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Robert P. Archer and Cassandra Rutledge Newsom

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PSYCHOLOGICAL TEST USAGE WITH ADOLESCENT CLIENTS: SURVEY UPDATE

Robert P. Archer
Eastern Virginia Medical School

Cassandra Rutledge Newsom
Virginia Consortium Program in Clinical Psychology

In 1991, Archer, Maruish, Imhof, and Piotrowski presented survey findings based on the responses of a national sample of psychologists who performed psychological assessment with adolescent clients. The current survey was designed to update their results by examining the test use practices reported by 346 psychologists who work with adolescents in a variety of clinical and academic settings. These respondents represented an adjusted survey return rate of 36% and predominantly consisted of doctoral prepared psychologists (95%) in private practice settings (51%). The survey respondents had a mean of 13.6 years of post-degree clinical experience, and spent an average of 45% of their clinical time working with adolescents. Survey results reveal a substantial similarity in test usage between the 1991 survey and the current investigation. For example, the Wechsler Intelligence Scales, Rorschach, Thematic Apperception Test (TAT), and Minnesota Multiphasic Personality Inventory (MMPI) remain among the widely used tests with adolescents. However, several changes were also noted including a reduction in the use of the Bender-Gestalt and increases in the use of parent and teacher rating instruments. The current findings are used to estimate the relative popularity of an extensive list of test instruments, compare current findings to 1991 survey results, and to examine several issues related to general effects of managed care procedures and policies on test usage with adolescents.

Keywords: Test usage, adolescents, survey, managed care, MMPI-A

Archer, Maruish, Imhof, and Piotrowski (1991) provided the first published survey of test usage specifically based on practitioners who work extensively with adolescents. These authors conducted their research survey on 600 psychologists during February 1990, with 165 respondents providing usable data to yield an adjusted response rate of 36%. The Wechsler Intelligence Scales, the Rorschach, and the Minnesota Multiphasic Personality Inventory (MMPI) were identified as the most widely used intellectual, projective, and objective assessment instruments, respectively, with this age group. The Bender-Gestalt, Thematic Apperception Test (TAT), sentence completion tests, figure drawings, and the Wide Range Achievement Test (WRAT) were also among the 10 most frequently used instruments. Over the past decade, the number of clinical measures and tests specifically developed for the

Correspondence concerning this article and requests for offprints should be addressed to Robert P. Archer, Department of Psychiatry and Behavioral Sciences, Eastern Virginia Medical School, 825 Fairfax Avenue (Hofheimer Hall 730), Norfolk, VA 23507.

assessment of adolescents has continued to grow, for example, the Adolescent Psychopathology Scale (APS: Reynolds, 1998a, 1998b). Additionally, a number of well-established instruments, including the MMPI, have been revised to more readily apply to adolescent age test-takers. These developments continue to support substantial clinical interest in the assessment of adolescents, and research into psychological assessment with adolescents remains robust. Despite these developments, however, there have been no surveys conducted since 1990 on test usage specifically focused on practitioners working with adolescents.

The present study was designed to survey the current assessment practices of psychologists who spend a significant amount of time working with adolescents, and to evaluate the changes that have occurred in adolescent assessment over the past 9 years. Among the potential factors that could affect psychological test usage with adolescent clients are the following: (a) the influences of managed care authorization procedures on test practices (see Piotrowski, 1999); (b) the release of new or substantially revised self-report instruments for adolescents (for example the MMPI-A; Butcher et al., 1992; Millon Adolescent Clinical Inventory, MACI: Millon & Davis, 1993); and (c) the development of new or substantially revised rating scales to assess adolescent behaviors and symptoms, e.g., the Child and Adolescent Functional Assessment Scale (CAFAS: Hodges, 1994) or the Devereux Scales of Mental Disorders (DSMD: Naglieri, LeBuffe, & Pfeiffer, 1994). Piotrowski, Belter, and Keller (1998) recently surveyed the impact of managed care on the assessment practices of 137 members of the National Register of Health Service Providers in Psychology and reported a substantive number of recent changes across the past 5 years due to managed care policies or procedures. Specifically, Piotrowski and his colleagues reported that clinicians were less likely to conduct testing overall, and are more likely to restrict their pool of available tests in response to managed care restrictions. Further, the authors noted that the Rorschach, TAT, and Wechsler Intelligence Scales were the instruments most likely to be used less frequently, with practitioners relying more heavily on brief self-report measures that focus on specific problem or symptom areas.

