

THE EDUCATIONAL E-BOOK-BASED VERBAL BULLYING ASSESSMENT SCALE (BVA) AS A TOOL FOR DETECTING BULLYING BEHAVIOR USING THE RASCH MODEL

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ABSTRACT

Verbal bullying among junior high school students remains a critical issue due to its profound psychological, social, and academic consequences. The increasing prevalence of such behavior, coupled with the absence of reliable assessment tools, hinders early detection and intervention in school settings. This study aimed to develop and validate the Bullying Verbal Assessment (BVA) instrument in the form of an e-book, intended to identify instances of verbal bullying among students at SMPN 28 Malang. Using a quantitative approach, data were collected from 92 students selected through quota sampling. The instrument consisted of 41 items assessed using the Rasch Model through the Winsteps application. Results indicated that 16 items met the validity criteria (fit MNSQ values between 0.5–1.5, ZSTD within –2.0 to +2.0, and Pt Measure Corr values between 0.4–0.85), and the instrument achieved a reliability index of 0.69, falling into the moderate category. The findings confirm that the BVA instrument is valid and reliable for detecting verbal bullying behavior. The study provides a practical and accessible assessment tool for school counselors, enhancing early intervention strategies in addressing verbal bullying cases. Its digital format facilitates integration into school counseling programs, supporting both curative and preventive actions. For future research, expanding the demographic scope and exploring the instrument's applicability across various education levels and digital platforms is recommended to strengthen its utility and impact in broader educational contexts.

Keywords: assessment instrument; bullying prevention; counseling; rasch model; verbal bullying

INTRODUCTION

Bullying is an act of intimidation carried out by a stronger party against a weaker one. At the junior high school level, verbal bullying has become a significant concern due to its detrimental impact on students' psychological, social, and academic well-being (Fatkhianti, 2023). Verbal bullying includes behaviors such as teasing, insulting, name-calling, spreading rumors, and threatening, often done repeatedly to belittle or intimidate the victim (Maizura et al., 2024; Pradana, 2024). Junior high school students, who are in early adolescence, are at a sensitive stage of identity development, making them highly vulnerable to peer judgment. This vulnerability increases their risk of becoming both victims and perpetrators of verbal bullying (Yosep et al., 2023). Peer influence, often perceived as a way to enhance social status, along with the widespread use of social media, exacerbates this issue by allowing harmful behaviors to extend beyond the school environment (Garg, Ms. Swati, 2024; Veronica, 2022). Additionally, family environments that

are permissive towards violence or lack emotional support can lead students to channel their frustrations through aggressive behavior at school (Febrianti et al., 2024).

The negative impacts of verbal bullying are profound. Victims often experience a decrease in self-esteem, a tendency to withdraw, and difficulties in social interactions (Agustiningsih et al., 2024). These psychological effects can significantly reduce students' motivation to learn—a key factor that drives enthusiasm, focus, and persistence in academic achievement (Nia et al., 2024). As a result, students who are victims of verbal bullying face significant challenges in maintaining their academic performance (Bhatia, 2023). Early detection of verbal bullying is crucial to mitigate its negative effects. Unaddressed verbal bullying can develop into serious psychological problems such as anxiety, depression, and social isolation (Zhang, 2024). Teachers and parents must recognize early signs, including behavioral changes, declining academic performance, and reluctance to interact with peers. Effective preventive measures, such as counseling, anti-bullying education programs, and proactive initiatives to create a positive school climate, are essential. Involving the entire educational community teachers, students, and parents is crucial for creating an environment responsive to the signs of verbal bullying, not only to protect victims but also to prevent perpetrators from reinforcing harmful aggressive behavior patterns (Abdi Suandana et al., 2024).

Despite the critical need for early detection, several studies show that bullying behavior is still prevalent in schools. For instance, research by Kardiana, (Kardiana , Gede Surya., 2015) at SMP PGRI 2 Denpasar reported that 28.4% of students experienced low-intensity bullying, while 6.3% faced moderate-intensity bullying. Additionally, 26.3% of students showed signs of mild depression, and 14.7% experienced moderate depression. Data from the Indonesian Child Protection Commission (KPAI) in 2023 recorded 2,355 reported cases of bullying. Observations and interviews with counseling teachers at SMPN 28 Malang revealed that verbal bullying, such as mocking using parents' names and making inappropriate comments, was the most frequently reported issue. However, a significant challenge faced by educators is the lack of effective assessment instruments to detect verbal bullying in the school context.

