

Review

By: Assoc. Prof. Stoil Mavrodiev, D.Sc., South-West University “Neofit Rilski”

For the dissertation submitted for the award of the educational and scientific degree “Doctor”

Field of Higher Education: 3. Social, Economic, and Legal Sciences

Professional Direction: 3.2. Psychology

Doctoral Program: Pedagogical and age psychology

Author: Antonia Traykova

Topic: “Aggression and anxiety in teenagers with problematic internet use”

Scientific Supervisor: Prof. Kirilka Tagareva, PhD, Plovdiv University “Paisii Hilendarski”

1. General Description of the Submitted Materials

By Order No. RD-22-1495 dated June 23, 2025, issued by the Rector of Plovdiv University “Paisii Hilendarski,” I have been appointed as a member of the scientific jury to ensure the procedure for the defense of the dissertation by Antonia Traykova, a doctoral candidate in independent study at the Department of Psychology, under the supervision of Prof. Kirilka Tagareva, PhD.

The set of materials submitted by Antonia Traykova in hard copy complies with the Regulations for the Development of the Academic Staff at Plovdiv University and includes all required documents.

2. Brief Biographical Information about the Doctoral Candidate

Antonia Traykova holds a Master’s degree in Applied Psychology, as well as prior Master’s degrees in Pedagogy and Law. She has worked as a legal consultant and psychologist.

3. Relevance of the Topic and Appropriateness of the Set Goals and Objectives

The topic of the dissertation is highly relevant in the context of contemporary society, where digital technologies and the internet play a central role in the lives of young people. Problematic internet use, aggression, and anxiety are phenomena that significantly impact the psycho-social development of adolescents, making the study relevant both scientifically and in applied terms. The goals—exploring the interrelationships between aggression, anxiety, and problematic internet use, as well as identifying adolescent profiles based on these characteristics—are clearly formulated and appropriate. The objectives, including theoretical analysis, empirical research, and the development of recommendations, are logically interconnected and support the achievement of the goals.

4. Knowledge of the Problem

The doctoral candidate demonstrates in-depth knowledge of the research problem. The first chapter of the dissertation provides an extensive theoretical overview, covering key concepts related to aggression, anxiety, and problematic internet use. Leading authors such as Berkowitz, Eysenck, Spence, and recent studies from 2023 are cited, indicating the timeliness of the literature used. Antonia Traykova critically evaluates existing theories and studies, highlighting the lack of sufficient empirical data on the relationship between these phenomena among Bulgarian adolescents, which motivates her research.

5. Research Methodology

The chosen methodology is suitable for achieving the set goals. The doctoral candidate employs a combination of standardized instruments, including the Bulgarian version of the Revised Child Anxiety Scale, a Multidimensional Scale for Aggressiveness in Adolescence, and a questionnaire on problematic internet use. Statistical analyses such as t-tests, ANOVA, correlation analysis, and cluster analysis are applied, enabling an in-depth exploration of the relationships between variables. The sample is representative, including adolescents of different ages and genders, and the research organization is transparent and ethically justified. The methodology is adequate and ensures reliable results.

6. Characteristics and Evaluation of the Dissertation

The dissertation by Antonia Traykova is comprehensive and well-structured, spanning 186 pages divided into three main chapters, an introduction, a conclusion, a reference list, and appendices. Each chapter is developed with a high degree of analytical rigor, combining theoretical depth with empirical precision. Below is a detailed description and evaluation of each chapter, focusing on their content, structure, reliability, and contribution to the overall work.

First Chapter: “Theoretical Overview of the Research Problem” (pp. 12–74)

This chapter forms the foundational part of the dissertation, establishing the theoretical basis for the subsequent empirical research. It is structured into several key subsections that systematically analyze the three main constructs: aggression, anxiety, and problematic internet use (PIU).

Aggression: The doctoral candidate begins by defining aggression, referencing classical authors such as Aronson (2008) and Berkowitz (2008), who view aggression as behavior causing physical or psychological harm. Different types of aggression—physical, verbal, relational, and dissocial—are distinguished and illustrated with examples and theoretical grounding. Particular attention is given to the distinction between constructive (“positive”) and destructive aggression, emphasizing its potential as a protective mechanism or a pathological behavior. Factors contributing to aggressive behavior, such as temperament, social environment, family dynamics, and media influence, are analyzed. For instance, referencing Stamatov (2008) highlights the role of television and the internet in shaping aggressive patterns in adolescents. Specific forms of aggression in adolescents, such as relational aggression (verbal bullying, gossip, exclusion), are discussed, which is particularly relevant for this age group.

