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Factor structure of the Scale of behavioral problems in children and youth with intellectual and co-occurring disabilities

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Introduction. Children and youth with intellectual and co-occurring disabilities are at a high risk of developing behavioral problems. The study was part of the institutional project POINT (Frequency of Certain Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities) at the Faculty of Educational Sciences of Juraj Dobrila University of Pula, Croatia. *Objectives.* The aim was to identify the key latent dimensions of the Scale of Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities developed within the project. *Methods.* 127 children and young people from the School for Training and Education – Pula participated in the study. An exploratory factor analysis was performed. *Results.* The analysis revealed that the underlying structure of behavioral problems in this group includes five distinct factors, which can be seen as subscales. *Conclusion.* This study contributes to validating the measuring instrument and provides insights into the frequency and function of behavioral problems in children and youth with intellectual disabilities. This understanding can help in developing comprehensive and efficient treatment models and identifying and addressing risk factors for these behavioral problems.

Keywords: children and youth with intellectual disabilities, co-occurring disabilities, behavioral problems

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Introduction

Behavioral problems are a broad term for various forms of behavior, ranging from simpler, less severe, and less dangerous actions to oneself and others to more severe cases that require treatment. These behaviors are linked to consequences and conditions that need to be managed and changed, which are addressed by professionals from different fields. (Koller-Trbović et al., 2011). Behavioral problems refer to any significant behavioral, emotional, or personality issues arising from maladaptation (Mamić & Fulgosi-Masnjak, 2014).

The American Association on Intellectual and Developmental Disabilities (AAIDD) defines intellectual disability as a condition characterized by significant limitations in intellectual functioning and adaptive behavior which develop before the age of 22 (American Association on Intellectual and Developmental Disabilities, 2021). The DSM-5, published by the American Psychiatric Association in 2013, describes it as a disorder that begins during the developmental period. It includes both intellectual deficits and deficits in adaptive functioning across conceptual, social, and practical areas (American Psychiatric Association, 2013, p. 33). Below-average intellectual functioning leads to difficulties in reasoning, problem-solving, planning, abstract thinking, judgment, academic learning, and learning from experience—confirmed through clinical assessment and individualized standard IQ testing, which significantly limits the child's abilities. Adaptive skills consist of conceptual, social, and practical skills, covering a wide range of activities that pose a certain level of difficulty for the child (Tomljanović & Jokić-Begić, 2021). Limitations in adaptive functioning can be determined by standardized tests, and such limited adaptive functioning requires a higher level of support. Consequently, a higher level of support results in greater dependence on others. Often, a lower level of adaptive functioning manifests itself as social incompetence and the presence of undesirable forms of behavior (Paić, 2022).

According to data from the Croatian Institute of Public Health (Hrvatski zavod za javno zdravstvo, 2024), there are 33,366 people with intellectual disabilities living in Croatia. Their prevalence in the total population of people with disabilities is 5.1%. The population of children and young people with intellectual disabilities aged from birth to 19 years in Croatia is 8,078 (Croatian Institute of Public Health, 2024).

Compared to the general population, people with intellectual disabilities face notably more physical and mental health challenges. These challenges are primarily linked to genetic conditions, lifestyle risks, or social factors. Co-occurring conditions can include sensory impairments, endocrine, nutritional, or metabolic disorders (most often obesity, thyroid issues, and diabetes), neurological disorders (with epilepsy and cerebral palsy being the most common), musculoskeletal and connective tissue problems, gastrointestinal issues, respiratory conditions, cardiovascular problems, mental health impairments,

autism spectrum disorder, and attention deficit hyperactivity disorder (ADHD) (Kinnear et al., 2018; Liao et al., 2021; Totsika et al., 2022). These challenges in Croatian law are referred to as co-occurring disabilities (Pravilnik o osnovnoškolskom i srednjoškolskom odgoju i obrazovanju učenika s teškoćama u razvoju / Regulations on primary and secondary education of students with developmental disabilities, 2015). Their importance lies primarily in the fact that the simultaneous presence of two or more difficulties in psychophysical development creates a new level of complexity, making treatment and support more difficult (Kinnear et al., 2018).

