

LEARNING STYLE AND PERSONALITY TYPE PREFERENCES OF COMMUNITY DEVELOPMENT EXTENSION EDUCATORS

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Abstract

Learning style and personality type preferences of community development extension educators were measured using Witkin's Group Embedded Figures Test (GEFT) and Hogan and Champagne's Personal Style Inventory (PSI), respectively. GEFT scores were examined in relation to PSI scores. Both measures were examined in relation to age, gender and academic background. More than 56% of the community development extension educators involved in this study favored a field dependent learning style. Females were more field dependent. Subjects with academic backgrounds in the physical sciences were more field independent. Males were more than three times more likely to prefer gathering information using their senses (sensing) than females. Twice the number of female subjects preferred gathering information through use of their unconscious (intuition) over males. Males preferred reacting to information with logic (thinking). Females preferred reacting to information with personal reflection and consideration for others (feeling). There was a negligible level of association between learning style and personality type subscales.

Introduction

Learning style can be described as "the manner in which learners sort and process information" (Cano & Garton, 1994, p. 6). Personality type refers to the characteristic way in which an individual approaches life's experiences (Jung, 1976). Two of the most widely studied models used to explain learning style and personality type in agricultural education research are Witkin's field dependence/independence model measured by the Group Embedded Figures Test (GEFT), (Cano, 1999; Cano, 1993; Cano & Garton, 1994; Cano, Garton, & Raven, 1992; Estadt, 1997; Hudson, 1997; Kitchel, 1999; McCutcheon, 1997; Raven, Cano, Garton, & Shelhamer, 1993; Torres, 1993) and Myers-Briggs Jungian psychological typology, measured by the Myers-Briggs Type Indicator (MBTI), (Cano, 1993; Raven et al., 1993).

Learning Style

Witkin's field dependence/independence model involves a bipolar, value-neutral continuum which describes one's orientation

to the surrounding field (Witkin et al., 1977). Individuals whose mode of perception is strongly dominated by the surrounding field are described as field dependent. Individuals whose mode of perception is largely unaffected by the surrounding field are described as field independent.

Field dependent individuals are typically extroverted, extrinsically motivated, and influenced by peer groups and authority figures, (Cano, 1993; Witkin, 1973; Witkin, 1976; Witkin et al., 1977). Such individuals prefer a 'spectator approach' to learning (Cano, 1993; Garger & Guild, 1984; Witkin et al., 1977).

Field independent individuals typically possess less effective social skills, are typically introverted, intrinsically motivated, prefer competition, choice of activities, and ability to design studies and work structure (Cano, 1993; Witkin, 1973; Witkin, 1976; Witkin et al., 1977). Field independent individuals typically prefer to design learning goals and directions themselves (Cano, 1993; Garger & Guild, 1984; Witkin et al., 1977).

Factors Related to Learning Style

Researchers (Cano & Garton, 1994; Garger & Guild, 1984; Hudson, 1997; Torres & Cano, 1994; Witkin, 1976, Witkin et al., 1977) have found that males were less field dependent than females. However, other studies (Garton, Spain, Lamberson, & Spiers, 1999; Raven et al., 1993; Whittington & Raven, 1995) involving male and female college of agriculture students revealed mixed results. According to Crosson (1984), as age increases, both genders generally become more field dependent. Raven et al., (1993) studied preservice agriculture teachers at Montana State University (MSU) and The Ohio State University (OSU) and found that students 25 years or older were more likely to prefer a field dependent learning style.

Areas of study and vocational areas involving analytical skills such as mathematics, engineering, chemistry and the biological sciences, and technical and mechanical activities were more likely to draw field independent students (Estadt, 1997; Garton et al., 1999; Torres & Cano, 1994; Witkin, 1976; Witkin et al., 1977). Field dependent students avoided vocational and academic areas requiring analytical skills preferring instead people-oriented fields such as elementary teaching and teaching in the social sciences, counseling, and sales and advertising where social skills could be exercised (Witkin, 1976; Witkin et al., 1977).

Personality Type

In contrast to Witkin's one-dimensional bi-polar model, the Myers-Briggs model characterizes learners using four bi-polar scales for attitude, perception, judgment, and function. Myers, McCaulley, Quenck, and Hammer (1998) indicated that the dimensions that comprise the type opposites model "influence how a person perceives a situation and decides on a course of action" (p. 19). Relationships among the four bi-polar dimensions provide for 16 possible types: ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, INFP, INTP, ESTP, ESFP, ENFP, ENTP, ESTJ, ESFJ, ENFJ, and ENTJ.

