This study investigated the differing effect upon creativity of traditional and modern education in the Sudan. The salient characteristics of the two types are presented, with a brief discussion of their likely effects. Four creativity tests, suitably modified for local conditions, were administered to 264 male and female students, with an age range of 15-20 years. The results indicated that the group receiving modern education performed significantly better than the traditionally educated group on two of the four creativity tests, but with equal performance on one test. The traditionally educated group performed significantly better on the fourth test. The discussion suggests there are a number of factors, both sociocultural and methodological, which may account for these findings.

In the Sudan, and perhaps in other similar African, Arab, and Islamic countries, there are two competing sociocultural sectors, the traditional and the modern (Haroun, 1994; Mazrui, 1978; Moghaddam, 1993). The traditional sociocultural system represents the identity, values, norms, and attitudes of most individuals and groups. However, the system has been criticized on the grounds that it puts emphasis on conformity, obedience, imitation, submission, and punishment. Also, it fails to create a set of motives which can lead to much needed development. In contrast, the modern sociocultural system is associated with freedom, independence, technology, and progress. However, it has been criticized that it puts more emphasis on Westernization, competition, and individualism without social responsibility (Arkun, 1990; Ghalyon, 1990; Hanafi, & Al-Gabri, 1991; Khaleefa, & Ashria, 1994, 1995a;
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Sharabi, 1991). The two systems have their crucial impact on education in the Sudan, which has both traditional and modern types (Al-Alwani, 1989; Hassan, 1975; Hourani, 1991).

Each form of education has its own curriculum, goals, advantages and disadvantages. Modern or Western education was often seen as a tool for achieving colonial, capitalistic, and imperial goals (Creed, 1962; Giddens, 1989; Watson, 1982). It has been also criticized on the ground that it creates psychological strain, mental confusion, and spiritual vacuum and hunger (Trimingham, 1965; Watson, 1982). However, regardless of these limitations, it has many advantages: it created the leaders and intellectuals in the state and is characterized by excellence and creativity (Al-Alwani, 1989; Hassan, 1975; IIIT, 1982) which has an impact on economic and political development.

Traditional education has among its goals the shaping of the righteous Muslim (Al-Alwani, 1989; Nasr, 1987; Tibawi, 1972). It achieves the basic needs of the traditional community (Hassan, 1975); it helps toward the full integration of the individual in social and cultural life (Beals, 1977); and it preserves social cohesion and stability (Brown & Hisket, 1975). On the other hand, it has been criticized on many grounds. These include that the system of education is not competitive, and that it encourages authoritarian characteristics in the student-teacher interaction. This system of education usually, sees the teacher as giving and the pupils as receiving (Brown & Hisket, 1975). As a result of the authoritarian characteristics of the teacher-student interaction, the system does not allow any opportunity for questioning. According to Badri (1978) and Greenfield and Lane (1982) children in Africa are discouraged from asking questions. In the Sudan, pupils are not allowed to question their teachers (Abu Bakr, 1992). Another limitation of traditional education is that it relies heavily on memorization, repetition and learning by rote (Tibawi, 1972). Each book is read, sometimes even memorized, and commentary on it is examined (Fisher, 1969). It is important to master the whole text by heart without making a single mistake in pronunciation (Hassan, 1975). As a result of passing through this system, an individual becomes repetitive in his or her thought, lacks the ability to think independently, and has little power for critical assessment (Al-Shahi, 1986).

The level of modernization in the social and cultural system seems to be a powerful factor in fostering or hindering creativity. Torrance (1966, 1969) found that creative ability and
critical thinking are generally influenced by the level of modernization. The more traditional the culture is, the less it encourages the creative expression of its members. The more modern the group is, the higher its members score on creativity. Mari (1983) found that differences in the creative performance of different subgroups in the Arab culture is a linear function of modernization. In the Sudan, Grotberg and Badri (1991) found that cultural emphasis on more modern ideas of thinking and behaving contribute more to creativity than traditional or transitional ideas.

The preceding discussion shows that indigenous or traditional education puts high emphasis on conformity, obedience, and authoritarian relations; that it relies heavily on repetition, memorization and learning by rote; and it is characterized by the lack of questioning, discussion, or analytical and critical assessment. Modernization seems to be a powerful factor in promoting creativity. These generalizations generated two important questions: Does traditional education block the students' creativity more than modern education? Does modern education promote the students' creativity more than traditional education? Inhibiting creativity versus facilitating creativity might not be the opposite sides of the same coin, thus these two separate questions are justified. The aim of the present study is to find answers to these two questions by examining empirically the differences between traditional and modern education in the level of creativity shown by students.