Intellectual disabilities are frequently associated with behavioral problems (Emerson, 2003; Lloyd & Kennedy, 2014). Severe behavioral problems in individuals with intellectual disabilities, including children and adolescents, are often referred to as *challenging behaviors* (Emerson et al., 2001; Myrbakk & von Tetzchner, 2008) or *behaviors that challenge* (Murphy, 2017). Challenging behaviors are defined as actions of such intensity, frequency, or duration that they pose a risk to the individual or others or significantly restrict access to standard community-based services (Emerson et al., 2001). The term *behaviors that challenge* refers to the same definition but is considered less diagnostic and more reflective of a social construct influenced by environmental factors (Murphy, 2017). In the Republic of Croatia, the umbrella term *behavioral problems* is used to describe a continuum of behaviors, including risky behaviors and all behavioral difficulties, such as behaviors that challenge (Koller Trbović et al., 2011). For clarity and consistency with official national terminology, this paper—and the POINT project within which it was developed—adopts the term *behavioral problems*.

In the context of this research, behavioral problems are defined as forms of behavior perceived by the individual's environment as conspicuous and unacceptable, which hinder or prevent socialization and reduce opportunities for participation in everyday community activities. The term encompasses aggressive, self-injurious, uncontrollable, destructive, maladaptive, and socially unacceptable behaviors. Such behaviors pose significant challenges not only for the individual but also for their family, educational staff, and others in their environment (Myrbakk & von Tetzchner, 2008).

The severity of intellectual disability is positively associated with the frequency of behavioral problems (Kramarić et al., 2013). Dekker et al. (2002) reported a prevalence of behavioral problems of 50% among children with intellectual disabilities, compared to 18% in typically developing children. Other studies, summarized by Mujkanović et al. (2013), indicate prevalence rates ranging from 30% to 60%.

The most serious behavioral problems commonly associated with individuals with intellectual disabilities include aggressive, self-injurious, and stereotyped behaviors (Cooper et al., 2007). Aggressive behavior represents a

major barrier to social inclusion and is the most frequent reason for referral to mental health professionals (Cocker et al., 2006). Reported prevalence of aggressive behavior ranges from 2% to 60%, likely due to methodological inconsistencies across studies, particularly regarding the severity of intellectual disability. Terminological variations—such as aberrant, maladaptive, disruptive, self-injurious, or disobedient—may also contribute to discrepancies in findings (McClintock et al., 2003).

Among individuals with mild to moderate intellectual disabilities, verbal aggression predominates, whereas physical aggression is more common in those with severe disabilities. Sexually aggressive behavior is the least frequent form. Fewer than 6% of individuals exhibit aggressive behaviors with high frequency or intensity (Crocker et al., 2006).

Self-injurious behaviors, considered a subtype of aggression, involve actions that can cause physical harm, occur repeatedly, and manifest in idiosyncratic forms (Medeiros et al., 2013). Common examples include head banging, biting, pinching, scratching, inserting fingers into body cavities, and hair pulling (Symons, 2008). Prevalence estimates range from 10% to 12% (Didden et al., 2012).

Stereotyped behaviors are described as atypical, repetitive actions such as body rocking, hand flapping, clapping, spinning, jumping, object manipulation, or repetitive vocalizations without context (Barnard-Brak et al., 2015). These behaviors are highly prevalent among individuals with intellectual disabilities, with reported rates between 34% and 85% (de Vaan et al., 2020; Didden et al., 2012; Sayers et al., 2011).

Traditionally, behavioral problems in individuals with intellectual disabilities have been viewed exclusively as a consequence or characteristic of the intellectual disability itself, rather than as a potential manifestation of an underlying mental disorder. However, behavioral problems associated with intellectual disabilities can significantly affect a child's overall development (Mamić & Fulgosi-Masnjak, 2014). Furthermore, as noted by Green et al. (2005), many behavioral problems observed in children and adolescents with intellectual disabilities persist into adulthood.