The purpose of the present survey was to provide a current perspective on test usage with adolescents, while also incorporating a number of survey questions pertaining to managed care based on the recent work of Piotrowski and his colleagues. To ensure continuity between the 1991 and current surveys, instruments were identified for inclusion in the current survey by selecting the top 30 instruments reported by Archer et al. from their 1991 survey findings. As necessary, instrument names were modified or updated to correspond to recent revisions, e.g., the MMPI was re-designated as the MMPI-A for the current survey. Further, one of the instruments included in the 1990 survey, the MacAndrew Alcoholism (MAC: MacAndrew, 1965) Scale, was omitted from the current survey because a revised form of this scale has been formally included as an MMPI-A Supplementary scale. In addition, seven tests or instruments were added to the current survey that either appeared following the 1990 survey or have undergone substantial revisions since the original survey (e.g., Kaufman Adolescent and Adult Intelligence Test, KAIT; Kaufman & Kaufman, 1993). These instruments were selected for inclusion in the survey by examining the literature and incorporating those that generated the most research attention over the past 9 years. In light of the dominant role of the MMPI in objective personality assessment of both adults and adolescents, a question was included in the current survey on the respondents' perspectives concerning the relative strength and limitations of the MMPI-A, an instrument released for clinical use in 1992. Finally, to maintain continuity with the 1990 survey and to update these results, a question was also posed on the respondents' utilization of computer-based test interpretation services.

Method

Participants

The potential sample for this survey consisted of 1,200 psychologists who were mailed the survey instrument during October 1998. One-thousand of these psychologists were selected from the 1997 American Psychological Association (APA) Directory Survey compiled by the APA Research Office (1998) and included all psychologists

employed in a full-time capacity (35 hours per week or greater) who had indicated specialty areas in adolescent therapy (designed by APA as specialty area 070107) and in either assessment/diagnosis/evaluation (232000) or psychometrics (362000). The records provided by the APA staff included both licensed and nonlicensed psychologists, all degree levels and types, in clinical, school, and counseling psychology areas. The 1,000 names and addresses provided by APA for the purposes of this research survey included 543 men and 457 women with a mean age of 46.5 years (*SD* = 7.2 years). The majority of this APA subsample (76.4%) reported their highest degree as Ph.D., 16.6% reported Psy.D., and the remainder reported other degrees including Ed.D. and Masters degrees. The mean years of experience post-degree for this subsample was 13.7 (*SD* = 6.6) and the ethnic background of the survey was: 85.9% Caucasian; 1.9% African-American; 2.1% Hispanic, 1.6% Asian, .5% Native American, and 8% not specified. An additional 100 respondents were selected from the membership directory of the Society for Personality Assessment (SPA) because of the high percentage of SPA members involved in the assessment of adolescent clients (Spielberger & Piotrowski, 1992). For the selection of the sample of SPA members, the 1997 directory of the Society (SPA, 1997) was consulted and every 25th name was selected for survey purposes. Finally, an additional 100 psychologists were selected on the basis of their involvement in recent (1990-1998, inclusive) publications on adolescent assessment topics in the *Journal of Clinical Psychology,* the *Journal of Clinical and Consulting Psychology,* the *Journal of Abnormal Child Psychology,* the *Journal of Personality Assessment,* or *Assessment*. All psychologists selected for the survey from these journals were first or second authors of studies which focused on adolescent assessment.

Of the 1,200 questionnaires mailed in this survey, 108 were deemed undeliverable, leaving a potential survey response pool of 1,092 psychologists. From this available pool, 346 psychologists returned the surveys with completed data, and another 49 psychologists returned the survey without data beyond indicating that they did not perform sufficient assessments with adolescents to provide meaningful responses to the survey questions. Thus, the adjusted response rate overall for this survey was 36%, and the most meaningful survey data were provided by 346 psychologists.

