Cognitive Development and Human Service Education

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Abstract: The ability to learn and apply helping skills may be associated with students' capacity to think in abstract and complex ways, which can be described as cognitive development. This study explored the relationships among levels of cognitive development, empathy, dogmatism, introversion, age, and GPA for undergraduate human service majors. Additionally, differences between undergraduate and graduate students were examined. Cognitive development was found to be significantly related to level of education, age, and effectiveness as a helper, and scores approached significance on GPA. Implications for training, curriculum development, and admissions into human service programs are discussed.

Are there characteristics in some human service students that predispose them to be more or less empathic? It has been suggested that proficiency as a helper may be directly related to systemic personal growth (Greenwald, 1990) and that personal qualities in the helper may be more significant than knowledge of specific skills (Carlozzi, Campbell, & Ward, 1982). The nature of these qualities and their responsiveness to classroom intervention present an important frontier for human service education and research.

The focus of much research in the human service and counseling fields in recent years has been the identification of specific attributes that are associated with effective helping (Malson & Allman, 1977; Petrie, 1989; Rowe, Murphy, & deCasper, 1975). Often, this research has highlighted trainees' ability to make prescribed counseling responses (Carlozzi et al., 1982; Gladstein, 1983; Neukrug, 1980; Onitsu, Ward, & Michael, 1979). One such skill, empathy, has been shown to be a particularly crucial quality for effective
helping (Carkhuff, 1983; Eisenberg & Strayer, 1947; Neukrug & Goddard, 1967). The ability to be empathic and to make other prescribed counseling responses has been shown to be closely related to certain personality characteristics, such as open-mindedness, tolerance for ambiguity, and internal locus of control (Carlozzi et al., 1982; Gruberg, 1969; Milliken & Patterson, 1967).

The demonstrated importance of these skills and personality characteristics for effective helping has led undergraduate human service programs and graduate counseling programs to develop curricula that emphasize a systematic approach to the acquisition of counseling skills (Baker & Daniels, 1989; Baker, Daniels, & G试题, 1980; Neukrug & Goddard, 1967; Sweitzer & McKinney, 1991). In that vein, textbooks and training manuals have been developed that provide a structured approach to the attainment of these skills (Carkhuff, 1983; Fgan, 1991; Ivey, 1968). However, although this approach has been popular and has had some success, a major limitation of skills training has been its attempt to treat every student as if he or she were equally ready to learn and use such skills. Latzko and Hennessy (1982) echo this sentiment in the following assertion:

There is an assumption underlying these models which suggests that virtually anyone can learn to use the skills effectively. Experience and research have indicated, however, that there are substantial individual differences in levels of mastery of these skills. (p. 256)

To what can these differences be attributed? In recent years the hypothesis has emerged that different rates in the learning of such skills are associated with cognitive developmental differences between students (Cameron, 1984; Magolda & Porterfield, 1988; Stonewater, Stonewater, & Hadley, 1986; Widick, 1975). Cognitive development refers to regular changes in how individuals construct meaning from experience and is based on Piagetian principles. A number of cognitive developmental models have been developed (e.g., Kegan, 1982; Kitchener & King, 1981; Kohlberg, 1969; Riegel, 1973). These theories suggest that students pass through a predictable sequence of development in which more complex levels of understanding are built upon earlier, less complex cognitive structures. These models tend to describe stage-like movement in an individual's thinking in which the developing person moves from concreteness and rigidity to abstractness, flexibility, and relativism. There is some evidence that such increases may be related to age, education, and effectiveness as a helper (Benack, 1988; Cameron, 1984; Magolda & Porterfield, 1988; Stonewater et al., 1986; Taylor, 1984). By understanding some of these developmental stages, human service educators should be able to tailor instruction to individual readiness, based on the student's cognitive age.