A review of risk factors conducted by McClintock et al. (2003), based on an analysis of 32 relevant studies encompassing a combined sample of 127,000 participants, identified the most common risk factors for the development of behavioral problems in children and adolescents with intellectual disabilities. These include: the presence of autism spectrum disorders; the degree of intellectual disability (most behavioral problems occur more frequently in individuals with lower levels of intellectual functioning, with the exception of verbal aggression); epilepsy (associated with more severe forms of certain behavioral problems); mental health difficulties (linked to more severe verbal and physical aggression); expressive and receptive communication

impairments (the more limited the communication, the more pronounced the behavioral problems); significant motor impairments (associated with increased self-injury); and visual impairment (strongly associated with self-injury and stereotyped behaviors).

These findings highlight the importance of considering co-occurring conditions when analyzing the occurrence of behavioral problems in children and adolescents with intellectual disabilities. The situation on the ground shows that mental health and the area of behavioral problems of people with intellectual disabilities are currently a neglected segment of work in the Republic of Croatia (Sekušak-Galešev et al., 2014). For a long time, public discourse and literature have emphasized the problem of the lack of specialized psychiatric and psychological support and care for people, especially children and young people with intellectual disabilities. There is a lack of trained professionals, psychiatrists with knowledge of the care and specific needs of adults, children and young people with intellectual disabilities, inappropriate use of psychopharmaceuticals and insufficient education of parents and caregivers on the proper application of the same, a mostly single-disciplinary approach to treatment and care, a lack of understanding of the basic problems of people, children and young people with intellectual disabilities, but also their families, and Most importantly, the lack of prevention of behavioral problems and mental health damage in this population. (Kramarić, 2010; Poredoš Lavor & Radišić, Raguž, 2023; 2011; Sekušak-Galešev et al., 2014).

Problem and Aim of the Research

The research was conducted as part of the POINT project at the Faculty of Educational Sciences of Juraj Dobrila University of Pula. The POINT project (Frequency of Certain Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities) arises from the need for increased social involvement to reduce behavioral issues among children with intellectual and co-occurring disabilities through the development of support strategies and interventions aimed at decreasing and eliminating undesirable behaviors in children and young people's environments. Although approximately 50% of individuals with intellectual disabilities display behavioral problems, their recognition and treatment, along with the management of mental disorders, are often insufficient and inadequate (Kramarić et al., 2013; Mutić, 2018; Raguž, 2023). Identifying and diagnosing behavioral problems in children and youth with intellectual disabilities is challenging due to variations and ambiguities in symptoms and communication difficulties. Treatment usually involves medication and behavioral correction and control, which often do not produce positive outcomes (Došen, 2004; Einfield et al., 2011; Stratis & Lecavalier, 2015). A meta-analysis by Halvorsen et al. (2023) highlights that there are very few

standardized assessment tools specifically designed to evaluate mental health issues in children and youth with intellectual disabilities. Examples include the Aberrant Behavior Checklist (Aman & Singh, 1986) and the Developmental Behavior Checklist (Einfield & Tonge, 1992). Furthermore, these tools are not standardized within the territory of the Republic of Croatia. As noted by the authors of the meta-analysis, there is a significant need for more valid and standardized tools to assess mental health problems in children and young people with intellectual disabilities (Berg Havorsen et al., 2023).

