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ADOLESCENT MENTAL HEALTH CHARACTERISTICS ASSESSED USING THE STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ): A DESCRIPTIVE STUDY

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Abstract:

Background: Adolescence represents a turbulent transitional phase characterized by rapid biological, cognitive, and psychosocial restructuring, rendering youth highly vulnerable to emotional dysregulation and behavioral challenges. Early identification of mental health difficulties using standardized screening instruments is pivotal for timely preventive interventions.

Objective: To examine the comprehensive mental health profile of adolescents across emotional symptoms, conduct problems, hyperactivity-inattention, peer relationship problems, prosocial behavior, and total difficulties using the Strengths and Difficulties Questionnaire (SDQ). Methods: A quantitative descriptive cross-sectional study was conducted involving 124 adolescent respondents from a senior high school in Situbondo Regency, Indonesia, selected via purposive sampling in 2025. Data were collected using the validated Indonesian self-report version of the SDQ. Univariate analysis was performed to determine absolute frequency distributions and percentages across established cut-off categories (normal, borderline, and abnormal).

Results: All participants were female aged 16–18 years (mean age ~17.1 years; 45.2% aged 17), with 2.4% (n = 3) reporting a prior history of psychiatric disturbance. Across specific subscales, emotional problems demonstrated the highest abnormality (37.9% abnormal, 16.1% borderline), followed by peer relationship problems (54.8% borderline, 14.5% abnormal), conduct problems (21.8% abnormal, 16.1% borderline), and hyperactivity (10.5% abnormal, 12.9% borderline). Prosocial behavior remained intact in 89.5% of respondents. In the total difficulties index, 36.3% (n = 45) scored within the normal range, 27.4% (n = 34) were borderline, and 36.3% (n = 45) were abnormal, establishing that 63.7% of surveyed adolescents exhibited elevated risks of mental health difficulties.

Conclusion: Nearly two-thirds of the adolescent respondents demonstrated borderline or abnormal mental health screening profiles based on the SDQ Total Difficulties index, with emotional symptoms and peer relationship difficulties being the most prominent areas of concern. These findings provide a descriptive overview of adolescents' self-reported mental health characteristics rather than clinical psychiatric diagnoses.

Keywords: Adolescents; Emotional symptoms; Mental health; Peer problems; Screening; Strengths and Difficulties Questionnaire (SDQ)

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1. INTRODUCTION

Adolescence is a pivotal developmental phase spanning the transition from childhood to adulthood, characterized by accelerated somatosensory growth, neurobiological restructuring, emotional intensification, and expanding social expectations (Santrock, 2018; Wiguna, 2013). According to the World Health Organization (WHO), individuals aged 10–19 years constitute adolescents, numbering approximately 1.2 billion people globally and accounting for roughly 16% to 18% of the global population (WHO, 2021). In Indonesia, national demographics from

the 2020 Population Census conducted by the Central Bureau of Statistics (Badan Pusat Statistik [BPS]) documented that the adolescent cohort reached 44.5 million individuals, representing 16.47% of the total domestic populace (Badan Pusat Statistik, 2020). Consequently, ensuring the psychological resilience and holistic health of this extensive demographic group is an urgent public health and socio-economic priority.

Despite the general perception of youth as a period of physical vitality, empirical evidence confirms that adolescence represents an extraordinary window of developmental vulnerability. Rapid physiological alterations driven by hypothalamic-pituitary-gonadal (HPG) maturation frequently clash with immature prefrontal executive regulation, generating acute internal conflicts, emotional lability, and susceptibility to affective disorders (Marcelina, 2020; Remschmidt et al., 2007). Globally, the WHO reports that 10% to 20% of children and adolescents worldwide experience mental health conditions, yet a substantial majority remain undiagnosed, unrecognized, and untreated due to pervasive societal stigma and inadequate primary screening (O'Reilly et al., 2015; WHO, 2021). In the United States, epidemiological surveillance by the National Institute of Mental Health (NIMH) identified individuals aged 17–18 years as having the highest burden of major depressive episodes, alongside elevated adolescent suicide rates (Ivey, 2020). Within Indonesia, data from the Basic Health Research (Riskesdas) revealed that emotional mental disorders among individuals aged ≥ 15 years surged from 6.0% in 2013 to 9.8% in 2018, with severe depressive and anxiety symptoms documented in approximately 6.2% of adolescents and young adults (Rachmawati, 2020). Inadequately managed affective distress in youth is directly implicated in non-suicidal self-injury (NSSI) and completed suicide, with suicidal ideation documented in 4.2% of high school students (Rachmawati, 2020).