One of these cognitive developmental schemes, namely Perry's theory of intellectual and ethical development (Belenky, Clinchy, Goldberger, & Tarule, 1986; Magolda, 1988; Perry, 1970), is particularly oriented toward the development of college students. The "Perry" scheme, as it is known, describes epistemological movement through four stages. In the first stage, "Duality" students view truth categorically, as right or wrong, and have little tolerance for ambiguity. Challenges to the adequacy of such certainty bring on "Multivalence," or as reported by some, "Transition" (Magolda & Porterfield, 1988) in which a beginning recognition of the limits of authority occurs. In the next stage, "Relativism," students are able to think more abstractly, allowing for different opinions. In Relativism, students are able to think of different ways of constructing reality and de-constructing or defining truth. In the last stage, "Commitment to Relativism," individuals have the capacity to maintain their relativistic outlook while also committing themselves to specific values and beliefs that guide them. For example, the committed relativist may make a specific religious or job commitment while at the same time recognizing the possibility that new information may modify that choice (Widick, 1975).

Beginning research on the Perry scheme reveals a strong positive relationship between one's position on the scheme and the ability to make go facilitative responses (Benack, 1983). Specifically, it has been speculated that relativistic thought is associated with more desirable helper characteristics: non-directiveness and tentativeness (Benack, 1984), flexibility (Foss, 1984), use of metaphor (Arkin, 1975), and empathy (Foss, 1984). Other research has shown similar results with other developmental models (Bowman & Allen, 1984; Bowman & Reeves, 1987; Reeves, Bowman, & Cooley, 1989). Consequently, it can be assumed that Dualists will be less effective in application of counseling skills compared to those students who are at higher developmental levels. Armed with such knowledge, human service educators might seek to directly address cognitive development in addition to training students in targeted counseling responses. Such methods of fostering students' cognitive development might eventually be infused into the curricula of undergraduate human service programs.

While preliminary studies of graduate counseling students (Benack, 1983) have shown that cognitive development seems to be related to counselor effectiveness, no studies of human service trainees were located that examined this relationship. Consequently, this study examined differences in the level of cognitive development between undergraduate human service majors and graduate students in counseling, and specifically examined the relationship between levels of cognitive development, empathy, dogmatism, internalization, age, and GPA of undergraduate human service majors. In addition, a combined group of undergraduate human service majors and graduate students in counseling who were identified as Dualists or Relativists were examined for differences scores on empathy responding, degree of dogmatism, beliefs, and internalization, that is, the degree to which they feel they control their own lives. As such, the study sought to validate the Perry scheme by determining whether there were expected similarities between
epistemological development, dogmatic and external behavior, age, and educational level. This research also can be considered an extension of Baron's (1988) original work, but with the use of a larger sample, as she suggested.

Method

Participants and Procedures

Eighty-six undergraduate students in a bachelor's level human service program and 112 graduate students in counseling were recruited for this study. The mean age of the undergraduates was 23.50 (SD = 6.86) while the mean age of the graduate students was 33.60 (SD = 8.35). Of the undergraduate students, 12.2% were male, 87.8% female while 25.9% of the graduate students were male and 74.1% were female.

Students were approached while taking classes in the beginning of the Fall semester. The general nature of the study was explained to them and those who volunteered were given a packet that included the Measure of Epistemological Reflection (MER) (Magolda & Porterfield, 1988), which is a measure of Perry's scheme of adult cognitive development; the Opinion Scale (Kleiber, Veldman, & Menaker, 1973), a measure of dogmatism and externality; and a sheet requesting demographic information concerning their age, GPA, and undergraduate or graduate standing. Students were asked to complete the packet at home and return it within a week. Subsequent to receiving the packet, students were shown a videotape of a volunteer-coached client and asked to write an empathic response to 13 client statements. Responses to the packet and the videotape were coded to maintain confidentiality and anonymity, and students were told that they could obtain their individual results following completion of the study.