To assess the frequency and traits of behavioral problems in children and young people with intellectual and co-occurring disabilities, the Scale of Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities was developed. It was based on the second part of the AAMD Adaptive Behavior Scale (Nihira et al., 1969), which measures maladaptive behavior related to personality and behavioral disorders. The original scale includes 14 areas with 44 items (Igrić & Fulgosi-Masnjak, 1991). This new scale includes most variables from the second part of the AAMD scale. In the original Part I of the second part of the AAMD scale (Propensity to Violent Behavior and Destruction), questions related to the destruction of other people's belongings and the destruction of social property were combined to reduce the number of questions that indicate the same or very similar behavioral issue. In Part II (Antisocial behavior), the article "Uses impolite words" has been removed due to subjectivity. The perception of a word as impolite or rude depends to a considerable extent on the subjective attitude of the individual; more precisely, the norms of "polite" vary depending on several factors (Waters, 2012). In Part III (Resistance to authority), the item "Late to the place of agreement" was removed because it is not appropriate in this study, given the characteristics of the sample (most students are completely dependent when arriving at a certain place and therefore being late is not a feature of their behavior). From Part IV (Irresponsible Behavior), both original particles are included. In Part V (Withdrawn behavior), the particle "Apathetic (does not react with emotions, seems unaware of the environment)" was added because the original lacked the particle that describes this specific behavior, which was present in the students. In Part VI (Stereotyped behavior and mannerisms), the particle "Bites, hits or rubs" has been added for the same reasons. As for Part VII (Inappropriate Habits in Contact with Others) and VIII (Unacceptable Speech Habits), all the original particles are taken over, as well as all the particles from the original Part XI (Unacceptable and Unusual Habits), X (Anti-Self-Directed Behavior) and XI (Propensity for Hyperactive Behavior). From Part XII (Unacceptable Sexual Behavior), the article "Has homosexual tendencies" has been removed because it is not considered unacceptable sexual behavior. All original parts of Part XIII (defined as Mental disorders in the original) have also been taken over, while Part XVI (Use of Medicines) has been completely omitted. Some

questions have been linguistically rephrased or split into multiple items for clarity. These modifications aimed to make the scale more relevant to current knowledge and language.

This paper aims to identify the key latent dimensions of the Scale of Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities. Given the purpose of the study, an exploratory factor analysis was conducted, in which no prior assumptions were made about which factors would emerge, and no specific hypotheses were set.

Materials and Methods

Sample of respondents

The research involved 127 children and young people – students at the School for Training and Education Pula, for whom data were provided by their class teachers. The data were provided for 92 male (72.4%) and 35 female students (27.6%), aged 7 to 21 years. There were 26 (20.5%) respondents in the 7 to 10 years group, 54 (42.5%) in the 11 to 15 years group, and 47 (37%) in the 16 to 21 years group. All students in the sample have reduced intellectual functioning, and data on the degree of intellectual disability and co-occurring conditions were obtained from the documentation of each student. The sample consists of 52 students with mild intellectual disability (40.9%), 50 students with moderate intellectual disability (39.4%), 18 students with severe intellectual disability (14.2%), 4 students with profound intellectual disability (3.1%), and 3 students with marginally below-average intellectual functioning (2.4%). The most common co-occurring conditions, present in 82% of students in the sample, are speech, voice, and language impairments. These are followed by mental health disorders in 36% of students, autism spectrum disorder in 33%, and motor impairments in 26%. Twenty percent of students have a diagnosis of a chronic illness, while visual impairments (12%) and hearing impairments (8%) are less frequent. It is evident that some students experience more than one co-occurring condition, and that speech, voice, and language impairments are present in the majority of students in the sample. Class teachers were considered a trustworthy source of information regarding students' behavior, given that they typically spend around 5 hours daily or 35 hours weekly interacting with students in both structured and unstructured settings.

Research methods

Anonymity and voluntariness of participation in the research were guaranteed, and the class teachers were informed that the results would be used to assess the frequency of certain behavioral problems in children and youth with intellectual disabilities as part of the POINT institutional project of the Faculty of Educational Sciences of the Juraj Dobrila University of Pula. The Committee for Research Ethics of the Faculty of Educational Sciences of the Juraj Dobrila University of Pula approved

research design. The class teachers informed the parents about the research conduct, and the parents were asked to react only if they did not want to give consent to be included in the research, but there were no such situations. The scale was completed for each student in the form of an online form. In this way, the confidentiality of the data is ensured, as it is not visible to anyone who provided certain information or for which student.

Results and Discussion

The processing of the results included factor analysis under the component model with Varimax rotation. Factor analysis of the Croatian adaptation of the AAMD scale (Igrić & Fulgosi-Masnjak, 1991, p. 40) for the second part of the scale reveals three isolated factors representing 14 areas of undesirable behaviors. These factors are defined as *the factor of social maladjustment, the factor of inappropriate sexual behavior, and the factor of withdrawn behavior with elements of inappropriate behavior.* The factor of social maladjustment in the Croatian adaptation corresponds to the results of the original research by the author of the scale (Nihira, 1969).

