; Sahi, Eisenberger & Silvers, 2023). Among these, anxiety disorders emerge as some of the most prevalent and debilitating issues, capable of negatively impacting adolescents' academic performance, interpersonal relationships, and overall psychological adjustment (Beesdo, Knappe & Pine, 2009; Chiu, Falk & Walkup, 2016). Anxiety is a common psychological issue in adolescence, often manifesting through feelings of excessive worry, fear, and nervousness (Beesdo, Knappe & Pine, 2009). These symptoms can be further exacerbated by the multiple stressors adolescents face, such as academic pressure, peer relationships, and identity development (Mofatteh, 2020). High levels of anxiety in adolescents are associated with a range of negative outcomes, including lower academic achievement, social withdrawal, and impaired emotional regulation (Archbell & Coplan, 2022; Jiang *et al.*, 2022). Given the far-reaching implications of anxiety for adolescent development, there is a pressing need for strategies that can mitigate its impact and promote psychological resilience during this vulnerable period.

If left unaddressed, anxiety during adolescence may lead to long-term consequences that persist into adulthood, including increased risk of depression, substance abuse, and other mental health problems (Schlack *et al.*, 2021; Morales-Muñoz *et al.*, 2023). Thus, understanding both the risk and protective factors associated with anxiety during this formative period is essential for informing effective prevention and intervention strategies (Kozina *et al.*, 2021).

One promising framework for addressing adolescent anxiety is the Positive Youth Development (PYD) model, which shifts the focus from problem behaviors to promoting positive attributes that foster healthy development (Zhou *et al.*, 2020). The PYD approach is grounded in the belief that all young people possess the potential to thrive, provided they are equipped with the right resources and support. Central to this model are the 5Cs: Competence, Confidence, Connection, Character, and Caring (Lin *et al.*, 2018; Shek *et al.*, 2019). These five core attributes represent developmental strengths that can enhance adolescents' resilience and protect against negative mental health outcomes, such as anxiety (Grazzani *et al.*, 2022).

The “Competence” dimension refers to adolescents' ability to effectively navigate academic, social, and physical challenges. Adolescents who feel competent in these areas are more likely to exhibit lower anxiety levels, as they are better equipped to cope with the demands of their environment. “Confidence”, on the other hand, involves a positive sense of self-worth and belief in one’s abilities. Adolescents with higher confidence are less likely to experience self-doubt and fear of failure, both of which are common contributors to anxiety. “Connection” emphasizes the importance of strong, supportive relationships with family, peers, and the broader community (Abdi *et al.*, 2023). Positive connections provide adolescents with emotional support, reducing feelings of isolation and anxiety. “Character” pertains to adherence to moral and ethical values, which can guide behavior and decision-making, fostering a sense of purpose and direction that counters feelings of anxiety (Black *et al.*, 2024; Yeager, Dahl & Dweck, 2018). Lastly, “Caring” is characterized by empathy and concern for others, which can promote prosocial behaviors and emotional well-being, further protecting against anxiety (Alexander *et al.*, 2021; Rodwin *et al.*, 2022).

The 5Cs framework offers a holistic approach to adolescent development by focusing on internal assets that not only promote positive outcomes but also buffer against psychological distress. Numerous studies have demonstrated the protective role of the 5Cs in reducing risky behaviors and promoting mental well-being (Abdul Kadir & Mohd, 2021; Gomez-Baya *et al.*, 2023). For instance, research conducted by Manrique-Millones *et al.* (2023) found that adolescents who exhibited higher levels of the 5Cs were less likely to engage in risky behaviors and more likely to report greater life satisfaction. Similarly, Kozina *et al.* (2021) showed that the 5Cs were negatively correlated with anxiety symptoms, suggesting that adolescents with stronger PYD attributes are less prone to experiencing anxiety. However, while these findings are well-established in Western contexts, the relationship between the 5Cs and anxiety in non-Western settings remains underexplored.

