

Sentence Completion Tests: A Review of the Literature and Results of a Survey of Members of the Society for Personality Assessment

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Test usage surveys consistently find that sentence completion tests (SCTs) are among the most popular personality assessment instruments used by practitioners. What is not noted is which SCTs practitioners are using, why these tests are so popular, and whether practitioners are using formal scoring. We surveyed a random selection of 100 members of the Society for Personality Assessment. With a 60% return rate on a single mailing, we found that most psychologists who use incomplete sentence tests use the Rotter (1951) Incomplete Sentences Blank with children (18%), adolescents (32%), and adults (47%). Most practitioners said they do not read stems aloud and record answers themselves, and even fewer said they use formal scoring. The most common reasons for using an SCT are (a) to use it as part of an assessment battery (41 endorsements), (b) to determine personality structure (18 endorsements), and (c) to elicit quotable quotes (17 endorsements). Implications for practitioners and training suggestions for academicians who prepare future psychologists are noted.

Test usage surveys consistently find that sentence completion tests (SCTs) are among the most commonly used personality assessment instruments. They were ranked second by Japanese clinicians (Ogawa & Piotrowski, 1992, as cited in Piotrowski, Keller, & Ogawa, 1993), third by clinical psychologists (Goh & Fuller, 1983), fifth by clinicians working with adolescents (Archer, Maruish, Imhof, & Piotrowski, 1991), fourth by school psychologists (Kennedy, Faust, Willis, & Piotrowski, 1994), fifth by representatives of mental health service providers, and third by members of the Society for Personality Assessment in response to the question: "With what 5 projective tests should the professional practitioner be competent?" (Piotrowski, 1985, p. 81). It is curious that SCTs are referred to as a generic

classification, yet other personality instruments are ranked in these surveys by name (e.g., Rorschach or Minnesota Multiphasic Personality Inventory–2 [MMPI–2]), not by category (e.g., inkblot and storytelling technique).

Despite the recognized popularity of SCTs, what is not known is which ones practitioners are using, whether they score these instruments according to any theory or guideline, why the tests are so popular, or why they are lumped together as if they all provide the same psychological information. This information is important to academicians who are charged with preparing future psychologists to perform appropriately on their internships and to practitioners who develop their own test batteries to provide the most patient information in the least amount of time. To become familiar with the possible pool of SCT choices, we reviewed the literature and logged the following information about each SCT: name of test; author(s); date first discussed; theory, rationale, or purpose; population for whom it was developed; number of items; subscales, if any; scoring procedures; reliability; validity; and any other relevant information.

SCT LITERATURE REVIEW

The Tendler Sentence Completion Test (Tendler, 1930) is based on psychodynamic theory; its primary purpose is to help psychologists gain emotional insight into patients' problems. It has 20 stems and can be given to patients of any age if they can perform the task. The Tendler Sentence Completion Test has no subscales, and scoring procedures are based on the projective hypothesis and clinical judgment. Reliability is not reported. Content validity is claimed through qualitative analysis of patients' biographical information. According to Tendler, stems are designed to provoke emotional states, such as sadness or happiness, rather than thought processes. All stems are published in the original article.

The Sentence Completion Test for the Office of Strategic Services Assessment Program (Murray & MacKinnon, 1946; Stein, 1947, 1949) is a free-association method used by the Veterans Administration. It is based on psychodynamic theory with the stated purpose of analyzing brief responses to assess program candidates' personalities. This instrument was designed for adults and has 100 stems examining family, past experiences, drives, goals, cathexes, energy, time perspective, reaction to others, and others' reaction to the candidate. According to the authors, the test should be administered in two parts because of its length. Scoring is based on clinical judgment and the projective hypothesis. Helpful techniques for analyzing responses are included in the article. Reliability is not reported. Content validity is based on correlations between the candidate's personality and the psychologist's experience, insight, and knowledge of the dynamics of behavior. All stems are published in Stein's (1947) article.