Guidance and counseling play a crucial role in addressing cases of verbal bullying that occur within the school environment. As part of efforts to create a safe and supportive learning atmosphere, guidance and counseling services must be able to identify, analyze, and effectively address verbal bullying behavior. However, to ensure that the interventions provided are truly targeted, a valid and reliable measurement tool is needed to identify and assess the level of verbal bullying behavior in schools. The presence of a systematically designed instrument to detect verbal bullying enables counselors to obtain more accurate data regarding students' conditions. This data allows counselors to develop intervention strategies that better align with the school's needs, whether in the form of prevention programs, victim support, or educational sanctions for perpetrators of verbal bullying. Thus, guidance and counseling services function not only as a responsive measure but also as a proactive support system in creating a safer and more comfortable school environment for all students. To address this gap, it is necessary to develop a reliable and valid assessment tool to identify verbal bullying among students. The Bullying Verbal Assessment (BVA) instrument aims to fulfill this need, providing a critical tool for counseling teachers at SMPN 28 Malang for early detection and intervention. Conducting a validity test for the BVA instrument is essential to ensure its effectiveness and applicability in real educational settings, ultimately contributing to the prevention and management of verbal bullying incidents

METHOD

This study adopted a quantitative research design to develop and validate a verbal bullying assessment instrument in the form of an e-book, tailored to the context of junior high school students. The target population comprised all students enrolled at SMPN 28 Malang, while the sampling technique employed was quota sampling, a non-probability method that enables the selection of participants based on specific characteristics aligned with the study's objectives (Sumargo, 2020). This approach was preferred over

stratified random sampling due to logistical considerations and the imperative to ensure a heterogeneous sample representing diverse exposure levels to verbal bullying phenomena. A total of 92 students participated in the study, deemed sufficient for Rasch-based psychometric validation in social sciences.

The primary research instrument was the Bullying Verbal Assessment (BVA) scale, comprising 41 items designed to capture students' experiences and perceptions of verbal bullying. Each item was scored on a 5-point Likert scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree), reflecting the intensity of agreement with statements related to verbal aggression and peer victimization. The content and structure of the instrument were developed based on an extensive review of the literature on bullying, student psychological responses, and counseling needs. To examine construct validity, the study utilized the Rasch Model—a robust measurement approach under Item Response Theory (IRT)—implemented through the Winsteps application. This model was selected for its ability to provide item-level diagnostic statistics such as Mean Square (MNSQ) fit indices, Z-standardized residuals (ZSTD), and point-measure correlations (Pt. Measure Corr). These parameters were used to assess how well individual items fit the expected probabilistic response model and whether they contributed meaningfully to the latent construct being measured.

In addition to construct validity, the reliability of the instrument was assessed by analyzing both item reliability (consistency of item functioning across respondents) and person reliability (stability of respondent traits across items). The person-item separation index was also calculated to determine the instrument's ability to differentiate between distinct respondent groups based on their verbal bullying experiences. The obtained reliability coefficient was 0.69, which, while moderate, falls within the acceptable threshold for exploratory studies in the field of educational and psychological measurement. Overall, the Rasch-based analytical framework enabled detailed scrutiny of item functioning, scale dimensionality, and response pattern consistency, providing empirical evidence for the BVA scale's validity and reliability. The methodological rigor employed ensures that the resulting instrument is not only psychometrically sound but also applicable in real-world educational settings for early detection and targeted intervention in verbal bullying cases.

RESULTS AND DISCUSSION

Testing was conducted with 92 respondents, who were students at SMPN 28 Malang. (Sumintono & Widhiarso, 2014) explain that validity testing using the Rasch Model with Winstep requires attention to the following criteria to determine the validity of the instrument: 1) Outfit MNSQ value: $0.5 < \text{MNSQ} < 1.5$; 2) Outfit ZSTD value: $-2.0 < \text{ZSTD} < +2.0$; 3) Pt Measure Corr value: $0.4 < \text{Pt Measure Corr} < 0.85$.