One's attitudes toward life involve "a readiness of the psyche to act or react in a certain way" (Jung, 1976, p. 414). One

provides energy to objects and people of the surrounding environment, defined as extraverted (E), or one takes energy and interest from the surrounding environment, described as introverted (I).

The manner in which one becomes "aware of things, people, events, or ideas" (Myers et al., 1998 p. 12) is described in our preference toward sensing-intuition (S-N). Information is gathered or perceived using the senses, described as sensing (S) or through use of one's unconscious, described as intuition (N).

Individuals focus their mental activity, judge, or react to the information that is sensed or felt in different ways (Myers et al., 1998 p. 13). One makes sense of this information or perceptions through the use of logic and objectivity, described as thinking (T). The opposite type of reaction involves personal reflection and consideration for others, described as feeling (F).

One's orientations or attitudes toward the outer world are described in terms of preferences toward structure or spontaneity. One whose orientation toward life is characteristically ordered, structured, and decisive is considered to be a judging type, (J). Conversely, an orientation toward life that is "open, curious, and interested" is described as a perceptive attitude, (P) (Myers et al., 1998 p. 14).

Factors Related to Personality Type

Extroverted and introverted preservice agricultural educators indicated preferences for sensing (S), thinking (T), and judging (J) more than any other type combination (Cano & Garton, 1994; Cano et al., 1992; Estadt, 1997; Kitchel, 1999). Female preservice agricultural educators indicated a preference for feeling (F), whereas male preservice agricultural educators were more likely to be typed thinking (T) (Cano et al., 1992). Lawrence (1984) found that educators in general were more likely to indicate a preference for judging (J) than perceiving (P).

Problem Statement

As teachers, interactions with others are enriched when we know about ourselves and

our audience (Hoover & Connor, 2001). The GEFT and MBTI have been used extensively in research involving educators (DiTiberio, 1996; Myers et al., 1998; Sears, Kennedy, & Kaye, 1997). Learning style research in the field of agricultural education has identified learning styles of preservice agriculture teachers, agriculture teacher educators, and agricultural education students (Cano et al., 1992; Hudson, 1997; Raven et al., 1993; Whittington & Raven, 1995) yet very little research to describe learning style and personality type preferences of community development extension educators has been conducted. Because today's information-based society dictates that we add value to information, effective extension educational programming requires a greater awareness of learning and personality types of the educator and the learner, and most importantly, the methods in which this awareness can be generated.

Purpose and Research Questions

The purpose of the study was to describe learning style and personality type preferences of community development extension educators in Ohio. The following specific research questions were addressed:

- What was the preferred learning style of community development extension educators employed in Ohio as measured by the Group Embedded Figures Test?
- What was the preferred personality type of community development extension educators employed in Ohio as measured by the Personal Style Inventory?
- What was the relationship between preferred learning style and preferred personality type of community development extension educators employed in Ohio?

Procedures

Population and Sample

The study population included all community development extension educators employed in Ohio during the time

period April to July 2004. The accessible population included community development extension educators that provided usable data gathered from the GEFT and PSI administered during state program meetings during this timeframe (N=67). While study results were generalized only to those providing usable data, a sampling of non-respondents revealed that non-respondent characteristics did not vary significantly from the accessible population.

Instrumentation

In addition to a one-page subject characteristics questionnaire to determine subjects' age, gender, and academic background; instrumentation employed in this study included the GEFT and the PSI. The GEFT was used to measure learning style preference. The PSI was used to measure personality type preference. The researcher administered both instruments following the guidelines provided by the originators of each instrument.

The GEFT is a standardized instrument designed to measure one's preference for field dependence/independence. Subjects scoring less (0-11) than the national mean for the GEFT (11.4) were categorized as field dependent. Subjects scoring the national mean (11.4) or greater (12-18) were categorized as field independent.

The GEFT instrument evolved from Witkin's earlier field dependence tests: the Embedded Figures Test (EFT), Body Adjustment Test (BAT), and the Rod and Frame Test (RFT) (Witkin, Oltman, Raskin, & Karp, 1971). Using the GEFT with male and female subjects, Witkin et al. (1971) used a Spearman-Brown formula to determine a reliability coefficient of .82. Witkin et al. also established instrument validity against the Embedded Figures Test with correlation coefficients for male and female university students of .82 and .79, respectively (Witkin et al., 1971).