Instruments

Carkhuff Empathy Scale. The Carkhuff Empathy Scale (1969) took Rogers' original definition of empathy and operationalized it by identifying five levels of empathy responding on a Likert-type scale. On the scale, both level 1 and level 2 responses detract from what the person is saying (e.g., advice giving, accurately reflecting feeling, not including content) with a level 1 response vealing little ability to accurately reflect what the client is feeling and thinking, while a level 2 response only slightly misses accurate reflection of feeling and content. In contrast, a level 3 response precisely reflects the affective meaning of what the helper has said. Level 4 and level 5 responses reflect feelings and meaning beyond what the person is outwardly saying and adds the meaning of the person's outward expression. Level 5 responses are made in long-term therapeutic relationships by expert therapists. To express the helper's deep understanding of the emotion he or she is elating as well as a recognition of the complexity of the situation. Taped or written responses of trained raters are rated on 5 increments with a response of 1 presenting the lowest possible rating while a response of 5 theoretically presents the highest possible rating.

Validity of the instrument is determined by its accuracy in reflecting Rogers' and other theorists' explication of empathy. Two raters who have achieved .80 interrater reliability coefficients on practice transcripts rate students' responses. Raters achieved interrater reliability coefficients of .97 to a combination of the undergraduate and graduate students' empathic responses. Participants in this study rarely received higher than a 3.5 on the rating scale because higher level responses are usually made in long-term counseling relationships and also are less likely to be made in written responses to a videotape.

The Measure of Epistemological Reflection (MER). The MER (Magolda & Porterfield, 1988) is a so-called "production" (written) measure of Perry developmental theory. On the MER, students respond in short essay format to a series of questions that are later rated to determine what position on the Perry scheme the student holds. Questions are asked on six domains related to learning decision making in an educational context, the role of the learner in the learning process, the role of the instructor in the learning process, the role of peers in the learning process, the role of evaluation in the learning process, and the nature of knowledge, truth, and reality. Students' responses on one of the six domains are rated on a five-point scale with ratings of 1 or 2 representing Dualism, a rating of 3 representing Transition, while Relativism is characterized by a rating of 4 or 5. Students' ratings on the six domains are averaged in order to come up with the individual's developmental level Perry's positions 6 through 9, which represent movement toward Commitment to Relativism, are not rated as they seem to measure identity rather than cognitive development (Magolda & Porterfield, 1988).

The MER was constructed based on standard criteria for the development of an instrument of this kind (Gibbs & Widaman, 1982; Loewinger & Wesse, 1970). A series of studies with college students were conducted to show that the MER was an effective instrument to measure cognitive changes in students as they go through college or as they experience workshops designed to increase cognitive development (Magolda & Porterfield, 1988). Internal consistency and interrater reliability generally ranged from .50 to .80 on number of studies. In this study, two certified raters were used. These raters had reached a minimum interrater reliability coefficient of .80 on a training packet. These two raters had an interrater reliability coefficient of .7 on the combination of undergraduate and graduate students' MER responses.

The Opinion Scale. The Opinion Scale (Kleiber et al., 1973) is a combination of the external items on Rotter's Internal-External Control (I-E) Scale (1966) and Rokeach's (1960) Dogmatism Scale (Form I). Evidence suggest that when the external items on the original I-E scale are placed on a Likert type continuum they can be used to measure the internal-external dimensions (Kleiber et al., 1973). For the Opinion Scale, the 23 external items from Rotter's original I-E are interspersed with the 40 items from Rokeach's Scale and placed on a Likert-type format with responses ranging from 1 (I disagree very much) to 6 (I agree very much). The two scales are later separated out from the
The Dogmatism Scale, which measures "relative openness-closedness of cognitive or belief systems" (Carlozzi et al., 1982, p. 230), has been shown to have construct and concurrent validity in numerous studies (Davis, Frye, & Joule, 1975; Jacoby, 1971; Plant, Telford, & Thomas, 1965; Rekeach & Fruchter, 1966; Vaccchiano, Strauss, & Schiffman, 1968; Ward, Cunningham, & Summerlin, 1978; Zagona & Zurcher, 1965), and reliability coefficients have ranged from .68 to .83 (Rekeach, 1969; Zagona & Zurcher, 1965).

The Internal-External Locus of Control Scale (I-E scale) "attempts to measure the effects of perceived internal versus external control of reinforcement" (Carlozzi et al., 1982, p. 230). The 23 items of the Opinion Scale that measure externality reflect whether or not individuals view themselves (as opposed to external factors) as the controller of their lives. Research by Kleiber et al. (1973) has shown that personality variables, such as externality and dogmatism, may be related to counseling effectiveness. Robinson and Shaver (1969) reported test-retest reliability of .72.