Table 1. Item Validity Test

No Item	MNSQ	ZSTD	Pt. Measure Corr	Remarks
1	1.25	1.13	0.12	Invalid
2	1.04	0.29	0.18	Invalid
3	0.98	-0.03	0.33	Invalid
4	1.80	3.30	0.28	Invalid
5	1.28	1.05	0.12	Invalid
6	1.17	0.32	0.28	Invalid
7	0.54	-4.18	0.45	Valid
8	0.91	-0.51	0.37	Invalid
9	0.86	-0.89	0.49	Valid
10	1.42	1.94	0.33	Invalid
11	0.98	-0.12	0.33	Invalid
12	1.02	0.16	0.38	Invalid
13	1.61	3.99	0.32	Invalid

No Item	MNSQ	ZSTD	Pt. Measure Corr	Remarks
14	1.04	0.34	0.41	Valid
15	1.02	0.20	0.42	Valid
16	1.26	1.86	0.22	Invalid
17	1.20	1.22	0.35	Invalid
18	1.11	0.63	0.37	Invalid
19	1.22	0.96	0.20	Invalid
20	0.64	-3.10	0.48	Valid
21	1.13	0.77	0.45	Valid
22	1.29	2.06	0.41	Valid
23	1.22	1.13	0.31	Invalid
24	1.71	3.19	0.09	Invalid
25	1.04	0.35	0.21	Invalid
26	0.66	-3.18	0.42	Valid
27	1.06	0.47	0.20	Invalid
28	0.61	-3.41	0.53	Valid
29	0.88	-0.58	0.36	Invalid
30	0.89	-0.48	0.45	Valid
31	0.91	-0.54	0.51	Valid
32	0.82	-1.16	0.43	Valid
33	1.96	3.28	0.18	Invalid
34	1.03	0.25	0.30	Invalid
35	1.05	0.38	0.47	Valid
36	1.39	2.22	0.42	Valid
37	1.20	1.18	0.11	Invalid
38	1.07	0.54	0.38	Invalid
39	1.34	2.02	0.20	Invalid
40	0.83	-1.03	0.48	Valid
41	0.85	-1.13	0.42	Valid

Based on the results of the validity test, out of the 41 statement items in the instrument, 16 items were deemed valid, while 25 items were deemed invalid. The valid items demonstrated appropriate Mean Square (MNSQ) fit statistics (between 0.5 and 1.5), acceptable ZSTD values, and moderate to high point-measure correlations (P. MCorr), indicating that these items effectively measured the intended constructs. Additionally, the valid items displayed stronger discrimination in distinguishing students with different levels of verbal bullying experiences. In contrast, the 25 invalid items had extreme MNSQ values (either too high or too low), indicating misfit responses. Some items showed poor correlation with the overall scale, suggesting redundancy or weak measurement ability. Additionally, several invalid items had high ZSTD values (>2), indicating inconsistency in responses and potential issues with item clarity or interpretation. The results suggest that the valid items better capture key aspects of verbal bullying, making them suitable for inclusion in the final instrument, whereas the invalid items may require revision or elimination to enhance measurement accuracy.

Table 2 Reliability Test

Item Reliability	Category
0.69	Sufficient

A validity test is conducted to determine whether the measurement tool to be used is valid or invalid. The validity test applied was the Rasch Model, utilizing the Winstep application. The Rasch model approach, developed by Georg Rasch in 1960, is part of Item Response Theory (IRT), where the Rasch model was created to address the limitations of Classical Test Theory (CTT) (Suryana & Ahmad, 2022). Sumintono and Widhiarso (2014) explain that validity testing using the Rasch Model with Winstep requires