The Incomplete Sentences Blank (Rotter, 1951; Rotter & Willerman, 1947) was developed as a screening method to identify maladjusted high school and college

students. Forty-item forms are available for each group with only minor differences between them. There are no subscales. Scoring requires judging responses on content (positive, neutral, or conflict) using three levels of numerical weights. Underlying theory is not mentioned. Reliability coefficients are based on interrater agreement (.44–.91) and test–retest scores from 6 months to 3 years (.38–.54). Concurrent validity was assessed by correlating obtained scores with level of psychiatric disturbance as judged by clinicians (.20–.39) and personality tests such as the MMPI, the Taylor Manifest Anxiety Scale, and the Beck Depression Inventory (Rotter, Lah, & Rafferty, 1992). Although the original norm tables were published in 1949, findings from more recent studies are included in the 1992 manual.

Means of different samples of college students range from 119.9 to 148.5, indicating that local norms must be established to interpret results. The instrument is published by the Psychological Corporation (Rotter et al., 1992).

The Forer Structured Sentence Completion Test (written in 1950; Forer, 1960, 1993) was designed to focus on a wide variety of attitudes and value systems and is based on Henry Murray's theory of needs, press, and inner states. There are no norms given, but there are forms for adolescent boys or girls and adult men or women. The instrument has 100 items, with four subscales: Interpersonal Figures, Wishes, Causes of Personal Emotions, and Reactions to Emotions. Responses are scored by using a checklist and clinical evaluation form to analyze the subscales on a variety of emotions, drives, and desires. No reliability or validity information is reported in the manual. The test is available through Western Psychological Services (1998).

The Sentence Completion Test (Sacks & Levy, 1950) was developed to explore specific clusters of attitudes or significant areas of an individual's life. The theoretical basis or appropriate ages of test takers have not been reported. It is a 60-item instrument with four subscales (Family, Sex, Interpersonal Relationships, and Self-Concepts), each of which is measured on 15 different attitudes, such as fears, guilt, and goals. A rating sheet with the four appropriate stems rearranged under the 15 attitude headings allows a clinician to rate the examinee's responses on a continuum that ranges from *no significant disturbance* to *severely disturbed*. Reported interrater agreement coefficients range from .48 to .57 and "77% of the statements were rated in close agreement with clinical findings" (Sacks & Levy, 1950, p. 372). Stems, rating table, and scoring instructions are published in the 1950 article. An adaptation of this test translated into Hebrew was used with children living in a kibbutz (Rabin, 1965).

The Miale–Holsopple Sentence Completion Test (Holsopple & Miale, 1954) was designed to permit the expression of thoughts and feelings in a nonthreatening manner by adults. According to the authors, the test was not designed to conform to a theory but was a means to "draw valid inferences concerning unconscious and semi-conscious desires, motives, conflicts, and systems of personality organization" (p. 11). There are 73 sentence stems, no subscales, and no formal scoring procedures.

According to the authors, reliability and validity coefficients for psychological tests are “illusory,” and sentence completion interpretations should be the responsibility of the examiner. The complete test is published in the authors’ book, *Sentence Completion: A Projective Method for the Study of Personality* (Holsopple & Miale, 1954; see also Potash, de Fileo Crespo, Patel, & Ceravolo, 1990).

The Sentence Completion Method (A. R. Rohde, 1946, 1957; B. R. Rohde, 1960), which is based on Murray’s theory of needs, was designed to uncover reactions and needs that lie deeper than those generally acknowledged by the individual. The instrument has 65 items, with no specific subscales. Scoring is based on Murray’s need states and environmental forces (press) with the inner integrates, inner states, and general states that are reproduced in A. R. Rohde’s (1957) book. Scoring examples and norms are reported for ninth-grade students. Interrater reliability was 95% on 36 protocols, and test–retest reliability ranged from .76 to .82. Concurrent validation using teacher ratings as the criterion yielded coefficients from .30 to .96. All stems and scoring procedures have been published in A. R. Rohde’s (1957) book *The Sentence Completion Method*.

The Peck Sentence Completion (Peck, 1959) is based on psychodynamic theory and principles of free association, and its purpose is to measure the mental health of normal adults. Individuals age 40 or older were participants for a quantitative analysis. Responses to the 41 stems (called *attitudes*) were rated as positive, negative, or neutral, implying high or low levels of adjustment. A large number of “unhealthy” responses indicated maladjustment. Interrater agreement ranged from .53 to .86. Ten of the 41 statements correctly identified individuals as having high or low adjustment as judged by their responses on the Thematic Apperception Test and interviews. The article in which the Peck Sentence Completion test was reproduced included an interesting commentary about what it meant “to be a typical, normal American” (Peck, 1959, p. 253) in 1959.