In non-Western societies, such as Albania, cultural, social, and economic factors may interact with the developmental processes (Hyseni Duraku *et al.*, 2024) outlined by the PYD model in unique ways. Given the distinct cultural context of Albania, it is important to investigate whether the protective effects of the 5Cs extend to adolescents in this region. This study seeks to address this gap in the literature by examining the relationship between the 5Cs of Positive Youth Development and anxiety levels among adolescents in Tirana, Albania. By doing so, this study aims to provide insights into how developmental strengths can be leveraged to promote mental health in diverse cultural settings.

To assess anxiety, this study employs the Beck Anxiety Inventory (BAI), a well-validated instrument designed to measure the severity of anxiety symptoms. The BAI distinguishes between minimal, mild, moderate, and severe anxiety levels, offering a comprehensive understanding of the adolescents' emotional states. By combining the 5Cs Short Form, which measures the developmental strengths outlined by the PYD model, and the BAI, this study will explore the potential protective role of the 5Cs in mitigating anxiety symptoms among Albanian adolescents.

The primary aim of this study is to investigate the potential protective role of the 5Cs of Positive Youth Development—Competence, Confidence, Connection, Caring, and Character—in mitigating anxiety symptoms among adolescents in Tirana, Albania.

Hypotheses

1. There will be a negative correlation between Positive Youth Development (measured by the 5Cs) and anxiety levels (measured by the BAI) in adolescents.
2. Adolescents with higher scores in the 5Cs domains (Competence, Confidence, Connection, Caring, and Character) will exhibit lower levels of anxiety symptoms.

By exploring these relationships, this study seeks to contribute to the growing body of literature on Positive Youth Development, while also addressing the need for research on adolescent mental health in non-Western contexts. The findings from this study may offer valuable insights into how fostering developmental strengths can help reduce anxiety and promote well-being among adolescents, thereby informing interventions aimed at improving mental health outcomes in diverse cultural settings.

Method

This study employs a correlational quantitative methodology to evaluate the link between anxiety levels and the five characteristics of Positive Youth Development (PYD) among adolescents in Tirana, Albania. The study involved 92 youths from Tirana aged 15 to 18. Between April and June 2024, the sample was drawn using a convenience sampling method. Everyone agreed to take part in the study. They were in class when the survey was taken. The sample had 50 females and 42 males, with an average age of 17 years ($SD = 0.95$).

The 5Cs of Positive Youth Development

The 5Cs form (34 items) measure: Competence, by six items indexing academic, social, and physical competence. Confidence was measured by six items indexing self-worth, positive identity, and appearance. Connection was measured by eight items indexing positive bonds with family, neighborhood, school, and peer. Caring was measured by six items indexing sympathy and empathy. Character was measured using eight items indexing social conscience, valuing diversity, conduct morality, and personal values. The questionnaire is based on 5 points Likert - type scale rating from: (1) Strongly Disagree, (2) Disagree, (3) Neither Agree nor Disagree (4) Agree and (5) Strongly Agree. The Cronbach alpha has demonstrated acceptable psychometric properties for the total scale .89 and for the subscale - competence ($\alpha = 0.48$), confidence ($\alpha = 0.90$), character ($\alpha = 0.81$), caring ($\alpha = 0.96$), and connection ($\alpha = 0.63$).

The Beck Anxiety Inventory (BAI)

BDI was developed by Dr. Aaron T. Beck and colleagues in 1988, is a self-report questionnaire designed to assess the severity of anxiety symptoms. It consists of 21 items rated on a scale from 0 (not at all) to 3 (severe). BAI distinguishes between minimal, mild, moderate, and severe anxiety levels and focuses specifically on anxiety symptoms, minimizing overlap with depressive symptoms. This makes it valuable in clinical settings for differentiating anxiety from depression. It is reliable for various groups, including adolescents, and useful in both clinical practice and research. The BAI has shown strong internal consistency (Cronbach's alpha > 0.90) and good test-retest reliability (0.75–0.90).

Data analyses

The present study utilized SPSS 22 statistical software to analyze data collected from 92 high school students. The analytical approach focused on three main statistical methods: descriptive statistics was employed to summarize and describe the distribution of values within the sample. Measures such as means, standard deviations, and frequency distributions were calculated to provide a comprehensive overview of participants' demographic characteristics and their responses to the questionnaires. This initial analysis helped in identifying the general trends and distributions in the data.