**Method**

Two hundred and sixty participants constituted the sample for the present study. There were 131 male and 133 female students. With an age range between 15-20 years. The average age for boys was 17.8 years and 17.1 years for girls. Three major cities were chosen for the data collection: Khartoum, Omdurman, and Al-Rahad. These cities differ regarding geography, economic activities, the prevalence of the tribal system, and the extent of the urbanization process. Khartoum is the capital of the Sudan, and the most modern and Westernized city in the country. It is located at the confluence of the Blue and the White Nile. Omdurman is located on the West bank of the River Nile. The structure of the population in this city reflects clearly the diversity of most of the Sudanese tribes and the Sufi religious order. It is a traditional city, in comparison with Khartoum. Al-Rahad is located in the Kordofan province in the centre of the Sudan. The majority of the people there are farmers, some are traders and a few are nomads.
around the town. Traditional or indigenous education was represented by two religious institutes: Al-Ma'had Al-'Ilmi for Boys and Al-Ma'had Al-'Ilmi for Girls in Omdurman. Modern or Western education was represented by Al-Khartoum Al-Gadima Secondary School, Al-Rahad Secondary School for Boys and Al-Rahad Secondary School for Girls.

Four creativity tests have been used in the present study:

1. Consequences Test, which was designed by Guilford and Guilford (1980). It consists of 10 items, divided into two five-items sub-tests: Consequences Form A1 and Consequences Form A11. In the present study, Form A1 has been used. The subject’s task is to write down as many responses as possible to each item. The more creative person comes up with an unusually large number of ideas, while the less creative person can think of only one or two.

2. Alternative Uses Test, which is a revised and improved form of the Unusual Uses Test, which was designed by Guilford, Christensen, Merriefield, and Wilson (1978). It consists of two forms: Form B and Form C. Each form is divided into two separately timed parts of three items. Each item represents the name of a well-known object, such as a newspaper, with the statement of its ordinary use. The participants have to list as many as six other, uncommon, uses for the object in the time allowed.

3. Creative Personality Test, which has been prepared by Habib (1990a). It consists of 71 items which assess the personality traits of creative students at both secondary and university level. Each item of the test has five alternative responses and the participant is expected to select one of them. The test has been used for educational and counseling purposes. It consists of items related to independence, adventurousness, individuality, activity, curiosity, responsibility, motivation and freedom.

4. Creative Activities List, which has also been prepared by Habib (1990b). It consists of 81 items which assess the creative activities practiced by students and it is based on verbal creativity. The test has also been used in identifying gifted and outstanding students. There are two responses for each item: Yes and No. Four major aspects were considered in assessing the creative activities: linguistic, scientific, artistic, and social.
All participants were required to have good writing and reading abilities, and to be in school full time. The actual testing was conducted in the period between July and October 1992, taking care to establish rapport with the participants. A stopwatch was used for recording the time. The tests were administered in two sessions. After the distribution of each single test, participants were asked to read the instructions silently while the examiner read them aloud. Participants were instructed to complete the test items in serial order without jumping from one question to another. It was emphasized that there was no correct or right answer. Finally, at the end of each session, participants were de-briefed and thanked for their co-operation by the examiner.

Table 1 shows the t-test for the differences between traditional and modern education in creativity scores. A significant difference was found on creativity as measured by the Consequences Test, favoring modern education. Modern education is associated with higher creativity scores than traditional education as measured by Alternative Uses Test. The Creative Personality Test showed a slight, but not significant, difference favoring modern education. However, the Creative Activities List showed a significant difference in creativity favoring traditional education.

<table>
<thead>
<tr>
<th>Test</th>
<th>Education</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>COT</td>
<td>Traditional</td>
<td>5.16</td>
<td>2.16</td>
<td>.20</td>
<td>-6.31**</td>
</tr>
<tr>
<td></td>
<td>Modern</td>
<td>6.95</td>
<td>2.36</td>
<td>.21</td>
<td></td>
</tr>
<tr>
<td>AUT</td>
<td>Traditional</td>
<td>3.86</td>
<td>1.86</td>
<td>.16</td>
<td>-4.78**</td>
</tr>
<tr>
<td></td>
<td>Modern</td>
<td>5.05</td>
<td>2.17</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>CPT</td>
<td>Traditional</td>
<td>49.97</td>
<td>10.70</td>
<td>.93</td>
<td>-1.64</td>
</tr>
<tr>
<td></td>
<td>Modern</td>
<td>52.06</td>
<td>9.95</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>CAL</td>
<td>Traditional</td>
<td>60.34</td>
<td>8.17</td>
<td>.71</td>
<td>2.20*</td>
</tr>
<tr>
<td></td>
<td>Modern</td>
<td>57.84</td>
<td>10.43</td>
<td>.91</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Traditional (N = 132); modern (N = 132).
COT = Consequences Test, AUT = Alternative Uses Test, CPT = Creative Personality Test, CAL = Creative Activities List. All results presented in two decimal points.
*p < 0.05. **p < 0.001.
The results of the study showed that there are significant differences between traditional and modern education with regard to creativity scores. They generally favor modern education. There are several explanations for these differences. The higher creativity scores of modern educated students could be explained by some demographic differences, such as the modernization, urbanization, and socio-economic status of the family. In the Sudan, modern families are found to be interested in the development of each individual member and to promote increased independence inquisitiveness (Grotberg & Badri, 1991). Other investigators (Khaleefa & Ashria, 1995b, Khaleefa, Taha & Ashria, 1995) have found that Western psychological tests have been found to favor people in urban and modern sectors of society which were created by Westernization and colonization. It is true that our samples, whether modern or traditional, have been selected from urban areas. However, many participants from traditional education were from the outskirts of Omdurman. Furthermore, the modern educated group had a higher socio-economic status.

