ABSTRACT

How do creative writing students and journalists differ in their thinking styles? To investigate this question, 81 undergraduate participants (41 creative writing students and 40 student journalists) were asked to write sentences in response to a series of photographs. Their responses were then scored according to Bruner’s theory of Narrative and Paradigmatic thought. In addition, these students were assessed on the NEO Personality Inventory — Revised (Costa & McRae, 1992) to measure personality, the Work Preference Inventory, College Student Version (Amabile, 1995) to measure motivation, and the Mental Self-Government Thinking Styles Inventory (Sternberg & Wagner, 1991) to measure a different theory of thinking styles. As hypothesized, creative writers scored significantly higher than journalists on Narrative thought, but an interaction occurred on Paradigmatic thought. Male journalists significantly outscored male creative writers, but a non-significant trend in the opposite direction was observed for females; these results stayed significant when personality and motivation factors were controlled.

INTRODUCTION

Thinking Styles in Creative Writing Students and Journalism Students

“That’s one difference between a reality writer and a fiction writer. The beat journalist’s ultimate goal isn’t a dramatic or poetic effect, much as any writer lusts after such moments of luck . . . ‘That’s right’ is what we’re after, more than ‘That’s beautiful.’”

– Thomas Boswell (1989)
Thinking styles have been dubbed the “interface between intelligence and personality” (Sternberg, 1994). Yet although many studies have examined the relationship between intelligence, personality, and creative behavior, few have examined the relationship between thinking styles and creative behavior. Thinking styles are ways people characteristically respond to or interpret information or problems presented to them. They are not abilities, but rather reflect a preference for how people choose to use their abilities (Sternberg, 1997). Thinking styles may represent a way of getting insight into some groups of creative people, such as creative writers.

Both creative writers and journalists are likely to be intelligent and have high verbal ability (see Brody & Brody, 1976). Both types of writers must be interested in the written word, have some talent with language, and be open to new experiences. Explanations of why a person might become a writer does not answer the further question of why a person might become a particular type of writer.

Despite their similarities, creative writers and journalists have different goals. They work often under radically different conditions and with varying expectations — a top-notch journalist may have to crack out a piece in ten minutes to make a deadline, whereas an equally respected novelist may be allowed ten years to perfect a book. Creative writers such as novelists, poets, and, to a lesser extent, playwrights may be introverted or avoid social encounters; their success or failure depends on a product that may be created with little outside input. Journalists, in contrast, must thrive on such interactions, as much of their work typically involves gathering information and opinions from other people.

Although there have been many studies that compare artists to scientists, or artists to non-artists, there have been few studies that compare creative writers and journalists (see Kaufman, 2002, for a review of research on creative writers). And while studies have been frequently conducted on students of creative writing (e.g., Amabile, 1985) and occasionally conducted on journalism students (e.g., Cole, Sugioka, & Yamagata-Lynch, 1999), very few studies have compared students in the two writing disciplines. Differences in experienced creative writers or journalists might be expected due to different work environments. Yet an examination of student writers would benefit from both groups being in a similar environment.

While no studies have investigated these differences in students, some studies have examined professionals. Quinn
(1980) examined cognition in creative writers and journalists and found creative writers to be more complex in their cognitive processing. Helson (1978) examined authors and critics within the frameworks of Holland’s theory of vocational types. Although both groups scored as having consistent profiles of artistic types, critics were higher in social interests and were less unconventional, and authors described their work style as including alternative states of consciousness (but critics did not).

Kaufman (2001; see Kaufman & Baer, in press) found that eminent female poets are more likely to experience a personal tragedy and suffer from mental illness than female fiction writers, journalists, visual artists, actresses, and politicians. Ludwig (1995) did not directly compare the two groups of writers, but an examination of his overall data on eminent individuals reveals higher rates of psychopathy in fiction writers and poets than in non-fiction writers. Most other investigations of writers’ lives focused only on one of the groups, either creative writers or journalists.