Adolescent psychological well-being is continually shaped by multidimensional psychosocial stressors across the ecological microsystems of family, educational institutions, and peer communities (Santrock, 2018). Interpersonal friction within dysfunctional household environments, parental neglect, harsh punitive rearing styles, and socioeconomic insecurity generate profound toxic stress (Syamaun, 2019). Simultaneously, modern academic settings impose intense cognitive demands, rigorous homework loads, test anxiety, and educator misalignment, while peer contexts often expose adolescents to social alienation, peer rejection, or cyberbullying (Hurlock, 2015; Santrock, 2018). Furthermore, the omnipresence of algorithmic social media platforms amplifies maladaptive upward social comparisons, body image dissatisfaction, and fear of missing out (FoMO), precipitating sleep fragmentation and heightened emotional distress (Keyes & Annas, 2009; Marcelina, 2020).

To systematically capture and evaluate psychological strengths and behavioral difficulties among youth, the Strengths and Difficulties Questionnaire (SDQ) developed by Robert Goodman has emerged as an internationally validated, psychometrically robust behavioral screening instrument (Goodman, 2001; Wiguna, 2013). The SDQ captures both internalizing problems (emotional and peer relationship difficulties) and externalizing problems (conduct and hyperactivity-inattention difficulties), while concurrently appraising prosocial capabilities. Although numerous regional studies have examined mental health in large urban school districts (Sari, 2020; Sulistyarini, 2019), significant empirical gaps remain regarding the psychological profile of female adolescents residing in peri-urban and religious educational regions in eastern East Java, such as Situbondo and Pamekasan.

Therefore, this study aimed to investigate the mental health profile of adolescents using the Strengths and Difficulties Questionnaire (SDQ), analyzing emotional symptoms, conduct problems, hyperactivity, peer relationship problems, prosocial behavior, and overall total

difficulties to establish an empirical baseline for community- and school-based adolescent health interventions.

2. METHODS

2.1 Research Design

This study employed a quantitative descriptive cross-sectional research design. This epidemiological approach was selected to characterize the frequency distribution, prevalence patterns, and category thresholds of mental health difficulties and strengths among adolescents at a single point in time without administering an active experimental intervention or inferring causal directional pathways.

2.2 Research Population and Sample

The study population comprised students enrolled at one senior high school (SMA) in Situbondo Regency, Indonesia. A total of 124 students were recruited using a non-probability purposive sampling technique. All participants were female (100.0%, n = 124).

2.3 Research Setting and Time

The study was conducted at a senior high school in Situbondo Regency, East Java, Indonesia. Data collection took place during the 2025 academic year, involving female students who met the study's eligibility criteria.

2.4 Research Procedures

The research procedure was structured across preparatory, operational, and data-clearing phases. During the preparatory phase, administrative permissions were secured, and the survey instruments were formatted. In the operational phase, self-report questionnaires were distributed to eligible adolescent participants with standardized verbal briefings explaining the objective of the screening, emphasizing voluntary participation, and assuring complete anonymity. Questionnaires were completed independently in a quiet setting and verified for completeness upon collection.

2.5 Data Collection Techniques

Primary data collection was performed via structured self-administered paper-and-pencil questionnaires. Socio-demographic indicators gathered included biological age (categorized into 16, 17, and 18 years), gender, and self-reported history of mental or psychiatric disturbance.

2.6 Research Instruments

Adolescent mental health was evaluated using the Indonesian self-report version of the Strengths and Difficulties Questionnaire (SDQ) for youth aged 11–18 years (Goodman, 2001; Wiguna, 2013). The SDQ comprises 25 items rated on a 3-point Likert scale: 0 = 'Not True' (*Tidak Benar*), 1 = 'Somewhat True' (*Agak Benar*), and 2 = 'Certainly True' (*Benar*), with reverse scoring applied to positively phrased items. The questionnaire is partitioned into five distinct subscales of 5 items each: (1) Emotional Symptoms (score 0–10); (2) Conduct Problems (score 0–10); (3) Hyperactivity-Inattention (score 0–10); (4) Peer Relationship Problems (score 0–10); and (5) Prosocial Behavior (score 0–10). The Total Difficulties Score is generated by summing the first four problem subscales (range 0–40), excluding the prosocial scale. In accordance with Indonesian adolescent SDQ cut-off guidelines (Wiguna, 2013), scores were categorized into: Normal (0–15), Borderline (16–19), and Abnormal (20–40).