Of the 346 respondents, 84.0% held Ph.D.s, 10.8% held Psy.D.s, 3.3% reported ABD status or other degrees including Ed.D., and 1.8% held Masters degrees. Among these respondents, the years in post-degree practice ranged from zero to 42, with a mean of 13.6 years, a median of 13.0 years, and a standard deviation of 7.1 years. The primary occupational settings for the sample were private practice (50.6%), "other" settings (10.9%), university/college settings (9.4%), medical center/hospital settings (7.9%), residential/inpatient settings (6.7%), outpatient clinic (6.7%), school system (6.4%), and medical schools (1.5%). The respondents devoted the largest percentage of their time to clinical practice (*M* = 59.8, *SD* = 32.7). The remainder of their professional time was utilized in the following activities: administrative duties (*M* = 13.8, *SD* = 20.1), consultation (*M* = 8.9, *SD* = 13.0), teaching (*M* = 7.5, *SD* = 14.0), research (*M* = 4.5, *SD* = 12.6), and other duties (*M* = 2.5, *SD* = 9.6). The respondents spend a mean average of 45% of their total clinical time working with adolescents (*SD* = 30.5), with a mean average of 14.1% of their time (*SD* = 17.9) devoted specifically to assessment or testing with this age group.

Survey Instrument

The survey for this study was three pages in length and divided into three sections. Section I included six questions that dealt with the professional background and practice characteristics of the respondent, but also contained one question on frequency of use of computer-based test interpretation and one question on the major advantages and disadvantages of the MMPI-A. The last two questions in Section I focused on identification of the four most important tests in the respondent's practice with adolescents and the four factors most influential in selecting instruments to use with adolescents. In Section II, respondents were asked to rate their frequency of use of 36 assessment and testing instruments (listed in alphabetical order) on a scale of *Infrequently, Occasionally, About 50% of the Time, Frequently*, and *Almost Always*.

Space was also provided for the respondent to include up to five tests not listed in the survey. A total mention (TM) score was calculated for each test by summing the usage ratings for the total sample. A weighted score (WS) was also derived by summing the number of respondents who checked each frequency of use category, multiplied by the numerical weights assigned for that intensity of use (i.e., *Infrequently* = 1 to *Almost Always* = 5). Section III presented four questions related to the influences or effects of managed care on the respondents' use of psychological tests, modeled closely on the work of Piotrowski et al. (1998) in their survey of members of the National Register of Health Service Providers in Psychology. The managed care questions were generally open ended in nature, and dealt with respondents' impressions concerning the effects of managed care over the past 10 years, influences on the kinds of tests currently used, a request to list up to four psychological test instruments no longer used or used significantly less due to managed care, and a request for the major positive and negative impact of managed care on the use of psychological testing. Responses to these questions were tabulated into broad categories and summarized for the purposes of this survey.

Results

Psychological Test Usage

Table 1 presents the usage rating totals, arranged in order of decreasing weighted score values, for the 30 most frequently reported instruments in the current survey.

The 10 most frequently used instruments consisted of the Wechsler Intelligence Scales, several projectives, one objective self-report measure, and parent and teacher behavior rating forms. Specifically, the Wechsler Intelligence Scales were the most frequently used assessment measure with adolescents, followed by the Rorschach Inkblot Technique ranked 2nd overall in both frequency of use and total mentions, all forms of the Sentence Completion Test, taken collectively, were rated as 3rd, the TAT was ranked as 4th both in total mention and weighted score, and the MMPI-A was rated 5th in both total mentions and weighted score. Further, the MMPI-A was the only self-report objective personality assessment instrument included in the top 10 ranked instruments.

In addition to questions related to test utilization, Section I of the response survey requested respondents to indicate four psychological test instruments that were "most important in your current practice with adolescents." The top five most frequently selected instruments, in order, were as follows: Wechsler Intelligence Scales, the Rorschach Inkblot Technique, the MMPI-A, the Thematic Apperception Test, and the Millon instruments for adolescents which were the MACI and the Millon Adolescent Personality Inventory (MAPI; Millon, Green, & Meagher, 1982). In addition, respondents were asked to indicate those test characteristics that were most likely to influence their choice of assessment instruments, and these factors are listed in order as follows: Psychometric soundness of the instrument including reliability and validity; the responsiveness of the test to referral questions; the uniqueness and usefulness of information provided for treatment planning; the ability of the instrument to provide comprehensive information about psychopathology and clinical diagnosis; and ease of scoring and interpretation.