Ekvall and Tangeberg-Andersson (1986) examined creative output (in addition to other variables) in different groups of newspaper editorial writers. Although they demonstrated that such variables as having a focused goal and being a strong leader added to creative output, the nature of the investigation was closer to an organizational study of creativity; the focus was just as much on how the groups functioned as on what they produced. Lynch and Swink (1967) also investigated newspaper writing and creativity. They showed that when creative people were appropriately primed (such as with music or art), their ability to write news articles improved over people who were not primed.

How might creative writers differ in their thinking styles from journalists? One model of thinking styles that stands out as holding special promise for such a question is Bruner’s (1986) distinction between Paradigmatic and Narrative modes of thought. Paradigmatic thought is logical and scientific; it “makes use of procedures to assure verifiable reference and to test for empirical truth” (Bruner, 1986, p. 13). Narrative thought, however, is harder to define. This mode “strives to put timeless miracles into the particulars of experience, and to locate the experience in time and place” (Bruner, 1986, p. 13). The results of the latter mode of thought can be believable and often involve stories — dramas that can be used in examining psychic reality as actual reality. If paradigmatic thought is
concerned with capturing “what is,” then narrative thought is focused more on “what may be.”

Bruner’s dichotomy is similar in its construction to several other models. Some of these similar models include Spence’s (1989) distinction between narrative truth and historical validity and Epstein’s cognitive-experiential self theory (e.g., Pacini & Epstein, 1999). The narrative process has been suggested as relevant to the nature of creativity (Barclay & Petitto, 1989), but this relationship has not been investigated empirically.

Two possible confounding variables are personality and motivation. A great deal of research has been conducted on personality variables and the creative personality. Creative artists have been found to be more Open to Experience (Zhiyan & Singer, 1997), less Conscientious (Walker, Koestner, & Hum, 1995), and more Neurotic (Feist, 1999). If creative writing students and journalism students differ on personality variables, then it must also be established that thinking styles are not merely a result of these differences. Similarly, Amabile (1996) has found a strong positive relationship between intrinsic motivation and creativity and a negative relationship between extrinsic motivation and creativity. It is unclear how students of creative writing and journalism may differ on their motivation. In addition, it was decided in this study to test a different theory of thinking styles: Sternberg’s (1997) Mental Self Government theory (MSG). The MSG theory comprises three primary thinking styles: Executive, Judicial, and Legislative. Legislative thinkers prefer to create things and to be self-directed. Executive thinkers prefer to follow directions, to carry out orders, and to work under a great deal of structure. Judicial thinkers like to judge and evaluate things.

The central hypothesis is that creative writers and journalists will differ in their thinking styles. Creative writers are predicted to favor Bruner’s Narrative style, and journalists are predicted to favor Bruner’s Paradigmatic style. These differences are predicted to remain significant even when significant personality and motivation differences are controlled.

Two groups of Yale undergraduates participated in this study: creative writers and journalists. For this study, the sample of creative writers was composed of creative writing students at Yale University; students were eligible for the sample if they completed at least one course at an intermediate or higher level in creative writing. Although these courses could extend to writing personal essays, humor, or plays, most of the
participants primarily wrote fiction, poetry, or both. Journalists were defined as students who were writers for at least a full semester for either the *Yale Daily News*, the daily campus newspaper, or the *Yale Daily Herald*, the weekly campus newspaper. Journalists had not taken creative writing classes at the intermediate or higher level in creative writing, and the creative writers had not written for the *Yale Daily News* or *Yale Daily Herald* on a regular basis. Forty-one creative writers (17 male and 24 female) and 40 journalists (26 male and 14 female) participated in this study. Sixty-five of the 81 participants were Caucasian, nine were Asian American, and seven were Hispanic. In addition, four participants were administered the additional measures of personality, motivation, and thinking styles, but were not administered the test of Bruner’s thinking styles. All four participants were student creative writers. Three were female and one was male. Two were Caucasian, one was Asian American, and one was African American.

Participants were recruited through flyers placed around the Yale University campus and through e-mail messages and posts to various student groups. Participants were compensated seven dollars for their time.