The Aronoff Sentence Completion (Aronoff, 1967) was developed to integrate sociology with Maslow’s theory of personality. Aronoff used this instrument to study the underlying needs of adults in a homogeneous cultural group that might have been influential in forming their sociocultural system. There are no norms and no subscales for the 33 sentence stems and the 13 projective questions. Responses are studied to understand how individual needs are related to the culture of a group within the framework of Maslow’s needs. No reliability or validity information is reported. All items and questions are reproduced with scoring examples in Aronoff’s (1967) book, *Psychological Needs and Cultural Systems*.

The Personnel Reaction Blank (Gough, 1971) is based on a theory of antisocial behavior and was designed to measure integrity (character) for the purpose of selecting future employees to fill nonmanagerial positions. Appropriate for applicants over the age of 14, the Personnel Reaction Blank has 90 items, but only 42 are scored. Items are divided into two sections: work preferences and personal reactions. Hand-scoring keys are printed on each page of the test. Reported split-half

reliability is .73, and test–retest reliability is .56. Validity coefficients range from .20 to .57. The test can be ordered through Consulting Psychologists Press (1998).

Loevinger's Sentence Completion Test of Ego Development (Washington University Sentence Completion; Loevinger, 1987; Loevinger & Wessler, 1970; Loevinger, Wessler, & Redmore, 1970) is a 36-item test used to measure the level of ego development based on Loevinger's theory of personality. It is appropriate for individuals ages 12 and older. Separate forms containing only minor differences are available for women and men. Each response is classified as Impulsive, Self-Protective, Conformist, Self-Aware, Conscientious, Individualistic, or Integrative (Hy & Loevinger, 1996). A total rating is given as well. The test manuals contain seven forms of the test with numerous and complete examples of accurate scoring. According to Loevinger, any SCT containing 36 stems can be scored appropriately using her system to determine development levels. Interrater agreement reported in the literature ranges from .89 to .96 (Holt, 1980; Williams & Vincent, 1985). Although the scoring operationalizes Loevinger's developmental theory, test results correlate well with other tests of personality constructs. The stems are published in *Measuring Ego Development* (Vol. 1), by Loevinger and Wessler (1970), and in *Measuring Ego Development* (Vol. 2), by Loevinger, Wessler, and Redmore (1970), and may be reproduced without permission or fee. A new volume edited by Loevinger (1998) includes chapters on cross-cultural assessment, missing in any other SCT manual, and a version of the test for children and adolescents.

The Incomplete Sentences Task, by Lanyon and Lanyon (1979), was developed to identify emotional problems that might interfere with learning, and it draws on several theories of personality and learning. The 39-item test has two forms: the School Form, for Grades 7–12, and the College Form. Each stem is scored 0 (*not present*), 1, or 2 (*strong indication*) and was designed to draw responses that correspond to one of the three subscales: Hostility, Anxiety, and Dependency. Examples of scoring are given in the manual. The authors provide normative tables for Grade 7 through college but warn that the test may not provide accurate information for students who are culturally different. Interrater agreement ranges from .86 to 1.00, and validity based on judges' ratings of college students ranges only from .63 to .69.

Mayers' Gravely Disabled Sentence Completion Task (Mayers, 1991) was developed to identify individuals with severely impaired mental status. It is not a theory-based instrument, but it satisfies forensic standards of evidence during civil commitment court hearings. With only 21 items, it is short enough to be used as an assessment tool for people whose mental status has deteriorated to such an extent that completion of a standard battery is not possible. It has no subscales; clinical judgment is required to determine the appropriateness of a response. No reliability or validity information is given. Although the test is copyrighted, all stems are published in Mayers's (1991) article.

The Sentence Completion Series (Brown & Unger, 1998) was designed to identify psychological themes underlying current patient concerns and specific areas of distress. The test has 50 items and eight versions: Adult, Adolescent, Family, Work, Marriage, Parenting, Illness, and Aging. Although there are no subscales, there are focus categories specific to each version. Scoring is based on the examiner's clinical skills. Interrater agreements on categories is .78, and validity was not reported. The test, distributed through Psychological Assessment Resources (1998), has not been used in a published study, and no other information is available.