Possible explanations for the differences between modern and traditional education in creativity scores related to our earlier criticism of traditional education. It produces people of the same quality and outlook, it is not competitive and it emphasizes the significance of conformity, which is found to reduce creativity. Vanderwielde and D’hondt (1983) noted that conformity has a negative value which rules out creativity. Dyk and Witkin (cited in Arasteh & Arasteh, 1976) have found a significantly negative relationship between the child’s degree of differentiation and the degree to which the mother stressed conformity and limited her son’s curiosity. The differences between the two groups might be related to the high level of suppression of initiative in traditional education so that participants could be afraid to give free responses because they fear their teachers. Another possible factor relates to the heavy emphasis on memorization, and learning by rote which are suggested to have negative influence in limiting creativity.

Thus, it is as if traditional education castrates the creativity of its individuals (Khaleefa, 1993). Results of a number of studies including ours question the scope or form of creativity in the traditional sociocultural and educational system. It seems that the low scores of traditional education in creativity are not related only to internal social and cultural factors, but probably to other external factors. In the present study we used the Western concepts and tests to assess creativity in both tradi-
tional or indigenous and modern or Western education. Using these concepts and tools of analysis can cause serious problems when applied to traditional or indigenous education or in assessing psychological functioning like creativity. We agree with Azuma (1984) when he suggested that psychological concepts developed in one culture may be less effective in working with the minds of another culture. The reason such ideas sometimes fail to take root is because they reflect the state of affairs prevailing in a culture in which the science developed. Concepts dealing with phenomena unknown in a culture are unlikely to emerge. It may even include some concepts that distort perception and block a deep understanding when applied to another culture.

The modern education group showed a higher mean in CPT scores, but not significantly and the traditional education group showed higher scores on the CAL. The non-significant difference might be due to the fact that CPT may be less influenced by Westernization or the type of education. The high scores of traditionally educated students on the CAL might be related to the different verbal nature of the creative activities which traditionally educated students are better in performing. In Arab and Islamic culture there is high status for verbal expression and it is a form of “asalah” or originality. The language of the Quran and poems, both religious and secular, are two well established forms of Arabic and Islamic art (Hanafi, 1990). The CON and AUT tests were brought from the USA and they seem to assess cognitive abilities. They might be biased towards modern education because they have been shaped by Western forces. While the CPT and CAL were brought from Egypt with a similar culture to the Sudan and seem to measure personality and verbal activities related to creativity, respectively. Thus, the finding might mean that modern educated students have better cognitive abilities with reference to divergent thinking while traditionally educated ones have better verbal activities. Khaleefa, Erdos and Ashria (1996) have found that Sudanese females scored significantly better than males on CAL. Arab culture is perceived as verbal (Adoneese, 1974). This finding means that both traditional education and females are the most conforming group to the indigenous Sudanese Afro-Arab Islamic culture.

Creativity is a complex and multifaceted human performance. Culture and education are also complex issues and this complexity means that when we find differences in creativity scores it is not easy to explain them. To what should we
attribute the differences in creativity scores between modern and traditional education: Internal or external factors? If they are internal factors, are they related to the modernization of the family, socio-economic factors, urbanization factors, to the high emphasis put by the traditional education on conformity, authoritarian relation, heavy reliance on memorization, and learning by rote? If they are external factors, are they related to adaptation and acculturation to the Western ways of thinking, conceptual factors, methodological factors? The predicament facing cross-cultural psychologists in interpreting the differences in creativity scores is related to the fact that they deal with large and complex variables: “culture”, “education”, and “creativity”. The present study generated further questions that need to be answered: What is the scope available for creative expression in a tight sociocultural system? How could creativity coexist with conformity? What form of creativity can exist in the indigenous sociocultural system?

Using Western concepts or methods of analysis can cause some serious problems when applied to traditional or indigenous education or in assessing psychological functioning like creativity. However, these concepts or methods can be more appropriate within the framework of the modern sociocultural system because it has been shaped by the Western or modern forces. In this case we need to have two different forms of understanding, one form for the traditional sociocultural system and another for the modern one. Here, we agree with Moghaddam and Taylor (1985) who have introduced the concepts of “dual perception” to argue that psychology in the Third World tends to be limited to the modern sector and divorced from the traditional sector of developing societies. UNESCO (1977) emphasizes that different societies must retain their individual characters, drawing their strength from their own innate modes of thought and action, adopting goals consistent with their values, with perceived needs and with the resources at their disposal.

REFERENCES


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