Participants were administered the Mental Self-Government Thinking Styles Inventory (MSG-TSI; Sternberg & Wagner, 1991), the Neuroticism Extraversion Openness Personality Inventory — Revised (NEO PI-R; Costa & McRae, 1992), the Work Preference Inventory, College Student Version (WPI; Amabile, 1995), and a measure of Narrative Paradigmatic thought. The MSG-TSI is a series of 21 statements designed to measure a participant’s thinking styles as defined by Sternberg’s Mental Self Government theory (Sternberg, 1997). Participants rate how well each statement describes them on a Likert scale from “1” (“Not at all well”) to “7” (“Extremely well”). Sample statements include “I like to follow definite rules or directions when solving a problem or doing a task,” “I like situations where I can compare and rate different ways of doing things,” and “I like problems where I can try my own way of solving them.” These particular statements, for example, reflect the Executive style, the Judicial style, and the Legislative style, respectively. Each type of thinking style is measured with eight questions answered on a Likert scale ranging from 1 to 7; the minimum possible score would be an 8, while the maximum possible score would be a 56.

The MSG-TSI has been tested and validated extensively; Dai and Feldhusen (1999) tested the MSG-TSI on 96 gifted
students and found evidence for external discriminant validity and partial evidence for internal validity. An early study reported in Sternberg (1994) found significant reliabilities that ranged from .56 to .88, with a median reliability of .78. One particular appeal of the MSG-TSI is its cross-cultural nature. Zhang (1999) validated the MSG-TSI in Hong Kong and found the instrument to have good reliability. Wu and Zhang (1999) found evidence of the test’s reliability and construct validity in a sample of 195 university students.

The NEO PI-R is a series of 240 statements that participants can mark as “Strongly Agree,” “Agree,” “Neutral,” “Disagree,” or “Strongly Disagree.” These statements are designed to measure a participant’s personality traits as defined by the Five Factor theory (McCrae & Costa, 1990). These five factors are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Sample statements include “I often feel tense and jittery,” “I work hard to accomplish my goals,” and “Sometimes I bubble with happiness.” The NEO PI-R has reliabilities ranging from .66 to .92 for the individual facets.

The WPI is a series of 30 statements that participants can mark as “Never true,” “Sometimes true,” “Often true,” and “Always true.” These statements are designed to measure a participant’s preferred motivational style. Sample statements include “I am strongly motivated by the grades I can earn” and “It is important for me to be able to do what I most enjoy.” The WPI has a reliability of .82 for Intrinsic motivation and .76 for Extrinsic motivation (Amabile, Hill, Hennessey, & Tighe, 1994).

To measure Narrative and Paradigmatic thought, participants were given a series of twelve black and white photographs. These photographs were selected from news archives for their ability to be open to multiple interpretations. The students were then asked to write a few sentences for each photograph. Further detail can be found in the Procedure section.

Three raters (who were graduate students at Yale) scored all written photograph responses for all participants. These raters were given information on both thinking styles, and then gave both a Narrative score and a Paradigmatic score. Both scores were given on a 1-7 scale, with “1” meaning “Not at all Narrative” and “Not at all Paradigmatic” and “7” meaning “Very Narrative” and “Very Paradigmatic.” All raters were blind as to the category of the participant and responses were arranged in a random order for each sentence.
Both the Narrative and the Paradigmatic scores were calculated for each participant by adding the three raters’ scores (between 1 and 7) for all twelve photographs; the minimum possible score would be a 36, while the maximum possible score would be 252.

Participants were administered the MSG-TSI, the NEO PI-R, and the WPI. They were given the stimuli for the Bruner styles and were instructed, “Please write a few sentences or a paragraph for each photograph. There are no set rules or expectations; just write whatever you feel should go with each photograph.” After writing sentences for each photograph, participants were debriefed and excused.

This section first presents the inter-rater reliability of Bruner’s Narrative and Paradigmatic thinking styles. Next, Bruner’s thinking styles are analyzed to determine whether and how creative writers differ from journalists. The possible confounding variables of personality and motivation are analyzed, and analyses that control for personality and motivation are conducted. Next, intercorrelations between the two thinking styles are provided. Finally, gender differences are examined.