Correlation analysis, was used to examine the strength and direction of relationships between key variables, particularly between the components of Positive Youth Development (PYD) and anxiety levels. This analysis aimed to identify significant correlations that could illuminate how various dimensions of the 5Cs of PYD relate to anxiety symptoms among the participants. Corresponding p-values were computed to assess the statistical significance of the correlations observed, allowing for a clearer understanding of these relationships.

Regression Analysis were applied to predict the influence of PYD components on varying levels of anxiety. This analysis aimed to explore how individual dimensions of PYD—namely Competence, Confidence, Connection, Caring, and Character—could serve as protective factors in mitigating anxiety symptoms among adolescents. By examining these relationships, the study sought to identify which specific components of PYD contribute most significantly to reducing anxiety.

Results

The descriptive statistics for the five dimensions of Positive Youth Development (PYD)—Competence, Confidence, Connection, Character, and Caring—derived from the responses of the adolescent participants reveals that adolescents perceive themselves relatively positively across the five dimensions of PYD, with “Caring” and “Connection” being the highest-rated constructs. However, the variability observed in the dimensions of Confidence and Character suggests that these areas may benefit from targeted interventions aimed at fostering self-esteem and character development. The relatively lower mean scores for confidence could be indicative of the challenges adolescents face in this area, warranting further investigation into potential influences on their self-perception. These findings underscore the importance of promoting all dimensions of PYD to enhance overall adolescent well-being and resilience.

The study analyzed the anxiety levels of participants, categorizing them as minimal, mild, moderate, and severe. The results showed a significant predominance of minimal to mild anxiety levels, with a significant drop in the reporting of moderate and severe anxiety symptoms. The higher mean and mode scores for minimal and mild anxiety suggest that while some participants experience anxiety, it is largely perceived as manageable and less impactful. The significant variability in minimal anxiety scores indicates that this category encompasses a wide range of experiences, while the lower prevalence of moderate and severe anxiety levels suggests that serious anxiety issues may not be as widespread among adolescent participants. These findings emphasize the importance of addressing and supporting adolescents experiencing varying levels of anxiety, particularly those in the minimal and mild categories,

as they may still benefit from interventions aimed at enhancing coping strategies and resilience. Further research is warranted to explore the underlying factors contributing to these anxiety levels and identify effective support mechanisms for this population.

The analysis of gender distribution (table 1) of the 5Cs of Positive Youth Development (PYD) components reveals that male students tend to have higher levels of confidence and connection, while females excel in caring and character. Both genders show equal competence levels. Female students report a higher percentage of caring, which aligns with common socialization patterns. Competence perceptions are evenly distributed between genders, suggesting similar opportunities or experiences contribute to self-assessment. Character perceptions are higher among female students, with 21.3% of them reporting character, reflecting their socialization towards virtues like integrity and responsibility. These findings can inform future interventions to enhance PYD in adolescents, recognizing strengths and areas for improvement across genders. Further research could explore underlying factors contributing to these differences, such as socialization processes, cultural influences, and educational environments.

Table 1. Gender Distribution of 5Cs of Positive Youth Development Among High School Students

	Female (%)	Male (%)
Confidence	20.8%	21.3%
Connection	18.8%	21.2%
Caring	19.7%	18.1%
Competence	19.2%	19.2%
Character	21.3%	20.2%

The data presented in the table 2 delineates the distribution of anxiety levels among high school students, segmented by gender. It reveals distinct patterns in the prevalence of anxiety across various severity categories.

Female students exhibit a slightly higher prevalence of minimal anxiety (30.1%) compared to male students (28.4%). This observation may suggest that female students perceive their anxiety as less pronounced or possess a greater resilience to minor stressors, although further investigation would be necessary to substantiate these findings.

The distribution indicates a relatively balanced representation, with 25.3% of female students and 26.1% of male students experiencing mild anxiety. This proximity in percentages suggests that both genders encounter similar minor anxiety-inducing situations, reflecting shared experiences in their educational environments.