The PSI is an abbreviated version of the Myers-Briggs Type Indicator (MBTI) developed by Hogan and Champagne (1979). Like the MBTI, the PSI aims to measure a person's Jungian typology, generating preference scores for four separate dimensions of personality type.

The model asserts that individuals possess particular personality characteristics with respect to how they prefer to gather information and relate to their surrounding environment. Information gathering functions include the sensing or intuition (S-N) and thinking or feeling (T-F) dimensions. Relating orientations include the extraversion or introversion (E-I) and judging or perceiving (J-P) dimensions.

Hogan and Champagne (1980) established instrument reliability by comparing subjects' estimated scores with subjects' actual PSI scores to find Pearson product-moment correlation scores. Reliability coefficients were .60, .74, .66, and .61 for the attitude (E-I), perceiving function (S-N), judging function (T-F), and orientation (J-P) dimensions, respectively. To determine instrument validity, Hogan and Champagne (1980) generated Phi correlations of .78, .55, .90, and .71 respectively, for the four dichotomies measured by the PSI.

Data Collection

Data were collected in conjunction with district meetings and program area inservices which took place in Spring 2004. Meeting and inservice organizers were informed of the study's objectives and up to 50 minutes of the inservice time was requested for actual data collection. Data were collected at a point in the

meetings that was convenient for the meeting and inservice coordinator(s) and participants. A short overview of the study and the instruments was provided. Approximately 45-50 minutes was required to collect the data at each location.

Data Analysis

Data were analyzed using SPSS 12.0. GEFT scores were treated as ratio-level data and coded as a raw score (0-18). PSI scores were treated as interval-level data and converted to a continuous scale score using 100 as the base. Frequencies, percentages, means, standard deviations, and range were used to describe subjects' learning style and personality type preferences. A Pearson product-moment correlation coefficient was used to describe the relationship between GEFT scores and PSI scores. An alpha level of .05 was used.

Results

Demographics

The study population comprised 37 (55.2%) males and 30 (44.8%) females (Table 1). Average age was 45.1 years. Almost 30% of those studied had an academic background in business or economics. Nearly one fourth (23.8%) had an academic background in agriculture or natural resources.

Table 1
Demographic Characteristics of Community Development Extension Educators in Ohio (N=67)

Characteristic	<i>n</i>	%
Gender		
Male	37	55.2
Female	30	44.8
Academic Background		
Business	12	17.9
Economics	8	11.9
Education	8	11.9
Law	2	3.0
Planning	1	1.5
Political Science	4	6.0
Public Administration	4	6.0
Natural Resources	9	13.4
Agriculture	7	10.4
Humanities	2	3.0
Computer Science	3	4.5
Family & Consumer Science	2	3.0
Engineering	1	1.5
Other	4	6.0

Learning Style

More subjects preferred the field dependent learning style (56.7%) than the field independent learning style (43.3%) (Table 2). The overall GEFT

score mean of the population was 10.40 compared to the national mean of 11.4 (Witkin et al., 1971). The standard deviation was 5.29. The mode was 18.

Table 2
Group Embedded Figures Test Scores for Community Development Extension Educators in Ohio (N=67)

GEFT	<i>n</i>	%
Field Dependent		
1	1	1.5
2	2	3.0
3	5	7.5
4	1	1.5
5	7	10.4
6	4	6.0
7	2	3.0
8	6	9.0
9	5	7.5
10	4	6.0
11	1	1.5
Field Independent		
12	4	6.0
13	1	1.5
14	4	6.0
15	3	4.5
16	3	4.5
17	6	9.0
18	8	11.9

Personality Type

Of the 16 possible personality type preference combinations, the most common personality (23.9%) could be described as quiet, serious, thorough, dependable,

practical, matter of fact, realistic, logical, focused, and organized; characteristics of the ISTJ type combination (Myers et al., 1998). Analysis by type opposite is presented in Table 3.