A question in Section I of the survey requested respondents to report their frequency of use of computer-based test interpretation. A substantial minority (41.5%) of the respondents reported never using computer-based test interpretations (CBTI), with their remaining endorsements distributed as follows: *Infrequently* = 24.2%, *Moderately* = 24.8%, and *Almost Always* = 9.5%.

MMPI-A Results

Among the primary strengths reported by survey respondents were, in order, the MMPI-A's ability to provide a comprehensive clinical picture, the availability of contemporary adolescent norms, ease of administration, and the psychometric soundness and research base of the instrument. The most frequently cited disadvantages of the MMPI-A include (in order) the length of the instrument and its associated demands for prolonged cooperation with the testing task, a reading level that is too

Table 1
Test Usage Ratings for Top Adolescent Assessment Instruments

Instrument	Usage rating totals							
	a	b	c	d	e	f	TM	WS
Wechsler Intelligence Scales	82	23	37	27	63	101	251	935
Rorschach Inkblot Technique	108	46	48	22	38	71	225	715
Sentence Completion Test (any form)	109	31	57	32	49	55	224	712
Thematic Apperception Test	114	46	55	38	33	47	219	637
MMPI-A	128	45	55	25	39	41	205	591
Child Behavior Checklist, Parent Report Form	133	62	50	18	30	41	201	541
The House-Tree-Person Technique	139	52	63	18	23	38	194	514
Wide Range Achievement Test (any format)	154	44	50	26	31	28	179	486
Child Behavior Checklist, Teacher's Report Form	138	54	65	25	29	22	195	485
Conners' Rating Scales–Revised	135	46	82	27	31	12	198	475
Kinetic Family Drawings	159	49	50	24	31	20	174	445
Child Behavior Checklist, Youth Self-Report	167	59	33	17	33	24	166	428
Behavior Assessment System for Children, Parent	175	54	39	19	28	18	158	391
Woodcock-Johnson Psycho-Educational Battery–R	165	61	53	20	18	16	168	379
Millon Adolescent Clinical Inventory	194	60	27	13	23	16	139	325
Reynolds Adolescent Depression Scale	199	62	38	13	14	7	134	268
Vineland Adaptive Behavior Scales (survey and classroom)	186	72	59	10	4	2	147	246
Millon Adolescent Personality Inventory	200	75	30	9	12	7	133	245
Robert Apperception Test for Children	196	79	32	13	7	6	137	240
Peabody Picture Vocabulary Test–Revised (any form)	190	75	56	8	4	0	143	227
Wechsler Individual Achievement Test	231	59	9	7	13	14	102	220
Bender Visual Motor Gestalt Test	231	67	5	3	7	20	102	214
Behavioral Assessment System for Children, Teacher	219	78	14	3	12	7	114	198
Personality Inventory for Children	217	80	21	3	7	5	116	184
Peabody Individual Achievement Test–Revised (any form)	212	81	27	6	6	1	121	182
Piers-Harris Children's Self-Concept Scale	218	75	26	7	4	3	115	179
Children's Depression Inventory	237	69	3	7	5	12	96	176
Symptom Checklist-90 Revised	215	87	17	5	5	4	118	176
Kaufman Adolescent and Adult Intelligence Test	220	78	20	7	4	4	113	175
Vineland Social Maturity Scale	219	78	22	5	7	2	114	175

Note. a = Never; b = Infrequently; c = Occasionally; d = About 50% of the time; e = Frequently; f = Almost always. TM = Total mentions; WS = Weighted score (sum of *n* x numerical weight of ratings; a = 0, b = 1, c = 2, d = 3, e = 4, f = 5.

high for many adolescents or too difficult for learning disabled or mentally retarded adolescents, the time requirements for scoring and interpretation, the time requirements related to administration, and, finally, the expense of the test instrument in the managed care environment.

Managed Care Results

In Section III of the survey, respondents were asked to reflect along four dimensions on the influence of managed care on their use of psychological tests with adolescents. First, respondents were asked if, and in what ways, their use of psychological testing with adolescents has changed in the past 10 years as a result of managed care. Sixty-two percent of the respondents reported changes due to managed care, while 38% reported no change linked to managed care policies. For the former group, the dominant changes were the performance of fewer psychological evaluations (51%), a lower rate of reimbursement for psychological evaluations (32%), inability to perform testing due to denied requests for approval (18%), a reduced number of assessment instruments contained within an evaluation battery (17%), and an increase in the referral of psychological assessments to other providers (10%).