To determine the appropriateness of the application of factor analysis, the Kaiser-Meyer-Olkin measure for the measuring instrument was calculated, and it amounts to .826. The value of the index can be assessed as "very good" according to the Kaiser-Rice scale (Fulgosi, 1984). The value of the Bartlett test for the statistical significance of the correlation matrix is $\chi 2=3620.399$ with 946 degrees of freedom and sig $p<.001$, which confirms the suitability of statistical processing of the collected data by factor analysis.

The goal of factor analysis is to reduce the number of manifest variables to a smaller set of latent variables. The Guttman-Kaiser criteria, Cattell's Scree test, and parallel analysis are commonly used to determine the number of factors to retain. Based on parallel analysis criteria (O'Connor, 2000), five major factors were retained, even though a larger number of factors had eigenvalues greater than one. This method suggests keeping only those dimensions in the model with eigenvalues higher than those obtained from random data generated with similar characteristics - known as Parallel Samples (Subotić, 2013). The Guttman-Kaiser criterion, which is prone to hyperfactorization (Tatalović Vorkapić & Lončarić, 2014), suggested retaining a relatively large number of principal components (10), while the Scree criterion indicated retaining 7 or 8 principal components.

The five principal components retained account for 55.82% of the total variance. These components represent the latent dimensions of behavioral problems in children and youth with intellectual and co-occurring disabilities and need to be identified and named. After performing an orthogonal (Varimax) rotation of the retained components, the projections of all variables on the extracted factors were calculated. Using the resulting matrix, the extracted

factors were identified and named, revealing the latent structure of the Scale of Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities.

Table 1

Rotated Principal Component Analysis Factor Matrix with Varimax Rotation and Communalities

Variable	Communalities	Parallel projections of variables on factors				
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
38. Reacts poorly or inappropriately to criticism	.717	.832				
41. Feels persecuted (complains of being treated unfairly when not the case)	.666	.788				
16. Lies and/or avoids telling the truth	.707	.706				
43. Changes mood for no apparent reason	.559	.686				
37. Tends to exaggerate their own abilities	.668	.665				
12. Has a negative attitude towards authority	.632	.650				
5. Teases or gossips about others	.693	.632				
6. Tries to manipulate others	.567	.631				
39. Reacts poorly or inappropriately to frustration	.569	.610				
40. Requires constant or excessive attention or praise	.429	.607				
8. Inconsiderate towards others	.643	.531		.509		
44. Seems to be out of control of their own emotions	.516	.499	.391			
42. Shows hypochondriacal tendencies (complains about non-existent diseases, behaves as if they are ill when that's not true)	.275	.492				
21. Has stereotypical behaviors (drumming with fingers, stamping feet, frequent swinging of body parts, circling or nodding the head, walking up and down, nodding with the whole body, etc.)	.711		.748			
22. Bites, hits, or rubs oneself	.642		.735			

Variable	Communalities	Parallel projections of variables on factors				
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
26. Has inappropriate speech habits (shouts, speaks loudly to oneself, laughs when there is no opportunity, repeats words or phrases, grumbles, mumbles, or makes sounds)	.533		.660			
25. Has inappropriate interpersonal habits (e.g., invading personal space, kissing, hugging, or licking others, clinging to others)	.484		.615			
24. Unusual posture (e.g., holding the head in an inclined position)	.473		.603			
4. Has tantrums (cries, screams, kicks or throws oneself on the floor)	.389		.592			
29. Has unusual oral habits (drooling, sucking on fingers or clothes, putting things in the mouth, eating non-edible items)	.477		.581			
23. Walking unusually (e.g., on tiptoe)	.366		.568			
32. Banging one's head or other parts of their body on an object, self-harming, or digging into wounds.	.416		.552			
33. Hyperactive	.515		.526	.450		
11. Refuses to follow instructions	.711		.525	.495		
27. Has unusual habits (sniffing things, stuffing items in pockets or bags, collecting and carrying unusual objects, including food and similar)	.434		.483			
9. Does not respect other people's property (does not return borrowed items, loses other people's belongings)	.656			.773		
3. Damages and destroys other people's belongings	.660			.767		
15. Takes other people's things without permission.	.656			.751		
2. Damages their own belongings	.545			.642		