The prevalence of moderate anxiety appears to be somewhat higher in male students (22.3%) than in female students (20.2%). This trend could imply that male students may experience increased stressors or challenges that contribute to moderate anxiety levels, warranting further investigation into the specific factors influencing these results.

The percentage of students experiencing severe anxiety is relatively comparable, with 24.4% of female students and 23.2% of male students. This indicates that both genders face significant anxiety challenges, necessitating attention from educators and mental health professionals to address these issues effectively.

Table 2. The distribution of anxiety levels among high school students

Anxiety levels	Students F (%)	Student M (%)
Minimal	30.1%	28.4%
Mild	25.3%	26.1%
Moderate	20.2%	22.3%
Severe	24.4%	23.2%

Overall, the analysis of anxiety levels among female and male high school students suggests nuanced differences in the prevalence of anxiety across categories. While females display a slight increase in minimal anxiety, males report higher moderate anxiety levels. These findings underscore the importance of tailored interventions to support both genders effectively in managing anxiety, particularly in educational settings. Future research should explore the underlying causes of these gender differences in anxiety prevalence to inform targeted support strategies.

The data presented in table 3 provides insights into the distribution of various components of 5Cs PYD across different age groups (15 to 18 years old). Each component is measured as a percentage of the total sample, reflecting the proportion of students in each age category who exhibit specific attributes associated with PYD.

The confidence levels exhibit a slight increase from age 15 (17.9%) to age 17 (20.0%) before decreasing slightly at age 18 (19.1%). This trend suggests that confidence may develop or fluctuate during adolescence, with a peak at age 17. It may indicate a critical period for confidence development, potentially linked to developmental milestones or psychosocial factors characteristic of this age.

The percentage of students demonstrating competence shows an increase from age 15 (17.9%) to age 16 (21.4%), followed by a stable level at ages 17 (20.0%) and 18 (19.1%). This finding indicates that the transition into age 16 may be a pivotal time for students to develop competence, possibly due to increased academic responsibilities or extracurricular activities.

Connection levels are relatively high among 15-year-olds (23.1%) and show a gradual decrease to 21.4% in 16-year-olds, further declining slightly to 20.0% in 17-year-olds and then stabilizing at 21.3% for 18-year-olds. This trend may reflect the evolving nature of peer relationships and social networks during adolescence, where initial connections might shift in intensity and quality as students navigate their social environments.

Similar to connection, the caring component shows a rise from age 15 (17.9%) to age 16 (21.4%), maintaining a steady level of 20.0% at age 17 and increasing slightly again to 21.3% at age 18. This pattern suggests that as adolescents mature, their capacity for caring may be enhanced, potentially influenced by increased social awareness and emotional development.

Character scores display a pattern of higher percentages at age 15 (23.1%) and a decrease at age 16 (19.0%), followed by a stabilization at 20.0% for age 17 and 19.1% at age 18. The decline at age 16 may indicate a period of identity exploration, where character traits are being challenged or reevaluated, which is common during adolescence.

Table 3. The distribution of the 5Cs of PYD across different age groups (15 to 18 years old)

Component	Age 15 years	Age 16 years	Age 17 years	Age 18 years
Confidece	17.9%	16.7%	20.0%	19.1%
Competence	17.9%	21.4%	20.0%	19.1%
Connection	23.1%	21.4%	20.0%	21.3%
Caring	17.9%	21.4%	20.0%	21.3%
Character	23.1%	19.0%	20.0%	19.1%

The analysis of the PYD components across different ages reveals dynamic trends that may be indicative of the developmental processes during adolescence. Notably, confidence and competence appear to peak at specific ages, while connection, caring, and character show fluctuations that reflect the complexities of social interactions and emotional growth. These findings emphasize the need for targeted interventions that nurture these components during critical developmental periods, helping adolescents enhance their overall positive development as they transition through high school. Further research is warranted to explore the underlying factors influencing these changes in PYD components across ages.

The analysis (not presented in the table) allows for the identification of trends in anxiety levels among adolescents, which can provide insights into their psychological well-being.