Respondents were also asked if their selection of assessment instruments had been influenced by managed care practices. Thirty-five percent of the respondents indicated that managed care related change had affected their selection of psychological tests. Of the latter survey respondents, 26% reported using briefer instruments, 21% reported using fewer projectives, 16% reported reducing the length of their test battery, 11% reported the referral of educational testing to school psychologists, and 9% reported an increased use of self-report inventories and checklists.

Respondents were asked to "list up to four psychological test instruments you no longer use or use significantly less often due to managed care restraints." The five most frequently mentioned instruments in this category were, in order, the Rorschach Inkblot Technique, the Thematic Apperception Test, the Wechsler Scales, educational tests including the Woodcock–Johnson and the Wide Range Achievement Test, and the MMPI-A.

Finally, respondents were asked, "What has been the major positive and major negative impact of managed care on your use of psychological testing?" Respondents were allowed to provide up to four responses. Fourteen percent of respondents indicated a positive impact, the most frequent of which was increased efficiency and increased clarity of planning. In contrast, 84% of respondents indicated one or more negative impacts. Among these latter respondents, the most frequently cited negatives involved reduced reimbursement for psychological assessment (16%), reduced overall activity in psychological assessment (11%), denial of approval for psychological testing (11%), less comprehensive psychological assessment (11%), and more time consuming paperwork (8%).

Discussion

The typical survey respondent in the current study was a doctoral-trained psychologist with extensive clinical experience, much of which was with adolescents. The mean years in practice for respondents was 13.6, roughly 95% of the respondents held a Ph.D. or Psy.D. degree, and slightly over half were in private practice settings. About 45% of their clinical contact was spent with adolescents, and approximately 14% of their total clinical time was allocated to the psychological assessment of adolescent age clients. Overall, the characteristics of the 1999 survey respondents are reasonably consistent with their counterparts in the Archer et al. (1991) survey conducted nearly a decade earlier, and the adjusted survey response rate of 36% is identical for both studies.

Given the development of computer technologies, it is not surprising that the percentage of respondents who reported using computer-based test interpretation packages was somewhat higher than that found in the 1990 survey of psychologists. Specifically, 41.5% of the current survey respondents reported never having used computer-based test interpretation services, while the frequency of respondents reporting never using computer-based test interpretation in 1990 was 46%. In late 1998, 25% of respondents used computer based test interpretation services "moderately" whereas 10% used computer interpretations "almost

always." The corresponding figures for the 1991 study were 18% and 6%, respectively. Overall, however, the current data show only a slow and relatively limited growth in the use of computer interpretation services in the assessment of adolescents. A similar point was underscored in a recent survey of assessment practices among clinical and neuropsychologists by Camara, Nathan, and Puente (1998). These authors investigated the percentage of testing that providers conducted using computers and reported that approximately 10% of all test scorings are based on computer use, and only 3% to 4% of all interpretations are generated by computer.

In terms of the major findings from our survey, substantial similarity in test use patterns can also be found between the 1991 survey findings and the current update. The MMPI, Wechsler Scales, Rorschach, and TAT were included among the most frequently used tests, not only in the 1991 and current surveys of test usage with adolescents, and in the recent Camara et al. (1998) survey of clinical and neuropsychologists, but also in virtually every other survey of test use practices with adults conducted over the past 4 decades. Such findings speak to the robustness of these instruments and their perceived clinical yield, but also perhaps to the relative slowness of change and innovation in the applied clinical assessment field. In particular, projective testing has withstood both the pressures of managed care practices and criticisms from parts of the academic community, with the Rorschach Inkblot Technique continuing in the number two slot, and the Sentence Completion Test, the TAT, and projective drawings all remaining among the most frequently used instruments. Piotrowski (1984) has also noted the impressive ability of projective tests to continue to survive and prosper despite decades of intense criticism and numerous predictions that use of these instruments would inevitably decline across time. Piotrowski observed that test usage is driven by many factors beyond psychometric reliability and validity data, and that many clinicians may give their own personal clinical experience with the psychometric instrument greater weight than findings from research studies in determining their selection of particular assessment instruments. In the situation of assessment with child and adolescent clients, projectives may also hold potent advantage in terms of avoiding the types of reading ability and literacy limitations typically encountered in the use of objective instruments such as the MMPI-A. The conclusion by Levy and Fox (1975) that projective testing was "alive and well" also seems to be applicable to the status of these instruments nearly 25 years later.

