Development and Validation of a New Measure of Everyday Adolescent Functioning: The Multidimensional Adolescent Functioning Scale


A B S T R A C T

Purpose: Everyday functioning is an important outcome for studies of the developmental psychopathology of adolescence. An unbiased, well-validated, and easy-to-use instrument to specifically assess normal adolescent functioning is not yet available. The current study aimed to introduce and validate the Multidimensional Adolescent Functioning Scale (MAFS).

Methods: The MAFS was developed by clinical consensus, resulting in a 23-item self-report questionnaire with three distinct subscales: general functioning, family-related functioning, and peer-related functioning. MAFS data were collected in a general population sample (N = 842; mean age = 15.0 years [standard deviation = .4]) at baseline and again at 1- and 3-year follow-up. Psychometric analyses included confirmatory factor analysis, calculations of internal consistency, scale correlations, and correlations with the abridged General Health Questionnaire.

Results: Confirmatory factor analysis showed that the hypothesized 3-factor structure fits well to the MAFS data. All scales showed adequate internal consistency (greatest lower bound: .75–.91) and sufficient discriminative ability (scale intercorrelations: .15–.52). Of the scales, general functioning was most strongly correlated with the General Health Questionnaire, whereas family- and peer-related functioning showed weaker correlations with this general measure. The results were stable across repeated measurements and gender groups.

Conclusions: The MAFS is an easy-to-use instrument with good psychometric characteristics, which could be suitable for a broad range of future research applications, especially when a multidimensional and unbiased indication of normal adolescent functioning is required.

Level of daily functioning is an important outcome domain in psychopathological research and adds important information on individual's situation regardless of his or her formal diagnosis. Even within clinical populations, daily functioning and psychiatric diagnosis are not necessarily dependent on each other [1]. Instead, other factors such as perceived social support [2] and the ability to cope with problems in a constructive way [3] also affect the level of functioning.
Instruments that assess functioning are usually designed from a clinical perspective, taking pathology or nonnormality as a starting point. They assess impaired functioning, along with psychopathology and mental health problems, or are part of screening instruments for clinical psychiatric diagnoses. In line with this, these scales are usually designed to detect major changes associated with psychopathology and treatment response. For instance, the widely used General Health Questionnaire (GHQ) [4] was intended to screen for psychiatric illness in general practice, and the Global Assessment of Functioning [5] includes assessments of psychopathological symptoms and functioning into one scale. Because of this, the indication of functional deterioration that these instruments provide is likely to be linked to the severity of psychopathology. This is useful clinically, but it makes these instruments unsuitable for use in populations that are relatively “healthy”, where functional changes may be much more subtle and specific to distinct aspects of life, such as peers or family. Although small functional changes might seem insignificant, they could be predictive of an increased risk of future psychopathology and may be a source of distress for the individual. Confounding of functional ratings by psychopathology is avoided if a measure only assesses functioning and not symptoms (e.g., the Social and Occupational Functioning Assessment Scale) [6].

All aforementioned instruments were designed for adults, which makes them less than optimal for use in adolescents. Adolescence is a dynamic developmental period characterized by numerous biological, psychological, and sociological changes [7]. Consequently, functioning in this period is different from functioning in adulthood. During adolescence, young people begin the process of individuation and separation from their parents [8]. Although family ties are still important to adolescents [7,9], peers are becoming increasingly significant, and levels of family and peer functioning may become quite different. In addition, the behaviors, thoughts, and priorities deemed appropriate in adolescence differ from adulthood. For these reasons, measurements of adolescent functioning should take these differences into account.

Currently, there are several instruments to assess the functioning of children and adolescents, in the form of either rating scales or self-report questionnaires [10]. The Child Global Assessment Scale (CGAS) [11] is a one-dimensional rating scale, designed to measure functional changes resulting from emotional disturbance. The CGAS is simple, quick, and cheap to administer, but this also makes the CGAS quite ambiguous and insensitive to subtle changes. Multidimensional ratings include the “Global Functioning Scales: Social” and “Global Functioning: Role” rating scales [12], which allow for some degree of differentiation between functional domains. Other multidimensional ratings for children and adolescents, such as the Child and Adolescent Functional Assessment Scale [13–15], have also been developed [10,16]. Unfortunately, despite their ease of use, rating scales have inherent problems. First, raters are often not in the position to adequately judge the level of functioning, especially when it comes to adolescent-specific issues (e.g., peer relations) or sensitive information. Second, raters need experience and time-consuming training. Third, rating scales are susceptible to rater bias [17,18]. Alternatively, one could use self-report questionnaires, such as the Youth Self Report [19] or the Child Behavior Check List [20], which provide subscales to assess psychopathology-related functioning. As argued earlier in the text, this makes them less than optimal to assess normal functioning. The Child Behavior Check List also incorporates parallel ratings by parents or teachers for use with children. However, by adolescence, individuals can report on their own functioning, and the participation of parents in research is not always appropriate, given the confidentiality involved, adolescents’ growing personal independence, and the extra costs this incurs.

Taken together, there is a need for an instrument capable of assessing adolescent functioning, which takes normality, rather than pathology, as a starting point. This instrument should use a multidimensional approach to assessing different domains of adolescent functioning, focus on the subjective experience of the adolescents, and be logically simple, financially viable, and useful for small studies, as well as large cohort studies. This article introduces a questionnaire that meets these requirements: the Multidimensional Adolescent Functioning Scale (MAFS). The MAFS is a 23-item self-report questionnaire covering three domains of adolescent functioning: general functioning (MAFS-GF), peer functioning (MAFS-PF), and family functioning (MAFS-FF). This questionnaire was designed for general populations and populations at-risk for psychopathology. Therefore, the MAFS takes normality as a reference point and does not assess psychopathological symptoms, enabling the measurement of functioning to be made independent of psychopathology. The current study reports on the development and the psychometric evaluation of the MAFS in a large adolescent general population sample (N = 842).

**Methods**

**Participants**

Participants were recruited into this longitudinal study through secondary schools in the western metropolitan region of Melbourne, Australia. Thirty-four schools participated (20 government, 5 Catholic, and 9 independent schools). Three data collection waves were completed. All participants were in grade 10 at baseline (T1). In Australia, young people are required to remain in schooling until the end of grade 10.

At baseline (T1), 842 participants completed the MAFS without any missing responses. After 12 months, 593 participants completed the MAFS (70.4% of T1 participants). Those who did not participate were of the same age (p = .13) and had similar gender distribution (p = .25) and similar scores on the MAFS (p = .20–.52) as those who returned at T2. At T3 (3 years after baseline), 483 participants completed the MAFS. Included participants at T3 had similar mean age (p = .30) and MAFS test scores (p = .22–.43), but were less likely to be male (43.5%) than those who were not included at T3 (p = .001). Because no repeated measures analyses were done, participants were not required to have scores at all time points: the groups did not completely overlap between T1, T2, and T3. Forty-two participants were only assessed at T1 and T3, 14 were only assessed at T2 and T3, and two were only assessed at T3.

**Procedure**

At T1, students from each school were assessed using a questionnaire during one study period. Trained research assistants were present in the classroom to answer queries. All participants provided written informed consent and assent from their parent/guardian. The second wave of data collection (T2) was conducted 12 months later. Participants were contacted and invited to take