The highest percentage of adolescents (40%) reported a minimal level of anxiety, indicating a relatively low level of anxiety in this age group. However, 30% of participants reported moderate anxiety, which suggests that while many are experiencing minimal anxiety, a significant portion is experiencing moderate anxiety symptoms. The prevalence of severe anxiety symptoms is lower at 15%.

At age 16, the distribution changes, with 30.7% of students reporting minimal anxiety, a notable decrease from age 15. This decrease may suggest that as adolescents transition to age 16, they may face new social, academic, or personal challenges contributing to increased anxiety levels. Notably, the percentage of adolescents reporting severe anxiety rises to 30.7%, indicating a critical point where anxiety symptoms may become more pronounced during this transitional phase.

The anxiety levels for 17-year-olds show a different pattern, with the highest percentage of participants (45.8%) reporting minimal anxiety. This recovery in minimal anxiety levels could suggest that students at this age may have adapted better to their circumstances, perhaps due to developing coping mechanisms or social support networks. However, the rates of mild (16.6%) and moderate (16.6%) anxiety remain consistent but relatively low compared to the previous age group. The percentage of severe anxiety drops to 20.8%, indicating a reduction in the most extreme anxiety symptoms.

Among 18-year-olds, 40% reported minimal anxiety, reflecting stability from age 17. However, the mild and moderate levels of anxiety increase to 23.3%, suggesting that as students approach graduation, they may experience increased pressure related to future uncertainties and transitions into adulthood. Interestingly, the prevalence of severe anxiety symptoms declines to 13.3%, indicating that while many adolescents face mild to moderate anxiety, severe anxiety is less common in this age group.

The analysis reveals significant variations in anxiety levels among adolescents aged 15 to 18. The data suggest that while younger adolescents may experience relatively low levels of anxiety, there is a concerning rise in severe anxiety during the transition to age 16. However, many 17- and 18-year-olds exhibit adaptive characteristics, as evidenced by the increases in minimal anxiety and the decrease in severe anxiety levels. This information underscores the need for targeted interventions to support adolescents through critical transition periods and the importance of mental health resources in educational settings to promote overall psychological well-being. Further longitudinal studies could provide deeper insights into the developmental trajectories of anxiety in adolescents and inform effective strategies for prevention and intervention.

Table 4 presents the correlation coefficients between the five components of Positive Youth Development (PYD)—Competence, Confidence, Character, Caring, and Connection—and various levels of anxiety (Minimal, Mild, Moderate, and Severe). Correlation coefficients, ranging from -1 to 1, indicate the strength and direction of relationships between the variables. The correlation coefficients for competence are consistently low and negative across all anxiety levels, with values ranging from -0.10 to -0.15. These values suggest a weak negative correlation, indicating that higher levels of competence are associated with slightly lower levels of anxiety. However, the strength of this relationship is minimal and does not reach statistical significance (notably, none of the correlations are less than -0.30). This may imply that while competence may have some role in alleviating anxiety, it is not a primary factor.

Confidence shows a stronger negative correlation with anxiety levels compared to competence. The correlation coefficients range from -0.30 to -0.45, indicating a moderate negative relationship. As confidence increases, anxiety levels tend to decrease significantly, particularly at severe levels of anxiety. The more pronounced negative relationship highlights confidence as a crucial factor in influencing anxiety, suggesting that interventions aimed at enhancing adolescent confidence could be effective in mitigating anxiety symptoms. The significance levels (noted as $p < 0.05$) indicate that these findings are statistically significant.

Character demonstrates very weak negative correlations, ranging from -0.05 to -0.10, similar to competence. This indicates that character has little to no discernible impact on anxiety levels. This finding suggests that character may not be a significant protective factor against anxiety, or its influence is overshadowed by other components such as confidence and caring.

In contrast to the other components, caring exhibits positive correlations with anxiety levels, ranging from 0.30 to 0.35. This suggests that higher levels of caring are associated with higher anxiety levels. This finding may initially seem counterintuitive; however, it could indicate that individuals who exhibit higher levels of caring may be more sensitive to others' emotions and experiences, potentially leading to increased anxiety due to empathic responses or emotional burden. This relationship warrants further exploration to understand the dynamics of caring in relation to anxiety.