To investigate the inter-rater reliability of the Narrative and Paradigmatic scores, two intra-class correlations (\(R_i\)) were computed. \(R_i\) is closely related to the kappa statistic, developed by Cohen (1960) and adapted by Fleiss (1971) for use with multiple raters. All of these statistics provide a measure of inter-rater agreement that corrects for a chance level of agreement; however, kappa is appropriate for nominal data whereas \(R_i\) is appropriate for continuously scaled data (D. Cicchetti, Personal communication, January 3, 2001).

The \(R_i\) for the Narrative scores, based on the three raters, was .47 (\(p < .01\)) and the \(R_i\) for Paradigmatic scores was .44 (\(p < .01\)). Pair-wise \(R_i\) coefficients ranged from .36 to .69 (mean = .50) for Narrative and from .22 to .69 (mean = .45) for Paradigmatic; mean values were computed using Fisher’s logarithmic \(z\) transformation.

A number of researchers have suggested criteria for determining the clinical or practical relevance, or “strength of agreement” of \(R_i\) (Cicchetti & Sparrow, 1981; Fleiss, 1981; Landis & Koch, 1977). By these sets of criteria, values in the mid-.40s may be classified as “Fair” (Cicchetti & Sparrow, 1981), “Moderate” (Landis & Koch, 1977), or “Fair to Good” (Fleiss, 1981). According to D. Cicchetti (Personal communication, January 4, 2001), the obtained values of \(R_i\) in this study are acceptable.
ones, no matter which of the three sets of criteria one uses. Therefore, the agreement among the three raters for both of Bruner’s thinking styles, as measured with participants’ responses to 12 pictures, are acceptable for testing the hypotheses addressed in this study.

Table 1 provides the means, standard deviations (SDs), and ranges for the creative writers, journalists, and total sample on the measures of Narrative and Paradigmatic thinking styles. Creative writers earned a mean Narrative score that was 23.4 points higher than the mean for journalists (almost 1 SD), whereas journalists scored 12.2 points higher than creative writers on the Paradigmatic score (about 0.4 SD). Both of these differences are in the hypothesized direction. To determine whether the observed differences are large enough to be statistically significant, a Multivariate Analysis of Variance (MANOVA) was conducted with Gender and Type of Writer (creative writer or journalist) as the independent variables and the Narrative and Paradigmatic scores as the dependent variables. There was no significant main effect for Gender, but there was a significant main effect for Type of Writer \([\text{Rao’s } R (2, 76) = 9.83, p < .001]\) and a significant interaction \([\text{Rao’s } R (2, 76) = 5.54, p < .01]\). The non-significant main effect for Gender indicates that males and females did not differ significantly in their mean scores on either the Narrative or Paradigmatic thinking style. In contrast, the significant main effect for Type of Writer reveals that creative writers and journalists differed significantly on at least one of the Bruner thinking styles. There was also a significant Gender by Type interaction, which indicates that the relationship of Bruner’s thinking styles to type of writer (creative writers and journalists) differed for males versus females.

To further investigate the significant main effect and the significant interaction, univariate ANOVAs were conducted separately for the Narrative and Paradigmatic variables. With Gender and Type of Writer again serving as the independent variables and the Narrative score as the dependent variable, there was no significant main effect for Gender, and there was no significant interaction. There was a significant main effect for Type of Writer \([F (1, 77) = 18.70, p < .001]\). From Table 1, the Narrative mean for creative writers (151.93) was 0.87 SD higher than the Narrative mean for journalists (128.53), a medium effect size (McLean, 1995).

The univariate ANOVA with Paradigmatic score as the dependent variable yielded a significant Gender by Type
Means, Standard Deviations, and Ranges for Creative Writers and Journalists on Bruner’s Narrative and Paradigmatic Thinking Styles.