Variable	Communalities	Parallel projections of variables on factors				
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
10. Does not follow the rules and does not comply with obligations	.595			.619		
7. Interrupts other people's activities	.706	.465		.531		
14. Behaves inappropriately in group activities (interrupts others, does not follow the rules of the game)	.657		.480	.529		
1. Threatens others or physically attacks them	.458			.510		
13. Runs away or tries to escape	.388			.476		
18. Withdrawn (has difficulty making contact, prefers to be alone)	.683				.816	
19. Apathetic (showing no emotions, seeming unaware of the environment)	.648				.789	
17. Inactive (sitting or standing in one position for a long time, not interacting)	.545				.655	
20. Shy (does not like to engage in group activities, hides their face, etc.)	.506				.643	
31. Afraid to go up or down stairs	.176				.388	
35. Inappropriately exposing the body (removing clothes in public places)	.739					.830
30. Tearing off or removing one's own clothes or shoes in inappropriate situations	.616					.672
34. Masturbating in inappropriate situations	.569					.637
28. Plays with saliva, feces, or urine	.573					.602
36. Socially inappropriate sexual behavior (includes being aggressive, trying to touch others intimately without their consent, and flirting emphatically)	.394					.472
Eigenvalue		10.74	7.04	2.69	2.21	1.89
% of the variance		24.42	15.99	6.10	5.01	4.30

If parallel projections of variables on the *first factor* are observed, it indicates that the factor is best determined by 13 variables. The variables with the highest projections are *"Reacts badly / inappropriately to criticism"* (.832), *"Feels persecuted (complains of being treated unfairly when not the case)"* (.788), and *"Lies and/or avoids telling the truth"* (.706). The remaining 10 variables indicate difficulties in emotional regulation (variables 43, 39, and 44), overestimation (variables 37, 40, and 42), and antisocial behavior (variables 5, 6, and 8). All 13 variables show significant correlations with the first factor. Further analysis reveals that the variables in the first factor align with the definition and description of emotional intelligence – encompassing awareness of one's emotions, understanding emotions, managing emotions based on the situation, delaying gratification, interpersonal skills, and relationship maintenance (Benzun Gumzej, 2016; Horvatić, 2004).

The first factor in the latent space of behavioral problems in children and young people with intellectual and co-occurring disabilities is determined by *emotional incompetence.* All variables with high projections on the first factor in the study by Igrić & Fulgosi-Masnjak (1991) were components of the *social maladjustment factor*, together with the variables that correspond to the third factor (socially inappropriate behavior) in this study. Some variables, in addition to a high correlation with this factor, also have a high logical correlation with some other factors. Such is, for example, the variable "*Inconsiderate towards others*", which, in addition to correlating with the first factor, also shows a high correlation with the third factor of socially inappropriate behavior.

By examining the parallel projections of variables on the *second factor*, we can observe that 12 variables contribute the most. The variables "*Has stereotypical behaviors (drumming with fingers, stamping feet, frequent swinging of body parts, circling or nodding the head, walking up and down, nodding with the whole body, etc.*) (.748) and "*Bites, hits or rubs oneself*" (.735) achieve the highest projections. These, along with other variables that influence the second factor with their projections, indicate stereotypical behaviors, whether motor type (21, 22, 24, 29, 32) or vocal (26). Therefore, it can be inferred that the second factor of the latent space of behavioral problems in children and young people with intellectual and co-occurring disabilities is *the factor of stereotypical behavior.* In an earlier study (Igrić & Fulgosi Masnjak, 1991), these variables were part of the dimension *of withdrawn behavior with elements of inappropriate behavior.* All variables, in addition to high projections, also exhibit high correlations with the second factor. Furthermore, some variables not only show high correlations with the second factor but also demonstrate correlations with the third factor of socially *inappropriate* behavior ("*Refuses to follow instructions", "Hyperactive*").