Connection presents moderate negative correlations with anxiety levels, with coefficients ranging from -0.25 to -0.40. Similar to confidence, this indicates that a stronger sense of connection is associated with lower levels of anxiety. The significant negative correlation at severe anxiety levels suggests that fostering social connections could be beneficial in reducing

anxiety among adolescents. This finding highlights the importance of social support and connectedness in promoting mental health.

Table 4. Correlation Coefficients between the 5Cs of PYD and Levels of Anxiety.

Anxiety Level	Minimal	Mild	Moderate	Severe
Competence	-0.10	-0.10	-0.15	-0.15
Confidence	-0.30	-0.35	-0.40	-0.45
Character	-0.05	-0.05	-0.10	-0.10
Caring	0.30	0.35	0.32	0.35
Connection	-0.25	-0.30	-0.35	-0.40

Note: * $p < 0.05$, ** $p < 0.01$ **

The correlation analysis highlights the nuanced relationships between the 5Cs of PYD and anxiety levels. Among the components, confidence emerges as a significant protective factor against anxiety, while caring shows a positive correlation with increased anxiety levels, necessitating a deeper examination of its implications. Competence and character appear to have minimal effects, suggesting that enhancing confidence and connection could be prioritized in interventions aimed at reducing anxiety in adolescents. Overall, these findings underline the importance of the 5Cs in understanding and addressing anxiety symptoms in youth, pointing toward specific areas for targeted psychological support and development programs.

The results of multiple regression analyses, presented in Table 5 assess how each of the 5Cs of Positive Youth Development (Competence, Confidence, Character, Caring, and Connection) predicts varying levels of anxiety (Minimal, Slight, Moderate, and Severe). The regression coefficients (B), standardized beta values (β), and t-values are shown for each predictor across the anxiety levels, along with R^2 values indicating the proportion of variance explained by the model.

1. Minimal Level of Anxiety

Competence shows a negative but weak relationship with minimal anxiety ($B = -0.220$, $\beta = -0.105$, $p < 0.01$), suggesting that higher competence slightly reduces anxiety. Confidence exhibits a stronger negative effect ($B = -0.310$, $\beta = -0.245$, $p < 0.001$), indicating a more substantial impact in reducing anxiety at this level. Character positively associated with minimal anxiety ($B = 0.150$, $\beta = 0.090$, $p < 0.05$), suggesting that a stronger sense of character may increase anxiety slightly. Caring has a strong positive association ($B = 0.320$, $\beta = 0.305$, $p < 0.001$), indicating that more caring individuals experience minimal anxiety, which may point to the emotional burdens of caring. Connection is negatively associated with anxiety ($B = -0.250$, $\beta = -0.180$, $p < 0.001$), implying that stronger social connections help reduce minimal anxiety. The model explains 31.2% of the variance in minimal anxiety ($R^2 = 0.312$).

2. Slight Level of Anxiety

Competence continues to show a weak negative relationship ($B = -0.190$, $\beta = -0.112$, $p < 0.05$), suggesting a small protective effect against slight anxiety.

Confidence maintains a significant negative association ($B = -0.280, \beta = -0.225, p < 0.01$), reinforcing its role as a protective factor. Caring remains positively related to slight anxiety ($B = 0.350, \beta = 0.245, p < 0.001$), indicating that caring individuals may experience higher slight anxiety levels. Connection also continues to reduce slight anxiety ($B = -0.270, \beta = -0.190, p < 0.001$). The model explains 33.4% of the variance ($R^2 = 0.334$).

3. Moderate Level of Anxiety

Confidence is still negatively associated with moderate anxiety ($B = -0.260, \beta = -0.202, p < 0.01$), though slightly weaker than at lower anxiety levels. Caring strongly predicts moderate anxiety ($B = 0.370, \beta = 0.235, p < 0.001$), maintaining its positive relationship with increasing anxiety levels. Connection retains its negative relationship with anxiety ($B = -0.260, \beta = -0.175, p < 0.01$). The model explains 34.7% of the variance ($R^2 = 0.347$).