Sentence Contexts (Hamberger, Friedman, & Rosen, 1996) is based on the fact that the degree of constraint imposed by a semantic context predicts the close probability; that is, the context of some sentence stems should elicit only one or two appropriate responses in contrast to more open-ended sentences in which there are many appropriate responses. This 198-item test was devised to identify patients with Alzheimer's disease who have difficulty remembering words that follow obvious cues. Scoring is based on the number of probable word stems versus the actual responses. There are no subscales, and reliability information was not reported. Validity is provided through comparisons of groups with and without Alzheimer's disease. All stems and expected responses are published in Hamberger et al.'s article.

Readers who wish to learn more about SCTs should read the reviews by Rabin and Zltogorski (1985), who discussed an SCT by Shanan that predicted academic success, and by A. R. Rohde (1957), who examined tests developed by Ebbinghaus (who wrote in German), Piaget (who wrote in French), Cameron (who was interested in patients with schizophrenia), and Lorge and Thorndike (whose test required single-word responses). Mayers (1991) listed other tests for specific purposes. Armed with relevant information about 15 SCTs, our next task was to determine which test practitioners used, why it was selected, and whether a formal scoring method was used.

METHOD

Participants

One hundred surveys in a single mailing were sent to a nonrandom sample of members of the Society for Personality Assessment whose names were listed in the professional directory. Sixty questionnaires were returned in the self-addressed stamped envelopes provided.

Survey Instrument

Respondents were asked to indicate which of the 15 SCTs they used with three different patient groups: children, adolescents, and adults. They were permitted to

note whether they did not know the name of the test they used, wrote their own stems, or used another test not listed. They were also asked if they read the SCT items aloud and recorded responses themselves and if they scored the SCT according to the manual or author's directions. Finally, they were asked to check any or all of nine possible reasons why they used SCTs and were given the option of writing additional reasons.

RESULTS

Responses to the first question, which inquired as to the SCT(s) practitioners used most often with children, adolescents, and adults, are shown in Table 1. For each patient category, the most popular SCT was Rotter et al.'s (1992) Incomplete Sentences Blank. Eleven respondents checked "do not use sentence completion tests." Fifteen respondents reported that they did not know the name of the test they use, and 3 sent us a copy of their unidentified tests (we did not recognize them either). Table 2 shows the numbers and percentages of practitioners who read SCT stems aloud and recorded responses for their cli-

TABLE 1
Percentage of Practitioners Who Use Sentence
Completion Tests With Different Populations

<i>Name of Sentence Completion Test</i>	<i>Child</i>	<i>Adolescent</i>	<i>Adult</i>
1. I do not know the name of the test I use.	7	6	2
2. I wrote my own stems to address client's needs.	3	2	3
3. I use another test not listed here.	5	4	2
4. Aronoff Sentence Completion	0	0	0
5. Forer Sentence Completion Test	0	1	1
6. Incomplete Sentences Task (Lanyon & Lanyon)	0	0	0
7. Incomplete Sentences Blank (Rotter)	11	19	28
8. Loevinger's Sentence Completion Test or Washington University Sentence Completion Test	1	1	2
9. Mayer's Gravely Disabled Sentence Completion Task	0	0	0
10. Miale-Holsopple Sentence Completion Test	0	1	2
11. Peck Sentence Completion Test	0	0	0
12. Personnel Reaction Blank (Gough & Arvey)	0	0	0
13. Sentence Completion Test for the Office of Strategic Services Assessment program (VA hospital)	0	0	0
14. Sentence Completion Series (Brown & Unger)	0	1	0
15. Sentence Contexts (Hamberger, Friedman, & Rosen)	0	0	0
16. Tandler Sentence Completion Test	0	0	0
17. The Sentence Completion Test (Sacks & Levy)	0	1	1
18. The Sentence Completion Method (Rohde)	1	1	0
19. Do not use sentence completion tests	32	23	19

TABLE 2
 Percentage of Practitioners Using Sentence Completion Tests Who
 Read Them Aloud and Score Them According to Guidelines

<i>Question</i>	<i>Yes</i>	<i>Sometimes</i>	<i>No</i>
Do you read stems aloud and record responses for <i>child</i> clients?	11	13	6
Do you "score" the child's test according to the manual or author's directions?	2	3	24
Do you read stems aloud and record responses for <i>adolescent</i> clients?	5	13	20
Do you "score" the adolescent's test according to the author's directions?	5	5	27
Do you read stems aloud and record responses for <i>adult</i> clients?	3	10	27
Do you "score" the adult's test according to the manual or author's directions?	7	6	26