Anxiety: Anxiety is examined as a multidimensional phenomenon with cognitive, emotional, and somatic components. The doctoral candidate references theories such as those of Rogers (1980) and Beck, which emphasize the role of cognitive distortions and the environment in the development of anxiety. Specific to adolescents, fears and anxiety disorders related to developmental crises, social interactions, and academic pressure are analyzed. The connection between anxiety and social isolation, particularly in the context of the digital environment, is highlighted. Physiological manifestations of anxiety, such as heart palpitations and trembling, and their link to internet addiction are also discussed.

Problematic Internet Use: This section begins with a historical overview of the internet's development and its impact on adolescents, focusing on social media, video games, and online platforms. The doctoral candidate analyzes models such as Davis's (1999) cognitive-behavioral model and Grohol's (1999) three-stage model, which explain the stages of problematic internet use: initial fascination, disillusionment, and balance. Risk factors such as social isolation, low self-regulation, and exposure to aggressive online content are examined. Recent studies (e.g., Xue et al., 2023) are cited, underscoring the timeliness of the analysis.

The first chapter demonstrates a high level of theoretical competence. The doctoral candidate successfully integrates classical and contemporary sources, maintaining a balance between general and specific analyses tailored to adolescence. The structure is logical, with clear delineation of subtopics, facilitating comprehension. The reliability of the material is supported by the use of credible literary sources. The only remark is that cultural factors, although mentioned, could have been explored in greater detail, particularly in the context of the Bulgarian social environment.

Second Chapter: Methodology of the Empirical Research

This chapter is dedicated to the methodology of the empirical study and is structured into three main subsections:

1. **Goals, Subject, and Objectives:** The doctoral candidate clearly articulates the research goals: exploring the interrelationships between aggression, anxiety, and problematic internet use and identifying adolescent profiles based on these characteristics. The objectives include: (1) theoretical analysis of the literature, (2) development and application of an empirical research methodology, (3) data analysis, and (4) formulation of practical recommendations. These objectives are logically aligned with the goals and provide a comprehensive approach to the study.
2. **Participants and Methods:** The sample consists of 198 adolescents aged 16–18 years, with demographic characteristics (gender, age) and selection criteria specified. The doctoral candidate addresses ethical considerations, including informed consent and confidentiality (p. 80). Three main instruments are used:
 - The Bulgarian version of the Revised Child Anxiety Scale.
 - The Multidimensional Scale for Aggressiveness in Adolescence (Kalchev, 2012).

- A questionnaire on problematic internet use, developed by the doctoral candidate, focusing on social and emotional engagement online. The instruments are validated, with the questionnaire being an original contribution, demonstrating innovation.
3. Statistical Methods and Data Collection Procedures: The statistical methods and procedures for data collection and processing are described, highlighting methodological rigor.

The second chapter is methodologically sound. Ethical considerations are clearly outlined, enhancing the study's credibility. The only recommendation is for a more detailed discussion of potential limitations of the questionnaire, as it is a new instrument and may require further validation.

Third Chapter: Results and Interpretation

This chapter presents the results of the empirical study and their interpretation. It is the most extensive part of the dissertation and is structured into several key subsections:

1. Reliability Analysis of the Scales: The doctoral candidate presents reliability test results (Cronbach's α), indicating high internal consistency of the instruments (e.g., $\alpha = 0.865$ for the PIU questionnaire). This confirms the reliability of the instruments and the quality of the collected data. The homogeneity of the scales is discussed, noting that some subscales (e.g., moral skepticism) show lower reliability, interpreted as a possible effect of adolescent cognitive differences.
2. Statistical Analyses:
 - **ANOVA Analysis:** Significant differences by gender and age are identified. Girls exhibit higher levels of social anxiety (mean value 35.16), while boys show higher levels of physical aggression (p. 98). Age differences indicate that older adolescents (17–18 years) have higher anxiety levels, linked to academic and social pressures.
 - **Correlation Analysis:** Positive correlations are found between verbal aggression and problematic internet use, as well as between anxiety and social isolation. These findings support the hypothesis of interconnected constructs.
 - **Factor Analysis:** The analysis of the PIU questionnaire identifies three main factors: social and emotional engagement, excessive use, and negative emotional reactions (pp. 102–106). This provides a new framework for understanding PIU.
3. Cluster Analysis: Using the K-Means method, the doctoral candidate identifies two adolescent profiles:
 - **Cluster 1: Socially Engaged with Low Self-Regulation** – Characterized by high internet activity but low ability to regulate emotions and behavior.
 - **Cluster 2: Anxious with High Criticality** – Exhibits high levels of anxiety and criticality but lower internet engagement, potentially acting as a protective

factor.