4. Severe Level of Anxiety

Confidence shows a weaker yet significant negative relationship ($B = -0.240, \beta = -0.185, p < 0.05$), indicating that higher confidence still helps to reduce severe anxiety, albeit to a lesser extent. Caring continues to positively predict severe anxiety ($B = 0.410, \beta = 0.255, p < 0.001$), suggesting that high levels of caring may contribute to emotional burden at severe anxiety levels. Connection remains a protective factor ($B = -0.230, \beta = -0.162, p < 0.05$), reducing severe anxiety levels. The model explains 35.9% of the variance ($R^2 = 0.359$).

Table 5. Regression Analysis Results for the Relationship between the 5Cs of PYD and Anxiety Levels

Dependent Variable	Predictor	B (SE)	β	t	R ²	R ^{2*}
Minimal level	Constant	12.123 (1.234)		9.825***		
	Competene	-0.220 (0.076)	-0.105	-2.894**		
	Confidence	-0.310 (0.085)	-0.245	-3.647***		
	Character	0.150 (0.068)	0.090	2.206*		
	Caring	0.320 (0.073)	0.305	4.384***		
	Connection	-0.250 (0.081)	-0.180	-3.086***		
						0.312
Slight level	Constant	18.764 (1.456)		12.886***		
	Competence	-0.190 (0.089)	-0.112	-2.135*		
	Confidence	-0.280 (0.096)	-0.225	-2.917**		
	Character	0.130 (0.075)	0.080	1.733		
	Kujdesi	0.350 (0.081)	0.245	4.321***		
	Connection	-0.270 (0.089)	-0.190	-3.034***		
						0.334
Moderate level	Constant	24.895 (1.567)		15.887***		
	Competence	-0.170 (0.098)	-0.109	-1.735		
	Confidence	-0.260 (0.108)	-0.202	-2.407**		
	Character	0.140 (0.082)	0.088	1.707		
	Caring	0.370 (0.090)	0.235	4.111***		
	Connection	-0.260 (0.095)	-0.175	-2.737**		

					0.347	0.339
Severe level	Constant	30.432 (1.789)		17.015***		
	Competence	-0.150 (0.112)	-0.085	-1.339		
	Confidence	-0.240 (0.123)	-0.185	-1.951*		
	Character	0.120 (0.093)	0.072	1.290		
	Caring	0.410 (0.103)	0.255	3.981***		
	Connection	-0.230 (0.108)	-0.162	-2.130*		
					0.359	0.351

The regression analyses highlight that “*confidence*” and “*connection*” are consistent protective factors against anxiety across all levels, with “*confidence*” having the most significant impact. In contrast, “*caring*” shows a positive correlation with anxiety, suggesting that those who exhibit higher levels of caring may experience more anxiety, possibly due to emotional overload or empathic stress. “*Character*” and “*competence*” play a relatively smaller role in predicting anxiety levels. The models explain between 31% and 36% of the variance in anxiety, suggesting that the 5Cs of PYD can moderately predict anxiety but that other factors are likely contributing to the remaining variance.

Discussion

The findings of this study contribute to the growing body of research on Positive Youth Development (PYD) and its relationship with adolescent anxiety. Several key trends from this research align with previous studies, while some unique insights suggest new avenues for exploration.

The negative correlation between confidence and anxiety, particularly at severe levels, aligns with the work of Henriksen et al. (2017) who found that higher levels of self-confidence were linked to lower levels of psychological distress among adolescents. Both studies highlight the protective role that confidence plays in buffering anxiety. The stronger negative correlations between confidence and severe anxiety in this study, with coefficients as high as -0.45, emphasize confidence as a critical factor in mental well-being, further corroborating findings by Li et al. (2023), who noted that interventions aimed at boosting self-efficacy significantly reduced anxiety in high-stress environments.

This study also confirms the broader notion from PYD literature that fostering confidence is central to youth development. Studies by Lerner et al. (2005) similarly emphasized confidence as one of the most essential Cs in reducing internalizing behaviors such as anxiety. The predictive power of confidence, shown by regression analyses explaining a substantial proportion of the variance in anxiety (e.g., $R^2 = 0.31$ to 0.36), supports the argument for targeted programs to build self-esteem and resilience.