Table 3
Type Opposite Preferences of Community Development Extension Educators in Ohio (N=67)

MBTI Opposite	<i>n</i>	%
Extraversion	25	37.3
Introversion	42	62.7
Sensing	39	58.2
Intuition	28	41.8
Thinking	42	62.7
Feeling	25	37.3
Judgement	51	76.1
Perception	16	23.9

Relationships

Interestingly, while nearly 60% of community development extension educators preferred a field dependent learning style, (characterized as typically extroverted and sensitively attuned to the social environment) more than 60% preferred introversion (characterized as typically internally focused, quiet,

and private). A Pearson correlation coefficient of .10 revealed a negligible association between the GEFT and PSI subscales (Table 4). These data did not support previous research findings (DiTiberio, 1996) that found some level of association between field independence and preference for intuition.

Table 4
Association Between GEFT Scores and PSI Subscale Scores

	E - I	S - N	T - F	J - P
GEFT	-.03	.10	-.05	.09

Conclusions, Recommendations, and Practical Importance

Except for the youngest age group studied (24-34 years of age), Extension Community Development program professionals typically perceive in a global perspective framed by personal surroundings. They make broad, general distinctions among concepts and typically prefer interacting and working with others in practical, useful activities. They value social reinforcement and the opinions of others and typically prefer focus,

structure, and organization to their environment.

These characteristics were preferred nearly two to one by study subjects between the ages of 24-34 years and four to one by study subjects within the 57-66 age range. This finding was congruent with findings by Crosson (1984). The level of association between age and learning style was very low.

Program professionals with academic backgrounds in education, planning, political science, public administration and agriculture preferred a field dependent

learning style. Subjects with academic backgrounds in engineering, computer science, natural resources and economics were more likely to prefer a field independent learning style and a characteristically analytical, logical (T), ordered, structured, and decisive (J) personality type. This supports previous research (Garton et al., 1999; Hudson, 1997; Torres & Cano, 1994; Witkin, 1976; Witkin et al., 1977) that found individuals with a field independent learning style preference were drawn to academic areas typically involving analytical skills and field dependent preferences were drawn to academic areas typically involving interaction with others.

A strong relationship was found between academic background and learning style. Similarly, a low, but statistically significant relationship was found between academic background and preference for judging.

Understanding the relationships between academic background and learning style and personality type preferences has implications for Extension organizational hiring practices. Extension programming developed and delivered by a professional with training in business to clientele with training in business can make for an effective teaching and learning exchange. Similar personal orientations toward people and toward the outer world can enable the development of strong interpersonal relationships as well. However, as Extension works to bridge ties across program areas and to deliver programming to non-traditional audiences, the organization and the program professional need to be aware of potential differences in academic background and resulting differences in learning style and personal orientation to the outer world.

For example, program professionals with academic training in business or economics may very well possess learning styles and orientations far different from audiences with academic backgrounds in elementary education. The potential for a disjointed teaching and learning exchange as well as interpersonal conflict exists.

There was a general preference across every age group toward introversion, sensing, thinking, and judging. Levels of

association between age and dimensions of personality type were negligible.

Similar to findings by Cano et al. (1992), male Extension Community Development program professionals preferred to make decisions using logic (T). Their female counterparts preferred to make decisions that considered the decision's impact on others (F). Data suggested a moderate, statistically significant association between the thinking-feeling (T-F) personality dimension and gender, with an r coefficient of .45.

Males preferred to trust their experiences and to focus on reality (S). Females preferred to trust inspiration and focus on the future (N). A statistically significant association ($r=.36$) between the sensing-intuition (S-N) personality dimension and gender was found. These findings were consistent with other research by Cano et al. (1992).

Assuming that program planning and delivery teams are strengthened by the diversity of its membership, gender differences have implications for mixed-gender program planning and delivery teams. Are such teams consciously aware of the differences in gender with respect to how their members gather and make sense of information? Are such differences a source of conflict for existing teams? Are such differences one of the reasons that more Extension Community Development programming is not undertaken by mixed gender teams?

Truly effective program teams have taken their individual differences into account. Those that have yet to be formed require program leaders and administrators to recognize the learning style differences among professionals as they lead team formation efforts. Understanding the implications of community development extension educators' academic background can be useful in matching program professionals to program opportunities, as well as in directing educators toward the programmatic and administrative teams that can best utilize their preferred learning style and personality type. Such 'designed' teams can begin to 'think outside the box' and can benefit substantially from diversity of thought. Programming quality can be

improved, teaching and learning can be improved, and the organization overall can be strengthened as a result.

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