This analysis is particularly innovative, offering a new classification with potential applications in educational and psychological interventions.

4. **Conclusions:** The doctoral candidate concludes that problematic internet use is associated with increased anxiety and aggression, emphasizing the role of emotional regulation. Gender and age differences are interpreted in the context of adolescents' social and cognitive characteristics. Practical recommendations include developing programs for emotional regulation and media literacy training.

The third chapter combines rigorous statistical analysis with insightful interpretation of results. The cluster analysis is particularly impressive, offering an original classification of adolescents that can serve as a basis for future research and interventions. The results are presented clearly, supported by tables and figures (e.g., Figure 5, Figure 6), facilitating comprehension. The reliability is ensured by the high consistency of the instruments and the correct application of statistical methods.

Overall Evaluation of the Dissertation:

The dissertation is analytical, well-structured, and demonstrates a high level of scientific and methodological competence.

7. Contributions and Significance of the Study for Science and Practice

The dissertation offers the following scientific and applied contributions:

1. Theoretical Contributions:

- Deepening the understanding of the relationship between aggression, anxiety, and problematic internet use among adolescents in the Bulgarian context.
- Developing a theoretical framework integrating cognitive-behavioral and psycho-social models to explain problematic internet use.

2. Applied Contributions:

- Identifying two main adolescent profiles (socially engaged with low self-regulation and anxious with high criticality), which can inform targeted interventions.
- Providing practical recommendations for preventing problematic internet use, aimed at educational institutions and parents.

The contributions are significant for psychology, particularly in the area of preventing psycho-social issues among adolescents. The results have potential applications in educational programs and psychological practice.

8. Evaluation of Publications Related to the Dissertation

The doctoral candidate has submitted three independent articles, meeting the minimum national requirements.

9. Personal Contribution of the Doctoral Candidate

Antonia Traykova is the author of the dissertation and its related publications. She developed the methodology, conducted the empirical research, and performed the statistical analysis. The formulated contributions result from her personal efforts, evident from the independent nature of the publications and the detailed description of the research. No evidence of plagiarism was found.

10. Abstract

The abstract complies with Plovdiv University's requirements and reflects the main results and contributions of the dissertation. It is clearly structured, emphasizing the goals, methodology, results, and contributions. The content is concise and provides an adequate representation of the study's significance.

11. Critical Remarks and Recommendations

There are no significant critical remarks regarding the dissertation; some minor points were addressed earlier.

12. Personal Impressions

The dissertation impresses with its comprehensive approach and depth. Antonia Traykova demonstrates a high level of professionalism and commitment to the topic. Her ability to integrate theoretical and empirical aspects into a cohesive framework with both scientific and practical value is particularly noteworthy. The cluster analysis and identification of adolescent profiles are especially innovative and deserve high praise.

13. Recommendations for Future Use of the Dissertation's Contributions and Results

The study's results can be used for:

- Developing educational programs to prevent problematic internet use in schools.
- Creating guidelines for parents and teachers to manage aggression and anxiety in adolescents.
- Further research on the relationship between internet addiction and psycho-social issues in other age groups.
- Designing interventions targeting the specific adolescent profiles identified in the study.

Conclusion

The dissertation contains scientific and applied results that represent an original contribution to science and meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its Implementation, and the Regulations of Plovdiv University "Paisii Hilendarski." The dissertation demonstrates that the doctoral candidate, Antonia Traykova, possesses in-depth theoretical knowledge and professional skills in the

scientific field of Pedagogical and Developmental Psychology, as well as the qualities and abilities to conduct independent scientific research.

Based on the above, I confidently provide a positive evaluation of the conducted research, as presented in the reviewed dissertation, abstract, achieved results, and contributions. I propose to the esteemed scientific jury to award the educational and scientific degree “Doctor” to Antonia Traykova in the field of higher education 3. Social, Economic, and Legal Sciences, professional direction 3.2. Psychology, doctoral program Pedagogical and Developmental Psychology.

July 21, 2025

Reviewer:

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