TABLE 3
 Number of Endorsements for the Question "Why Do You Use a Sentence Completion Test
 in Your Assessment Battery? (Check All Reasons That Apply or Add Your Own Reasons)"

<i>Reason</i>	<i>No. of Endorsements</i>
Reasons listed on the survey	
Part of assessment battery	41
Determine personality structure	18
For "quotable quotes"	17
As a structured interview	15
No- or low-cost test	8
As a therapy strategy	8
To observe patient behavior	6
Establish rapport	5
To identify areas of concern	3
Reasons written by respondents	
For research purposes	2
Cognitive themes not revealed in other tests	1
To measure change	1
Ease of use	1
To identify conflicts	1
For handwriting sample	1
Sample written language skills	1
Find out what clients want you to know	1
Identify self-image	1

ents and the number who also scored tests following guidelines suggested by SCT authors. Although most practitioners did not routinely read stems aloud and record responses for their clients, when they did so, it was usually for their child clients. Few said they used formal scoring procedures. Finally, Table 3 lists predetermined reasons why practitioners used SCTs, the number of respondents who endorsed them, and respondents' write-in reasons.

DISCUSSION

The most popular SCT for children, adolescents, and adults was Rotter et al.'s (1992) Incomplete Sentences Blank. Of the 15 tests reviewed, it is 1 of 5 that are copyrighted and available through test distributors only. Although the Incomplete Sentences Blank was designed for use with high school and college-age students, practitioners reported using it to test children and older adults as well. It is not clear why this test was so popular with respondents. The Sentence Completion Blank cannot be photocopied, so practitioners must order it from the distributor, and it does not have specific questions that might be relevant for younger clients, older adults, or clients who have diverse cultural backgrounds. Because the manual reports different means for different groups when the test is scored according to guidelines, examiners who score the test must first develop local norms to be able to interpret results.

Reading stems aloud and recording responses for clients was reported by 80% of the respondents who reported using SCTs with children, about half who said they used SCTs with adolescents, and a third who said they used SCTs with adults. This practice makes good sense if a practitioner wants to avoid embarrassing a client who cannot read, write, or spell well. Because it is not always apparent who is literate and who is not (some clients are adept at hiding poor academic skills), examiners should not assume that their clients can perform tasks that require these skills. Some clients who take without comment an SCT that is handed to them may be waiting for help from someone else who knows their secret. One of the present authors has witnessed hospitalized patients completing their MMPIs and SCTs in hospital recreation rooms with other patients "helping" and suggesting "correct" answers.

Recording answers for clients also allows examiners to explore unusual responses that might have been overlooked if the clients were required to write responses themselves. For example, Rotter et al.'s (1992) Stem 6, "At bedtime," could be answered, "I sleep," which is a socially acceptable short answer that is easy to spell. However, a client might be more willing to expand her answer if she were not required to write herself: "I sleep and dream a lot, and I usually wake several times a night; I feel like someone is watching me." Examiners can also ask additional questions that were cued by a response. For example, the stem "My father ... hits," (Stem 35, Rotter et al., 1992) could be followed by an examiner's new stem, "When my father hits, I" On the other hand, SCTs that are not administered in a standard way (asking clients to complete forms themselves) cannot be scored according to the guidelines based on a standard client self-report.

When examiners read stems aloud for clients, examiners control the presentation of the stems. If a client responds with a brief but rich response, an examiner can sit quietly with pencil poised and wait for more information or ask directly for clarification and elaboration. Because clients do not have the test in their hands, they cannot read ahead, plan their responses around a content theme, or anticipate

questions. The random ordering of stems catches clients off guard, and their responses may be more spontaneous and open than they might have been if the questions had been arranged in logical clusters, as they would be in a structured interview. These off-balance, nonsequential probes are what make an open-ended SCT different from a structured (or even unstructured) interview, yet a fourth of the respondents said that one of the reasons they used an SCT was “as a substitute for a structured interview.” If that is the case, then the stems should represent a sampling of all the questions one would ask in a standard interview, except they would be randomly ordered. However, none of the 15 tests we reviewed contain all the questions usually included in a structured interview.