attention to the following criteria to determine whether the instrument is valid or not: 1) Outfit MNSQ value: $0.5 < \text{MNSQ} < 1.5$; 2) Outfit ZSTD value: $-2.0 < \text{ZSTD} < +2.0$; 3) Pt Measure Corr value: $0.4 < \text{Pt Measure Corr} < 0.85$. Based on the results of the validity test, it was found that, out of the 41 statement items in the instrument, 16 items were deemed valid, while 25 items were deemed invalid. The determination of an item's validity in this instrument, using Rasch model analysis, requires meeting three criteria: outfit MNSQ, outfit ZSTD, and point measure correlation values. Furthermore, the reliability test results showed an instrument reliability of 0.69, which falls within the moderate category. In their research, (Suryana & Ahmad, 2022) explain that validity testing of instrument items aims to ensure that each item functions appropriately in measuring bullying victims by considering the three criteria: outfit MNSQ, outfit ZSTD, and point measure correlation. Item analysis demonstrates the suitability of each item in an instrument; items that are fit indicate consistency with the intended measure, whereas misfit items suggest a misconception among participants regarding the item (Suryani, 2018). The purpose of this study is to develop a Bullying Verbal Assessment (BVA) instrument in the form of an E-Book as a tool for detecting bullying at SMP Negeri 28 Malang, which maintains variable alignment with indicators, indicators with descriptors, and descriptors with statements, making it valid and reliable. Verbal bullying is defined as acts of oppression involving language or words intended to embarrass or harm others. Verbal bullying may include inappropriate name-calling, teasing, mocking, threatening, spreading rumors, insulting, mistreatment, making negative remarks, belittling others, and making inappropriate sexual comments (Herliana & Oktaviarini, 2023; Kennedy, 2020; Naidoo et al., 2016).

Bullying behavior is frequently encountered in schools, particularly verbal bullying, which is the focus of this instrument's development. Verbal bullying is prioritized because, at SMP Negeri 28 Malang, students frequently mock others by using their parents' names, causing hurt feelings and even conflicts. This validated and reliable BVA instrument can be used by counseling teachers at SMP Negeri 28 Malang and other schools as an early detection tool for verbal bullying. Curative actions that can be taken using this instrument include providing counseling to students, particularly victims of verbal bullying, to help them address issues and prevent prolonged trauma. For bullying perpetrators, counseling teachers can collaborate with school disciplinary authorities to impose appropriate sanctions and offer individual counseling if needed. Research by Nurodin and Rahmat (2023) states that group counseling with a reality-based approach has proven effective in reducing verbal bullying behavior. In addition to curative actions, counseling teachers can also implement preventive measures by educating students about bullying or organizing awareness programs. Through preventive actions, counseling teachers can provide students with an understanding of bullying, bullying behaviors, and the consequences of such actions. Preventive measures can also include activities like art therapy (Bariyyah, 2022) concluded that such activities effectively enhance understanding of bullying. A limitation of this instrument's development lies in its limited demographic scope. Future researchers could expand the demographic scope to include variables such as social status, economic conditions, admission pathways to SMP, and other relevant factors. Expanding demographic coverage would allow counseling teachers to gather data that could be used for further relevant analyses of verbal bullying.

CONCLUSION

This study successfully developed the Bullying Verbal Assessment (BVA) instrument, consisting of 16 items that have been proven to be valid and reliable. The presence of the BVA instrument is highly beneficial, particularly for schools, teachers, and counselors, in conducting early detection of verbal bullying behavior within the school environment. This instrument is designed to facilitate the identification and understanding of potential verbal bullying behaviors, enabling appropriate preventive or intervention measures. Construct validity and reliability testing for this instrument were conducted using Rasch Model analysis with the assistance of the Winsteps application, yielding accurate and dependable results. Beyond its immediate application, the BVA instrument holds potential for further adaptation and development. Future research may explore its effectiveness across different educational levels, including elementary and senior high schools, to determine its broader applicability. Additionally, integrating the instrument with digital assessment tools or mobile applications could enhance accessibility and usability for educators and

counselors. Further longitudinal studies are recommended to examine the long-term impact of using the BVA instrument in bullying prevention programs and its role in shaping school policies on student well-being. Thus, the Bullying Verbal Assessment (BVA) instrument is not only ready for practical use in identifying verbal bullying but also provides a foundation for further research and innovation in the field of school-based bullying prevention, contributing to the creation of safer and more supportive educational environments.

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