2.7 Data Analysis

Data were cleaned, coded, and analyzed using statistical software. Univariate descriptive analysis was executed to compute absolute frequencies (n) and relative

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percentages (%) for respondent demographics, the five SDQ subscales, and the composite Total Difficulties category.

2.8 Scope and Limitations of the Research Used

This study focused on assessing the mental health profiles of 124 female students at a senior high school in Situbondo Regency, East Java, Indonesia, using the Strengths and Difficulties Questionnaire (SDQ). The assessment covered emotional symptoms, conduct problems, hyperactivity-inattention, peer relationship problems, prosocial behavior, and total difficulties. However, the study was limited by its purposive sampling technique, and single-school setting, which may restrict the generalizability of the findings to adolescents in other educational institutions and regions. Furthermore, the findings were based on self-reported questionnaire responses and did not establish clinical psychiatric diagnoses or causal relationships.

2.9 Ethical Considerations

Prior to data collection, all student respondents were informed about the study's objectives, Before data collection, all respondents were informed about the study objectives, procedures, and their rights as participants. Informed consent was obtained voluntarily from each respondent, with written parental or guardian consent and student assent obtained where applicable. Participants were assured that their personal information would remain confidential, participation was voluntary, and they could withdraw from the study at any time without any consequences.

3. RESULTS AND DISCUSSION

3.1. Result

A total of 124 adolescent respondents participated in this study. Table 1 delineates the socio-demographic characteristics of the respondents, including age distribution, gender, and prior personal history of psychiatric or mental health disturbances.

Table 1. Distribution of Respondent Characteristics (n = 124)

Respondent Characteristic	Sub-category	Frequency (n)	Percentage (%)
Age (Years)	16 Years Old	29	23.4
	17 Years Old	56	45.2
	18 Years Old	39	31.5
	Total	**124**	**100.0**
Gender	Female (Perempuan)	124	100.0
	Male (Laki-laki)	0	0.0
	Total	**124**	**100.0**
History of Mental/Psychiatric Disorder	Present (Ada)	3	2.4
	Absent (Tidak Ada)	121	97.6
	Total	**124**	**100.0**

Source: Primary research data, 2025.

As shown in Table 1, the largest age group among respondents was 17 years old (45.2%, n = 56), followed by 18 years old (31.5%, n = 39) and 16 years old (23.4%, n = 29). The entire sample consisted of female respondents (100.0%, n = 124). While the vast majority (97.6%, n = 121) reported no prior psychiatric history, 2.4% (n = 3) had documented past mental health disturbances.

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Table 2. Frequency Distribution of Adolescent Mental Health Across the Five SDQ Subscales (n = 124)

SDQ Subscale Dimension	Normal n (%)	Borderline n (%)	Abnormal n (%)	Total n (%)
1. Emotional Symptoms (Masalah Emosional)	57 (46.0%)	20 (16.1%)	47 (37.9%)	124 (100.0%)
2. Conduct Problems (Masalah Perilaku)	77 (62.1%)	20 (16.1%)	27 (21.8%)	124 (100.0%)
3. Hyperactivity-Inattention (Hiperaktivitas)	95 (76.6%)	16 (12.9%)	13 (10.5%)	124 (100.0%)
4. Peer Relationship Problems (Teman Sebaya)	38 (30.6%)	68 (54.8%)	18 (14.5%)	124 (100.0%)
5. Prosocial Behavior (Perilaku Prososial)*	111 (89.5%)	8 (6.5%)	5 (4.0%)	124 (100.0%)

**Note: For the Prosocial Behavior subscale, higher scores denote behavioral strengths, whereas for problem subscales (1–4), higher scores denote difficulties. Source: Primary research data, 2025.*

Table 2 displays the distribution across the five individual SDQ dimensions. Emotional symptoms demonstrated the highest proportion of abnormality among problem domains, with 37.9% (n = 47) scoring abnormal and 16.1% (n = 20) borderline, indicating that over half (54.0%) experienced affective vulnerability. In the peer relationship domain, more than half of respondents were classified as borderline (54.8%, n = 68) and 14.5% (n = 18) abnormal. Conversely, externalizing problems were less pronounced, with normal classifications observed in 62.1% (n = 77) for conduct problems and 76.6% (n = 95) for hyperactivity. Prosocial behavior was strongly preserved, with 89.5% (n = 111) scoring normal.