<table>
<thead>
<tr>
<th>Thinking Style</th>
<th>Creative Writers</th>
<th>Journalists</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>((n = 41))</td>
<td>((n = 40))</td>
<td>((N = 81))</td>
</tr>
<tr>
<td>Narrative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean rating</td>
<td>151.93</td>
<td>128.53</td>
<td>140.37</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>26.70</td>
<td>21.34</td>
<td>26.77</td>
</tr>
<tr>
<td>Range</td>
<td>83 –192</td>
<td>92 –181</td>
<td>83 –192</td>
</tr>
<tr>
<td>Paradigmatic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean rating</td>
<td>120.15</td>
<td>132.33</td>
<td>126.16</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>28.60</td>
<td>32.38</td>
<td>30.95</td>
</tr>
<tr>
<td>Range</td>
<td>79 – 215</td>
<td>79 –192</td>
<td>79 –215</td>
</tr>
</tbody>
</table>

Note: Ratings on the Narrative thinking style can range from 36 to 252. Each participant’s responses to 12 photographs were rated from 1 (Not at all Narrative) to 7 (Very Narrative) by three independent raters. Each participant’s Narrative rating equals the sum of the ratings on all 12 pictures by all three raters. Likewise, ratings on the Paradigmatic thinking style can range from 36 to 252. The three independent raters also rated each participant’s responses to the 12 photographs from 1 (Not at all Paradigmatic) to 7 (Very Paradigmatic).

interaction \([F (1, 77) = 11.17, p < .01]\). Main effects for Gender and Type of Writer were not significant at the .05 level, although the latter main effect came close \((p = .07)\). To better understand the significant Gender by Type interaction, Table 2 presents mean Paradigmatic scores for creative writers and journalists separately for males and females.

Tukey’s Honestly Significant Differences (HSD) test was conducted to compare pairs of mean scores for males and females. As predicted, Journalists earned significantly \((p < .01)\) and strikingly higher Paradigmatic scores than did creative writers for male participants; the difference was 34.33 points, more than 1 SD, which is a large effect size (McLean, 1995). A difference in the opposite direction was observed for females, but the higher mean Paradigmatic score by female creative writers than female journalists (almost 10 points) was not large enough to be significant at the .05 level.
Means and Standard Deviations on the Measure of Paradigmatic Thinking Style, By Gender.

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N  Mean  SD</td>
<td>N  Mean  SD</td>
</tr>
<tr>
<td>Journalists</td>
<td>26 138.96 30.97</td>
<td>14 120.00 32.39</td>
</tr>
<tr>
<td>Creative Writers</td>
<td>16 104.63 20.22</td>
<td>25 130.08 30.95</td>
</tr>
</tbody>
</table>

*Note: Based on the Post-hoc Tukey Honestly Significant Difference (HSD) test, the mean scores for males differed significantly \( p < .01 \), but the difference for females did not reach significance at the .05 level.*

Table 3 presents intercorrelations among the two Bruner and three Sternberg thinking styles. Neither of the two Bruner measures, Narrative and Paradigmatic, were significantly correlated with any of the Sternberg measures (Legislative, Executive, and Judicial). There were significant negative correlations between Narrative and Paradigmatic \( r = -.24, p < .05 \) and between Legislative and Executive \( r = -.29, p < .01 \). These coefficients, even the ones that were statistically significant, are small in magnitude (accounting for less than 9% of the variance). The measures of the two theories of thinking styles produced styles that were distinct and largely independent of each other.

Cohen’s \( d \) (Cohen, 1988) was computed for each Sternberg style (Executive, Judicial, and Legislative) to see if journalists and creative writers differed. Creative writers were significantly
more Legislative and significantly less Executive; these results are presented in Table 4.