Videotaped Client

The videotaped client, who was originally interviewed by a professional counselor, presented an actual situation in which she described her ambivalence about her future career direction. The camera showed the client only and the audio of the counselor was eliminated. A 15-second pause was inserted after each of 13 client statements. During these pauses students were asked to respond in writing with their "best empathic response." Student responses to the videotape were rated on the Carhhuff scale by the two trained raters.

Data Analysis

Mean scores and standard deviations for the undergraduate students were derived for scores on the MER, for responses to the videotape as rated in the Carhhuff Empathy Scale, and for responses to the Opinion Scale (dogmatism and externality) while the percentages of Dualists, those in Transition, and Relativists were found for both undergraduate and graduate trainees. A t-test also was performed to examine differences between MER scores of undergraduate and graduate trainees. In addition, Pearson-product moment correlations between scores on the MER, the Carhhuff Empathy scale, dogmatism, externality, GPA, and age were computed. Finally, by limiting undergraduate and graduate students who were in Transition students who scored 2.5 or above but less than 3.5 on the MER) extreme groups of Dualists, on the one hand; and Relativists, on the other hand, were rated. Subsequently, t-tests were performed to compare Dualist (scores above 2.5) with Relativists (scores of 3.5 or above) on the qualities of empathic responding, dogmatism, externality, and age.

Results

Examination of human service trainees' responses to the MER found that majority of them were either Dualists or in Transition toward early Relativist (M = 2.6, SD = .49). A t-test comparison on the MER between undergraduates and graduate trainees revealed significant differences (t = .99) with the mean score of the MER for graduate trainees being 3.1 (SD = .66). Highlighting the relatively low Perry scores for undergraduate trainees, it was found that 38 of undergraduates as compared to 24% of graduates fell into the "Dualist range" (below 2.5), 56% of undergraduates as compared to 46% of graduates were in "Transition" (between 2.5 and 3.49), while 6% of undergraduates versus 32% of graduates were in the Relativistic range (3.5 or above). Relatively low scores for undergraduates also were found on the Carhhuff Empathy Scale, as the majority exhibited empathy scores that detracted from what the client stated (M = 1.5, SD = .65).

Examining the relationships between the scores of the undergraduates on the various instruments, significant correlations were found between the MER and age (r = .25), the MER and externality (r = .81), and the MER and dogmatism (r = .01). The MER and GPA correlation approached significant (N = 73, p = .07). Significant correlations were also found between externality and dogmatism (r = .73), and GPA with age (r = .68) and with empathy (N = 63) (see Table 1).

Table 1

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*p < .05, **p < .01

Finally, one-tailed t-tests between Dualists and Relativists for a combined group of undergraduate and graduate trainees showed significant differences for empathy, externality, dogmatism, and age (see Table 2).
Table 2

| Attribute | Dualists | | | Relativists | | | |
|-----------|---------|---|---|---------|---|---|
| | N | Mean | SD | N | Mean | SD | t |
| Empathy | 55 | 1.64 | .63 | 38 | 1.36 | .65 | 2.03** |
| Externality | 59 | 74.93 | 14.28 | 40 | 85.50 | 11.66 | 3.46** |
| Dogmatism | 56 | 129.59 | 19.53 | 40 | 108.65 | 19.99 | 4.05** |
| Age | 54 | 26.60 | 7.38 | 35 | 34.10 | 9.46 | 4.72** |

*p < .05, **p < .01

Discussion

Based on these findings, it may be assumed that undergraduate human service majors generally make meaning from the dualistic position. These results parallel those for undergraduates in general (Kurth, 3; Magolda & Porterfield, 1988) and imply that most undergraduate students are inclined to seek “final truth” from authorities, whether they be professors, their supervisors, or textbooks. In contrast, in both this and previous studies (cited in Lovett, 1990), at least half of graduate counselor trainees are found to have undergone the so-called “cognitive flip” (Knefelkamp, 1976) into relativism. Although differences between undergraduate human service majors and graduate students in counseling may be subtle differences, the populations from which they draw, these differences are consistent with much research that has shown cognitive development to be influenced by the quality of educational experiences and the type of education received (Magolda & Porterfield, 1988). As Dualists, many undergraduate trainees may not have the complexity that the independent, flexible judgments required for good casework and group decision making. From the Dualistic framework, trainees are likely to experience ambiguity as an annoying discomfort. They may seek to resolve uncertainty through simple formulas, such as premature diagnoses or reliance on step-by-step treatment plans.