Table 3. Frequency Distribution of Overall Adolescent Mental Health (Total Difficulties Score) (n = 124)

Mental Health Category	Score Cut-Off	Frequency (n)	Percentage (%)	Cumulative Risk
Normal	0 – 15	45	36.3	Not at Elevated Risk (36.3%)
Borderline	16 – 19	34	27.4	At Elevated Risk
Abnormal	20 – 40	45	36.3	(Borderline + Abnormal = 63.7%)
Total		**124**	**100.0**	**100.0%**

Source: Primary research data, 2025.

As summarized in Table 3, the overall mental health profile revealed an equal distribution between normal (36.3%, n = 45) and abnormal (36.3%, n = 45) categories, alongside 27.4% (n = 34) in the borderline category. Collectively, 63.7% (n = 79) of the surveyed female adolescents exhibited psychological vulnerability requiring monitoring or targeted mental health support.

3.2 Discussion

The findings revealed that 63.7% of female adolescents aged 16–18 experienced borderline (27.4%) or abnormal (36.3%) psychological difficulties based on the SDQ Total Difficulties index. Emotional symptoms (37.9%) and peer relationship problems (54.8%) were the most prominent difficulties, while conduct problems (21.8%) and hyperactivity (10.5%)

were comparatively lower. Nevertheless, 89.5% demonstrated normal prosocial behavior, indicating that empathy and interpersonal support remained strong.

These findings are consistent with previous studies reporting substantial emotional difficulties among Indonesian adolescents. Sari (2020) identified emotional distress among high school students, particularly those with limited family and peer support. Similarly, Riskesdas findings indicated increasing emotional and depressive symptoms among Indonesian adolescents (Rachmawati, 2020). International evidence also highlights the early onset of mental health disorders, with greater vulnerability to internalizing problems among adolescent girls (Kessler et al., 2007; UNICEF, 2021; Goodman, 2001).

The findings can be explained through Erikson's Psychosocial Development Theory, particularly the stage of Identity versus Role Confusion. During late adolescence, individuals face challenges related to personal identity, autonomy, and future career decisions, potentially contributing to emotional instability and psychological distress (Hurlock, 2015; Santrock, 2018).

From Bronfenbrenner's Bioecological Systems Theory, academic pressure, family communication, peer relationships, and social media exposure represent environmental factors influencing adolescent mental health. Social exclusion, bullying, social comparison, and body dissatisfaction may further increase emotional vulnerability and explain the high proportion of peer relationship difficulties observed (Keyes & Annas, 2009; Marcelina, 2020).

An important limitation is that all participants were female, restricting the generalizability of the findings across genders. Nevertheless, this study provides valuable baseline information on adolescent mental health in East Java and highlights the usefulness of the SDQ as an accessible screening instrument in educational settings. Early identification, supportive counseling, and school-based mental health interventions are essential to prevent psychological difficulties from progressing into more serious conditions.

3.3 Implications

The findings have urgent practical and policy implications for school administrators, educational counselors (Guru BK), community health centers (Puskesmas), and the Department of Health. Primary healthcare services should integrate routine SDQ mental health screening into School Health Programs (Usaha Kesehatan Sekolah [UKS]). Schools must establish accessible, confidential counseling services and peer-support networks to destigmatize help-seeking.

3.4 Research contribution

This research provides empirical documentation detailing both psychological difficulties and prosocial assets among late adolescents in East Java, providing vital local data to inform regional adolescent health planning.

3.5 Limitations

The study was limited to univariate descriptive analysis and did not examine associations between mental health characteristics and other potential factors, such as socioeconomic status, family environment, or academic stress. Further studies involving more diverse populations, multiple assessment sources, and broader analytical approaches are recommended.

3.6 Suggestions

Future investigations should employ stratified random sampling across co-educational cohorts, include multi-informant (parent-teacher-youth) SDQ versions, explore digital

screen time and family functioning variables through multivariable regression, and incorporate longitudinal tracking to evaluate psychological developmental trajectories.

4. CONCLUSION

More than half of the surveyed female adolescents (63.7%) exhibited mental health difficulties falling into the borderline (27.4%) and abnormal (36.3%) categories of the SDQ Total Difficulties index, primarily driven by emotional distress (37.9% abnormal) and peer relationship challenges (54.8% borderline), alongside strongly preserved prosocial behavior (89.5% normal). However, given the descriptive design, lack of male representation, and reliance on self-report screening, these findings represent an epidemiological screening overview rather than psychiatric clinical diagnoses.

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AUTHOR CONTRIBUTIONS STATEMENT

LIR: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Writing original draft. R : Methodology, Supervision, Validation, Writing, review and editing, Project administration.

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