<table>
<thead>
<tr>
<th></th>
<th>Creative Writers</th>
<th>Journalists</th>
<th>Diff.</th>
<th>t</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Personality:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>110.8</td>
<td>27.2</td>
<td>89.9</td>
<td>24.1</td>
<td>20.9</td>
</tr>
<tr>
<td>Extraversion</td>
<td>114.0</td>
<td>21.4</td>
<td>120.7</td>
<td>24.6</td>
<td>-6.7</td>
</tr>
<tr>
<td>Openness</td>
<td>144.3</td>
<td>18.5</td>
<td>120.2</td>
<td>23.5</td>
<td>24.1</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>115.2</td>
<td>18.7</td>
<td>111.9</td>
<td>19.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>107.8</td>
<td>23.0</td>
<td>118.4</td>
<td>20.5</td>
<td>-10.6</td>
</tr>
<tr>
<td>Motivation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic</td>
<td>48.8</td>
<td>5.6</td>
<td>46.2</td>
<td>5.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Extrinsic</td>
<td>36.5</td>
<td>6.6</td>
<td>38.6</td>
<td>6.4</td>
<td>-2.1</td>
</tr>
<tr>
<td>Thinking Styles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legislative</td>
<td>5.5</td>
<td>0.7</td>
<td>5.2</td>
<td>0.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Executive</td>
<td>4.1</td>
<td>1.1</td>
<td>4.7</td>
<td>1.1</td>
<td>-0.6</td>
</tr>
<tr>
<td>Judicial</td>
<td>4.6</td>
<td>1.0</td>
<td>4.6</td>
<td>0.9</td>
<td>0.0</td>
</tr>
</tbody>
</table>

* p < .05       ** p < .01

1 For personality variables, N = 39.

Note: Personality variables had a maximum score of 192 and a minimum score of 0. Motivation variables had a maximum score of 60 and a minimum score of 15. Thinking style variables had a maximum score of 7 and a minimum score of 1.

The relationship between thinking styles, personality, and motivation was important to explore, especially to determine whether the significant relationships between thinking styles and type of writer are maintained even when key personality variables are controlled. Creative writers scored significantly differently from journalists on three of the five personality variables (Neuroticism, Openness to Experience, and Conscientiousness) and one of the motivation variables (intrinsic
motivation). A Cohen’s $d$ (Cohen, 1988) was computed for each variable, and these results can be seen in Table 4.

With these significant differences in personality and motivation between creative writers and journalists, it was important to determine whether the significant differences observed for creative writers and journalists on Bruner’s thinking styles maintained even after controlling for the three personality scales and one motivation variable that produced significant differences between the two types of writers. To answer this question, an analysis of covariance (ANCOVAs) was conducted with the Bruner Narrative and Paradigmatic thinking styles as dependent variables and Type of Writer and Gender as independent variables. The three NEO personality variables (Neuroticism, Openness to Experience, and Conscientiousness) and the intrinsic motivation variable served as covariates.

For the Bruner styles, the analysis yielded a significant main effect for Type of Writer \([Rao's R (2, 71) = 3.34, p < .05]\) and a significant Gender by Type of Writer interaction \([Rao's R (2, 71) = 4.65, p < .05]\). The main effect for Gender was not significant. The significant main effect and interaction were followed up with univariate ANCOVAs, separately for the Narrative and Paradigmatic thinking styles, using the same independent variables and covariates as in the MANCOVA.

The results of the ANCOVA for the Narrative thinking style yielded a significant main effect for Type of Writer \([F (1, 72) = 6.14, p < .05]\), with creative writers outscoring journalists even when covarying the effects of four key personality and motivation variables. The analysis of the Paradigmatic thinking style produced a significant Gender by Type of Writer interaction \([F (1, 72) = 9.00, p < .01]\), when covarying three NEO personality variables, exactly mirroring the results of the initial ANOVA. That is to say, even when controlling for personality variables that are known to discriminate between creative writers and journalists, these two groups of writers differ in their thinking styles as follows: male and female creative writers display a Narrative thinking relative to journalists. Male journalists display a Paradigmatic thinking style relative to male creative writers, but this predicted relationship does not hold for females.

Did males and females differ significantly on the Bruner thinking styles? As a main effect in the two MANOVAs that were conducted, Gender was non-significant and none of the $F$ values approached significance. As a main effect in the univariate analyses of Bruner’s thinking styles, Gender was
again non-significant and the $F$ values tended to be trivial in magnitude.