Connection emerged as another significant protective factor against anxiety, particularly at moderate and severe anxiety levels, with correlation coefficients as high as -0.40. This is consistent with findings from Tang et al (2024), who reported that strong peer relationships and social connections can act as buffers against the effects of stress and anxiety. The importance of social networks, as underscored in this study, echoes previous research by Haufler et al.

(2022), which found that adolescents with stronger social support systems exhibited lower levels of anxiety and depressive symptoms. Both studies point to the necessity of interventions that foster connection and social belonging in school environments to reduce anxiety symptoms. Moreover, the significance of connection is reflected in the regression analysis, where it consistently emerged as a predictor of lower anxiety, reinforcing the conclusions of studies by Shang et al. (2023) that enhancing social ties can mitigate emotional distress among adolescents. As the findings show, a strong sense of social connectedness serves as a buffer against not only minimal but also more severe levels of anxiety.

Interestingly, this study reveals a positive correlation between caring and anxiety, with correlation coefficients ranging from 0.30 to 0.35. This finding contrasts with some previous studies that have associated caring behaviors with positive psychological outcomes. For instance, Eisenberg et al. (2010) argued that empathy and prosocial behavior typically lead to better emotional health. However, the positive relationship between caring and anxiety in this study might indicate that adolescents with higher levels of caring may experience empathic stress or emotional overload, a concept supported by more recent research from Wang et al. (2024), which suggests that high levels of empathy can sometimes contribute to emotional burden, leading to anxiety.

This nuanced understanding of caring suggests that while empathy and prosocial behaviors are generally beneficial, there can be unintended emotional costs, especially when adolescents internalize the stressors of others. It is possible that interventions aimed at managing emotional boundaries could help caring adolescents manage the emotional demands of empathy, as suggested by Luis et al. (2023).

The relatively weak negative correlations between competence and anxiety found in this study are consistent with findings from previous research that indicate competence is not always a direct buffer against anxiety (Fürtjes, et al., 2023). Although competence is typically linked to academic success and self-efficacy, it may play a smaller role in directly reducing anxiety compared to confidence and connection. This finding supports the argument by Manrique-Millones et al. (2023) that while competence is a key component of PYD, it might influence anxiety indirectly through other mechanisms, such as increased confidence or social connectedness.

Similarly, the weak negative correlations for character suggest that virtues like integrity and responsibility may not directly impact anxiety. Previous studies (Novak et al., 2023; Lerner et al., 2011) have noted that character traits are more closely associated with moral development and ethical behavior than with emotional well-being. However, the modest role of character in this study indicates that fostering moral virtues may still contribute to holistic youth development, even if its direct effects on anxiety are minimal.

The gender-specific findings in this study align with previous research indicating that male adolescents tend to exhibit higher confidence and connection, while females show greater strengths in caring and character. This is consistent with research by Tomé et al. (2020), which highlighted gendered patterns of self-perception and socialization that influence developmental outcomes. Furthermore, the observation that males experience higher moderate anxiety while

females report higher minimal anxiety aligns with studies like McLean and Anderson (2009), which reported similar gender differences in anxiety experiences.

The age-related trends in PYD components and anxiety levels are also supported by existing literature on adolescent development. For instance, the fluctuation in confidence and competence across ages mirrors findings from Pivec and Kozina, (2023), who noted that self-perception tends to shift during key developmental transitions in adolescence. Similarly, the peak in anxiety levels around age 16 aligns with the well-established notion that mid-adolescence represents a critical period for psychological challenges, as adolescents navigate increasing academic and social pressures

Conclusion

In summary, the findings of this study align with existing PYD research in emphasizing the protective role of confidence and connection in reducing anxiety among adolescents. However, the positive correlation between caring and anxiety introduces new considerations regarding the emotional costs of empathy, pointing toward the need for interventions that address emotional boundaries in caring individuals. Future research should continue to explore the complex interplay between the 5Cs of PYD and mental health outcomes, particularly considering gender and developmental differences that may influence these relationships.

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