However, several changes may be noted from 1990 to 1998 in the top ranked instruments. For example, the Bender-Gestalt (Bender, 1938) was ranked third in the 1990 survey, but has dropped out of the top 20 rankings by 1998. Further, a number of parent and teacher report forms including the Child Behavior Checklist (Achenbach & Edelbrock, 1983) and the Revised Conners' (1997) Rating Scales have all increased in usage and are presently among the top ranked test instruments with adolescent clients. The use of rating scales may be increasing in popularity because of the recognition that these approaches provide very valuable information regarding the functioning of an adolescent in a manner that often compliments and refines data provided through projective testing, objective self-report sources, and other sources of information including the findings from clinical interviews. Achenbach (1999) has referred to this approach of combining assessment data from multiple sources as multiaxial, and has observed that variations in clients' functioning that are reflected in different assessment sources may underscore the need for a variety of interventions to address each of these different problem areas. As noted in our discussion of the popularity of projectives, parent, clinician, and teacher rating forms also maintain an advantage of circumventing reading limitations present in the adolescent client attempting to provide reliable and accurate self-report data.

The MMPI was the most frequently used objective personality assessment measure in the evaluation of adolescents in the 1991 survey, ranked third in total mentions and sixth in frequency of use at that time despite the fact that the original MMPI was an assessment instrument primarily designed for evaluation in adult populations. In our present

survey, the MMPI-A was also the most widely used objective personality assessment instrument with adolescents, ranked fifth in total mentions and fifth in weighted score with this population. The major reasons for the continued popularity of the instrument appears to be related to the comprehensiveness of the MMPI-A, the development of a contemporary set of adolescent norms, the ease of administration of the instrument, and the ability to relate the interpretation of MMPI-A findings to the extensive adolescent research base available on the original instrument. The major disadvantages of the MMPI-A reported by survey respondents focused on the length of the 478-item revised instrument (still too excessive) and the reading level (approximately 7th grade) as remaining too demanding for many adolescent age clients. These disadvantages associated with the MMPI-A could be summarized as reflecting a desire for an assessment instrument that is shorter, easier to read, and less expensive than the MMPI-A. While such criticisms might not lead to a major revision of the item pool in the near future, these concerns might support efforts to develop either short form versions of the MMPI-A or adaptive testing approaches which serve to abbreviate the administration process.

Despite the fact that the Rorschach Inkblot Technique, the TAT, the Wechsler Scales, educational tests, and the MMPI-A were listed as the five instruments used less frequently due to managed care constraints, each of these tests continues to be among the most relied upon in the assessment of adolescents. One possible explanation for this phenomenon is that the total volume or amount of psychological testing has significantly decreased between 1990 and 1998, and therefore the same tests remain dominant even though they are used less frequently by clinicians. While this hypothesis cannot be directly evaluated by the current findings, it is indirectly supported by the observation that 84% of respondents indicated one or more negative impacts on psychological testing related to managed care. Further, of those respondents reporting negative effects, 11% reported that they conducted less psychological testing overall and an additional 11% reported that they conducted less comprehensive psychological assessments as a result of managed care practices. Perhaps most importantly, in the 1991 survey psychologists reported spending 29.5% of their total clinical time in assessment with adolescents, but in the current study that figure was reduced to 14.1%. Yet, the total amount of time spent with adolescents was roughly equivalent between the 1991 and current surveys, reflecting 51.5% and 45% of total clinical time for these groups. This apparent restriction of testing to fewer instruments and the reduction of the assessment scope to more specific issues is consistent with the recent observations of Piotrowski and his colleagues (1998). These authors predicted that the future of psychological assessment is likely to focus more on specific domain-based testing, utilizing extended diagnostic interviewing and relatively brief psychological instruments, rather than comprehensive assessment integrating results from a wide variety of test instruments. An important area for future research would be to more precisely determine the scope and degree of overall declines in psychological assessment usage with children, adolescents, and adults.

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