Was there an interaction between Gender and Type of Writer (creative writer, journalist) for any of the measures of thinking styles investigated in this study? Although these interactions were not significant at the .05 level for the Narrative style, the interaction for the Paradigmatic style was significant and striking in its magnitude. The predicted relationship (journalists scoring higher on Paradigmatic than creative writers) was true, with a large effect size for males, even when personality variables were covaried. If anything, the opposite finding emerged for females.

Can Bruner’s thinking styles be reliably measured? Do these styles differ from other thinking styles or from measures of personality or motivation? Are Bruner’s thinking styles a viable way of distinguishing different types of writers? The answers to these questions, with one interesting exception, appear to be “yes.” As predicted, creative writers had significantly higher Narrative scores than did journalists, and male journalists has significantly higher Paradigmatic scores than male creative writers. These scores remained significant when personality and motivation were controlled.

It should first be said, however, that these scores only show a relationship, not causality. An aspiring writing student may be guided by his or her thinking style into the type of writing that he or she pursues. A student may develop a preference for a thinking style after receiving repeated instruction from a given domain (such as journalism or creative writing). Indeed, a student may even “switch” from one dominant style to another if his or her domain encourages it. This study has shown significant associations between the type of writing and thinking style, but no further assumptions can be definitively made.

The gender by type of writer interaction on the Paradigmatic thinking style can now be explored in more detail. The Paradigmatic thinking style variable significantly distinguished between male creative writers and journalists, but did not significantly distinguish between female creative writers and journalists — indeed, the trend was in the reverse direction. How can this finding be explained? Why would the paradigmatic variable be a successful predictor for men, but not for women? Certainly, gender differences in cognition are a common research finding (e.g., Halpern, 1997, 2000), so a significant gender interaction involving thinking styles might be expected.
One reason may be that logical and scientific thinking is a better predictive variable in general for men, but it is less important for women. This reason can be explored through research on the Analytic section of the Graduate Record Examination (GRE). The Analytical section of the GRE is designed to measure analytical reasoning ability and logical thinking (Chalifour & Powers, 1989). These types of abilities are key components of paradigmatic thinking, which is inherently logical and scientific.

Sternberg and Williams (1997) examined the predictive validity of GRE scores with graduate students in psychology. They found that the Quantitative and Verbal scores were not predictive of their abilities (as rated by their professors) in research and teaching. However, the Analytical scores were predictive of these abilities for men. The Analytical scores showed no such predictive power for women. Paradigmatic thinking may be a less important aspect of female cognition than it is in male cognition, and the interaction may simply be a reflection of the lesser degree of importance.

These differences may begin in the brain. Hanlon, Thatcher, and Cline (1999) examined the development of EEG coherence in a sample of normal children. They found that from birth until six years old, females showed EEG coherence peaks in cortical regions associated with language processing, while males showed EEG coherence peaks in cortical regions associated with spatial-visual discrimination and executive planning.

The finding of women favoring language processing and men favoring spatial-visual processing would be consistent with recent studies that focused on gender and math. Gallagher and her colleagues (Gallagher, De Lisi, Holst, McGillicudy-De Lisi, Morely, & Cahalan, 2000; Gallagher, Levin & Cahalan, 2002) found that male students were more successful at matching the appropriate strategy to unconventional math problems than female students. Male students were particularly more successful at solving these problems when they used visual-spatial strategies. This difference in creating successful strategies when confronted with unfamiliar stimuli is one reason why males outperform females on standardized tests of mathematics (Gallagher & De Lisi, 1994). Women tend to not use visual-spatial solutions when confronted with problems they have not seen before; one possibility is that they inherently use verbal solutions.

If this finding is true, then it creates another possible explanation for the present study’s interaction. While male
journalists and male creative writers would approach the sentence-writing task in different ways, female journalists and female creative writers would not necessarily treat the task differently. Even if a female journalist perceived the sentence-writing task from a paradigmatic thinking style, this paradigmatic thought would then be filtered through an inherently narrative perspective. The resulting finding of an effect for men but no effect for women is consistent with this idea (as is the absence of any interaction in Narrative thought).