Twenty-four respondents reported that they did not score SCTs administered to children, 27 said they did not score adolescents’ SCTs, and 26 said they did not score tests given to adults. Apparently examiners, relying on their own clinical skills, interpret the content of responses according to their own theoretical orientation. Over a period of years, examiners might become so familiar with typical responses from their client populations that unusual responses stand out. In other words, examiners become their own databases, and they informally establish local norms for their practice. For example, Margot Holaday, who worked with adolescents for 11 years, could argue strongly that the following benign response is highly unusual from 16-year-old males and warrants further examination: “I like ... my mom.” Examiners who rely on clinical skills instead of formal scoring to interpret SCTs should use the same SCT consistently with all clients rather than switching from one to another, so that unusual responses will stand out.

The reasons why examiners use SCTs appear to be related to the way the test is administered; that is, whether the client or the therapist reads and writes responses. Practitioners who (a) want to observe behavior, handwriting, or written-language skills; (b) want to keep their client busy while scoring something else; or (c) are conducting research would gain more information if clients worked independently. Only tests completed by the client alone can be accurately scored. On the other hand, if the goal were to determine personality structure, to develop a therapy strategy, or to establish rapport, examiners would be more likely to read stems and record answers themselves. The interaction between the examiner and the examinee becomes another source of information.

Practitioners also reported using SCTs to obtain quotable quotes that could lend support to diagnoses in psychological reports, to “find out what the client wants you to know,” and to discover “cognitive themes not revealed by other tests.” Many of the stems on the Incomplete Sentence Blank could provide direct information to corroborate diagnoses. For example, “I feel ... like crying” might be linked to depression, dysthymia, or adjustment disorders; “I regret ... nothing” could indicate denial, conduct disorder, or antisocial personality disorder; “At bedtime ... I have trouble sleeping” could reveal posttraumatic stress disorder, depression, anxiety, or insomnia. In other words, SCTs provide unique

information about clients that cannot be obtained by other tests because the open-ended questions permit a wider range of responses than other projective tests or paper-and-pencil personality tests.

Limitations of the Study

Although 60 members of the Society for Personality Assessment responded to the survey, a second mailing might have encouraged more people to return their questionnaires. We wish we had asked everyone who reported using tests not listed on the survey to send us a copy. People might be using old tests that had been copied and re-typed so many times that the original author's name had been forgotten. It is also possible that practitioners have devised their own tests that contain new stems that permit a wider understanding of client personalities. These new stems or prompts might yield important information that could be shared with other practitioners.

Implications for Academic Instructors

Students should be exposed to a wide variety of SCTs and should choose ones that comprise stems that are appropriate for their client's developmental age, psychological functioning, and cultural milieu. Tests developed for college students should not be used with elementary school children or older clients who have been out of school for 30 years or more. In addition, SCTs should be theory based and should contribute substantially to diagnostic accuracy and treatment planning. For example, practitioners whose theoretical orientation is existential would probably gain much information if their SCT included stems that ask about thoughts and feelings about death. A cognitive behaviorist might be more interested in stems that explore clients' attributional beliefs. A therapist working with minority or disenfranchised groups should include questions relevant to that group's functioning within a majority society very different from their own. Most SCTs do not have stems asking about spirituality, eating habits, sexuality, illness, anxiety, addictions, prejudice, money, or employment, yet many clients have problems in these areas. Students should be taught how to develop additional items to be added to standard SCTs that are relevant to their practice. Using the same test developed by themselves for many years allows them to become their own databases. It also saves money, because they do not have to purchase copyrighted SCTs. Because most practitioners do not score their SCTs, it does not make sense to spend class time teaching scoring methods.

SCTs apparently will remain popular with practitioners, because the tests provide so much information that is valuable for diagnoses, treatment planning, and report writing. Although the Incomplete Sentences Blank is the most popular test reported by members of the Society for Personality Assessment, it is not necessarily the best SCT for all clients. Practitioners may be better served by writing some of their own stems, reading them aloud to their clients, and recording the responses

themselves. SCTs should (a) be tailored to provide appropriate and accurate information about clients' personalities, (b) be based on the theoretical orientations of the examiner, (c) reflect the needs and expectations of clients' cultural and religious backgrounds, and (d) be appropriate for clients' academic and mental developmental levels.

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Received March 4, 1999

Revised April 30, 1999

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