Upon examining the structure of *the third factor*, it is evident that it is influenced by 9 variables. The variables with the highest impact on this factor

are "*Does not respect other people's property (does not return borrowed items, loses other people's belongings)"* (.773*), "Damages and destroys other people's belongings"* (.767), *and "Takes other people's things without permission"* (.751). These, along with other variables that significantly contribute to the third factor, indicate behaviors that contravene commonly accepted social norms, whether concerning other people's property (9, 3, 15), one's own possessions (2), established rules (10, 14), or personal safety and that of others (1, 13). All variables not only exhibit high projections but also display strong correlations with the third factor. Consequently, it can be inferred that the third factor in the latent space of behavioral issues in children and young individuals with intellectual and co-occurring disabilities pertains to *socially inappropriate behavior.* Many of these variables, as previously noted in earlier research (Igrić & Fulgosi-Masnjak, 1991), demonstrated substantial projections on the *social maladjustment factor*, here delineated partly as a factor of challenges in the field of emotional intelligence and partly as a factor of socially inappropriate behavior.

When examining the projections of variables on *the fourth factor,* it is evident that the factor is primarily defined by the variables "*Withdrawn (has difficulty making contact, prefers to be alone)*" (.816) and "*Apathetic (showing no emotions, seeming unaware of the environment)"* (.789). These variables, along with others that define the fourth factor, predominantly relate to withdrawn and inactive behaviors (17, 20). Therefore, the fourth factor can be characterized as *internalized behavior.* Previous research by Igrić &Fulgosi-Masnjak (1991), identified these variables as corresponding to *withdrawn behavior with elements of inappropriate behavior.* Similarly, the projections of variables on the *fifth factor* reveal that it is mainly defined by five variables, including "*Inappropriately exposing the body (removing clothes in public places)"* (.830)*, " Tearing off or removing one's own clothes or shoes in inappropriate situations",* (.672)" *and "Masturbating in inappropriate situations"* (.637). These variables, along with other two strongly correlated with the fifth factor, are defined in different measuring instruments as disruptive behaviors (ASD-BPA according to Matson and Rivet, 2008) or inappropriate sexual behavior (AAMD according to Igrić & Fulgosi-Masnjak, 1991). Therefore, it is appropriate to label the fifth factor as *disruptive and sexually inappropriate behavior***.** In the previous study (Igrić & Fulgosi-Masnjak, 1991), these variables were linked to *inappropriate sexual* behavior and *withdrawn behavior with elements of inappropriate behavior.* Variables describing severe behavioral problems (Cooper et al., 2007), such as aggression, self-injury, and stereotyped behaviors, showed strong loadings on the factors of socially Inappropriate behavior (aggression) and stereotypical behavior (self-injury and stereotyped behaviors).

We can conclude that the latent structure of the space of behavioral problems in children and young people with intellectual and co-occurring disabilities can be recognized and consists of 5 factors:

1. The Factor of Emotional Incompetence
2. The Factor of Stereotypical Behavior
3. The Factor of Socially Inappropriate Behavior
4. The Factor of Internalized Behavior
5. The Factor of Disruptive and Sexually Inappropriate Behavior

Given that it has been unequivocally established that the Scale of Behavioral Problems in Children and Youth with Intellectual and Co-occurring Disabilities measures five distinct aspects of behavioral problems, this instrument can be considered fully valid.

Conclusion

This study aimed to identify the significant latent dimensions of the Scale of Behavioral Problems in Children and Young People with Intellectual and Other Influencing Disabilities. Factor analysis revealed five distinct factors: Emotional incompetence, Stereotypical behavior, Socially inappropriate behavior, Internalized behavior, and Disruptive and sexually inappropriate behavior.