The other findings of the present study were, by and large, as hypothesized. The variable of narrative thought distinguished between journalists and creative writers, and the variable of paradigmatic thought distinguished between male journalists and male creative writers. The lack of significant correlation between the Narrative-Paradigmatic construct and Sternberg’s three Mental Self Government variables indicates that the Bruner thinking styles are separate entities from the Sternberg thinking styles, and that both styles should be measured for maximum insight into a person’s pattern of thought. The fact that the significant results for the Narrative-Paradigmatic construct remained significant even when controlling for significant personality and motivation differences adds further support to the idea that thinking styles represent a separate construct from personality.

In measuring the Bruner styles, what might be done differently? One possible flaw in the way that the two styles were measured was that while the raters were blind to the condition of the participants, the participants themselves were not — in other words, a journalism student taking part in the study was still aware of why he or she was being recruited for the study, and this knowledge may have unconsciously primed the participant to think and write the way a journalist would. Likewise, the creative writing students in the study may have been trying to “think like a creative writer” when they participated in the study. This phenomenon of participants (consciously or unconsciously) behaving the way they “think” they’re “supposed to” behave, due to the demand characteristics of the experiment, is a common problem in empirical research (e.g., Sharpe & Adair, 1993).

One way of addressing this possible problem — and a potential future study — would be to instruct participants on the distinctions between narrative and paradigmatic thought (much the same way that the raters were trained), and then ask them to write narrative responses for certain items and
paradigmatic responses for other items. These items could then be rated qualitatively. A participant’s thought preference could be determined by the type of thought that consistently produced the best-rated responses. Their thought preference could then be compared to whether they preferred journalistic or creative writing.

One limitation of this study is that the participants were college students. While these were students who had achieved a certain level of experience in either creative writing or journalism, they were not professionals. One future study could administer Sternberg’s MSG-TSI and a test for Narrative and Paradigmatic thought (such as the one used in the present study) to a group of professional journalists and professional novelists. At this higher level, new distinctions could be made among participants. Journalists could be categorized by the type of newspaper work they do—editing, column-writing, beat reporting, etc. Creative writers could be categorized as fiction writers, poets, playwrights, etc. On the other hand, the fact that any differences emerged at all between students, who share a similar environment and are not as ensconced in the field, is notable in and of itself.

Another group that would be interesting to analyze would be professional literary critics and scholars. Would critics and scholars be more Narrative than journalists? Would critics and scholars be more Paradigmatic than creative writers? Would there be a gender effect?

Perhaps this methodology could be applied to another creative domain, such as art. How would artistic painters compare to cartoonists? How would those two groups compare to graphic designers? Early research (Ludwig, 1998) indicated that the style of painting (formal vs. abstract) relates to such variables as mental illness (a painter with an abstract style is more likely to suffer from mental illness). Would thinking style also be a variable to study?

The Narrative thinking style was able to distinguish successfully between creative writers and journalists, and the Paradigmatic thinking style was able to do so in male participants. The failure of the Paradigmatic variable to distinguish female participants could be related to inherent gender differences, the method of measuring the styles, or to the relative inexperience of the sample (college students).

The ability of the Bruner thinking styles to distinguish the two groups of writers is a demonstration of the importance of
using thinking styles in creativity research. While many studies in creativity use such variables as personality and motivation, looking at thinking styles may be one of the best ways to analyze creative artists. The applications beyond creativity research may range from theoretical explorations of gender issues to practical applications in career guidance.

Boswell’s (1989) description of journalists seeking to capture reality accurately (“That’s right”) and creative writers seeking to reflect reality artistically (“That’s beautiful”) captures much of the Narrative and Paradigmatic distinction. Indeed, the very people who are being studied probably understand these differences implicitly and are drawn toward a discipline based on their frame of thought. It is the people who know that they want to write but do not know how they want to write that may be most helped by exploring their own thoughts for the answer.

REFERENCES:


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