The intercorrelations among epistemological reasoning, dogmatism, externality, GPA, and age are in expected directions and thus help to further validate these constructs. The negative relationship between cognitive development and both dogmatism and externality fit cognitive developmental theory, which suggests that movement toward relativism is expressed in greater openness to new data and in the use of one’s own reasoning ability as a basis for valuing. The expected relationship between age and cognitive development has been previously demonstrated and continues to be borne out in this study. Finally, the finding that academic achievement in the form of GPA may be associated with greater cognitive development suggests that there is an intellectual dimension to more complex meaning making.

The findings on the relationship between relativism and empathy, while mixed, generally support the notion that relativism enhances, and may even be the groundwork for, empathy. Whereas the Dualist is likely to see his or her experience as reflecting the nature of “reality” and tries to find the universal “way things really are,” the Relativist expects that people will have different perceptions of the same event. Relativists have additional cognitive capacities that are related to empathy, such as the ability to differentiate a client’s specific experience from that of people in general, to minimize projection, and to be tentative when assessing clients (Holgren, 1984).

The results from this study indicated that dogmatism and externality significantly distinguish Dualists from Relativists and extend the research that has shown a nondevelopmental worldview and an internal frame of reference are associated with greater counselor effectiveness (Carlozzi et al., 1982). Nondevelopmental human service professionals are more likely to be open to varied treatment approaches and better able to hear incoming client messages. Correspondingly, internally oriented human service workers are more able to assume personal responsibility in their relationships with both clients and colleagues.

Implications for Human Service Education

While generalizations from this study must be qualified by the fact that the sample was drawn from one campus, these findings may have implications for human service education in at least three areas: instruction, admissions, and assessment. Instructionally, the human service educators are challenged to emphasize critical thinking and to present multiple perspectives in the curriculum. The general instructional conditions that affect cognitive development, such as providing the appropriate amount of structure, encouraging diversity of viewpoints in the classroom, and offering experiential learning within a personal environment (Knefelkamp, 1974), offer the educator a framework for triggering such change. Some ways that general cognitive development might be spurred include both challenging and supporting students to reason slightly beyond their current level, or so-called “Plus-One” reasoning (Rest, 1973), through such activities as values clarification exercises, peer discussion, analysis of case studies, group problem solving, and the presentation of ethical dilemmas. In contrast, overreliance on lecture, emphasis on single counseling theory, and a focus on “how-to” technique (Mahoney, 1986) would fail to stimulate relativistic thinking.
In addition to instructional interventions, early assessment of developmental stages might provide students and faculty with material for individual educational planning. Specifically, it would seem that early developmental assessment might assist Dualistic trainees to address their rigidity. An added method might be to “dis-equiphrase” (faintly challenge students’ current method of meaning making), to help students to move slowly from the rigid Dualistic view to a more flexible Relativistic outlook.

Finally, in addition to suggesting classroom interventions and assessment activities, the results of this study imply that some assessment of the vocational aspirations of those graduating from human service programs or majors, pending further research. For example, admissions essays might be used for developmental stages, or a recognition task assessment, such as the Vocational Development (Erwin, 1983) or the Learning Environment Foundation Measure (Moore, 1983), might be given prior to making admissions decisions.

Conclusion

Cognitive development seems to be associated with a helper’s ability to possess empathy and with the professionally desirable personality characteristics of internalization and openness-mindness. Based on these results, human service educators might consider applying development-enhancing strategies in their educational programs. As such, human service education might reconceptualize as a particular expression of applied adult development.

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