Recently, a trend has emerged to refer to these behaviors as "challenging behaviors" or "behaviors that challenge" (Murphy, 2017), which implies that such behaviors should not be viewed as inherent characteristics of the individual but rather as responses to a set of contextual and individual factors (Buha & Gligorović, 2013). This perspective represents the main contribution of this study, as a better understanding of behavioral problems in children and adolescents with intellectual disabilities—their frequency and function—can provide a foundation for developing holistic treatment models and identifying, mitigating, or eliminating risk factors for their occurrence. This paper aims to contribute to a better understanding of behavioral issues in children and young people with intellectual disabilities, including their frequency and underlying functions. This understanding can serve as a foundation for developing comprehensive and efficient treatment models and identifying and addressing risk factors for these behaviors. Disseminating the findings of this research could support the development of national policies aimed at improving mental health care for children and young people with intellectual and behavioral disabilities, which is currently inadequate.

The limitations of this research primarily lie in the use of a convenience sample. Future plans include applying the study to a broader population of children and adolescents with more severe and multiple disabilities, ideally across the entire territory of the Republic of Croatia. Additionally, it would be

useful to compare teachers' reports with data provided by parents or guardians regarding behavioral problems. Previous research (Dekker et al., 2002) has shown that teachers generally report a lower prevalence of behavioral problems in children and adolescents with intellectual disabilities compared to parents. A possible explanation is that teachers compare the child's behavior with that of peers who often share a similar level of intellectual functioning, whereas parents typically compare their child's behavior to that of their other, typically developing children or other children in the community. Furthermore, the authors suggest that students may exhibit fewer behavioral problems in school settings when working with teachers trained to support this population and familiar with various techniques for modifying undesirable behaviors.

The proposed directions for expanding this research could serve as valuable support for developing national policies aimed at improving mental health care for children and adolescents with intellectual disabilities and behavioral problems, which is currently suboptimal. Ultimately, one of the goals of the POINT project is to use the findings to develop guidelines for support strategies, reducing frequency and eliminating behavioral problems in children and adolescents with intellectual and additional complex disabilities. These guidelines will be intended for teachers, professional associates, educators, and parents. This research provides, among other things, the foundation for creating such guidelines. Behavioral problems, among other consequences, reduce the learning opportunities of children and adolescents with intellectual and additional complex disabilities and limit their participation in everyday family and social life. Therefore, it is essential to educate teachers, professional associates, educators, and parents in strategies for providing support and mitigating or eliminating behavioral problems—primarily through activities that promote the development of appropriate communication and social skills.

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Faktorska struktura Skale problema u ponašanju kod dece i mladih s intelektualnim i dodatnim uticajnim teškoćama u razvoju

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Uvod: Deca i mladi sa intelektualnim i dodatnim uticajnim teškoćama imaju visok rizik od razvoja problema u ponašanju. Studija je bila deo institucionalnog projekta POINT (Učestalost određenih problema u ponašanju kod dece i mladih sa intelektualnim i dodatnim uticajnim teškoćama) na Fakultetu za odgojne i obrazovne znanosti Sveučilišta „Juraj Dobrila" u Puli, Hrvatska. *Cilj*: Cilj je bio da se identifikuju ključne latentne dimenzije Skale problema u ponašanju kod dece i mladih sa intelektualnim i dodatnim uticajnim teškoćama razvijene u okviru projekta. *Metod*: U studiji je učestvovalo 127 dece i mladih iz Škole za odgoj i obrazovanje – Pula. Sprovedena je eksplorativna faktorska analiza. *Rezultati*: Analiza je otkrila da osnovna struktura problema u ponašanju u ovoj grupi uključuje pet različitih faktora, koji se mogu posmatrati kao podskale. *Zaključak*: Ova studija doprinosi validaciji mernog instrumenta i pruža uvid u učestalost i funkciju problema u ponašanju kod dece i mladih sa intelektualnim teškoćama. Ovo razumevanje može pomoći u razvoju sveobuhvatnih i efikasnih modela tretmana i identifikovanju i ublažavanju faktora rizika za ove probleme u ponašanju.

Ključne reči: deca i mladi s intelektualnim teškoćama, dodatne uticajne teškoće, problem u ponašanju

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