



## Full Length Research Article

### OPENNESS AS A DIMENSION OF PERSONALITY AMONG MONOZYGOTIC TWINS

**\*Poonam Rani and Bimla Dhanda**

I.C. College of Home Science, CCSHAU, Hisar, Haryana – 125004

#### ARTICLE INFO

##### Article History:

Received 14<sup>th</sup> July, 2016  
Received in revised form  
22<sup>nd</sup> August, 2016  
Accepted 16<sup>th</sup> September, 2016  
Published online 31<sup>st</sup> October, 2016

##### Key Words:

Openness, Twins,  
Monozygotic twins,  
Environment,  
Culture.

Copyright©2016, Poonam Rani and Bimla Dhanda. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

#### ABSTRACT

Personality has given us a useful set of very broad dimensions that characterize individual differences in personality structure. This study assessed cultural influences on the openness component of the personality. A pair of 90 twins in the age group of 3-6 years from five cultural zones of state Haryana was taken. The data were analyzed for openness culture wise and yield new insight into the trait. The results revealed that there was a significant cultural difference in openness trait of personality in monozygotic twins. The respondents of Bagar zone had better personality traits against their counterparts.

#### INTRODUCTION

Openness trait of personality is shaped by both genetic and environmental factors; among the most important of the latter are cultural influences. However, culture does not have a deterministic influence or rather; its influence is probabilistic (Stryker & Burke, 2000). Culture is a key determinant of what it means to be a person (Church, 2000; Diener, Oishi and Lucas, 2003; and Triandis and Suh, 2002). Monozygotic or identical twins are the only people in the world who have the same genotype because they share (nearly) 100% of their genes. The Monozygotic twins have more similarity to each other than fraternal twins (Herin, 2006). Despite common genotype persons, it is quite hard to describe individual differences in agreeableness trait. Personality and specific genes responsible for the ubiquitous heritability of personality traits has increasingly become a target for genetic research (Benjamin *et al.*, 2002). Identical and fraternal twins hold the keys to give understanding on personality traits. Identical (monozygotic) twins have essentially the same set of genes, while fraternal (or dizygotic) twins have, on average, a half-identical set. Openness to experience involves curiosity, flexibility, imaginativeness, and willingness to immerse oneself in atypical experiences such as involvement in social experience.

Openness is the breadth, depth, originality, and complexity of an individual's mental abilities (John and Soto, 2008).

#### Objective

The current study aimed to investigate difference level of openness in monozygotic or identical twins and the contributions of possible cultural predictors. The main objective of the study was to assess the openness trait of personality.

#### MATERIALS AND METHODS

The study was conducted in five cultural zones of Haryana state namely Khadar, Bagar, Nardak, Mewat and Ahirwal. A pair of 90 twins (180 twins) in the age group of 3-6 years from different villages was assessed depending upon the availability of the twins were taken as sample. A Five Factor Personality Questionnaire (Cathy, 2011) was used for assessing the personality traits of preschool twins.

#### RESULTS AND DISCUSSION

This study on openness trait of personality has given us a useful set of information regarding cross cultural individual differences in monozygotic twins. Cultural influences through current data showed the comparison of the mean levels of openness in monozygotic twins. The trait openness across five

\*Corresponding author: Poonam Rani

I.C. College of Home Science, CCSHAU, Hisar, Haryana –125004

cultures shown systematic patterns, but significant difference. The highest mean value on openness was found in monozygotic twins of zone Bagar (12.3) followed by Nardak (11.7) then Mewat (11.1). Zone namely; Ahirwal was having least mean value on openness trait for the monozygotic (10.8) as depicted through Table 1.

**Table1. Cultural zone-wise comparison of openness among monozygotic twins (N=180)**

Zones	Openness SD	Mean	F-value
Bagar	12.3	1.9	4.21*
Nardak	11.1	1.9	
Khadar	11.0	1.6	
Mewat	11.7	1.9	
Ahirwal	10.8	1.6	

It is concluded that the respondents of Bagar zone had best openness among their counterparts and monozygotic twins of Ahirwal zone had lowest level of openness. This study provided strong evidence those differences between twins on openness trait were partly determined by genetic but more by cultural factors. Result indicated that openness in monozygotic twins showed significance differences over five cultural zones Fink *et al.* (2005) suggested that identified facial symmetry as a possible correlate of personality, especially for openness, extraversion and agreeableness, but did not find the predicted positive associations between them. Vazsonyi *et al.* (2015) in their multi culture study found that neuroticism was consistently positively associated with extraversion and negatively with conscientiousness. Agreeableness and openness had similar patterns of relationships across the cultures. Both openness and fluid intelligence foster crystallized intelligence which comprise knowledge and derived from the culture (Ziegler *et al.*, 2012).

## REFERENCES

- Bezdjian, S., Raine, A., Baker, L. A. and Lynam, D. R. 2011. Psychopathic personality in children: genetic and environmental contributions. *Psychology Medicine*. 41(3): 589-600.
- Cathy L. Grist, A.S. and David M. M. 2012. A Five Factor Personality Questionnaire for preschool children. *Journal of Personality Assessment*, 94(3): 287-295.
- Church, A.T. 2001. Personality measurement in cross-cultural perspective. *Journal of Personality*, 69, 979-1006
- Fink, B., Neave, N., Manning, J. T. and Grammer, K. 2005. Facial symmetry and the 'big-five' personality factors. *Personality and Individual Differences*, 39:523-529.
- Oishi, S. 2002. The experiencing and remembering of well-being: Across-cultural analysis. *Personality and Social Psychology Bulletin*, 28, 1398-1406.
- Sheldon S. and Peter J. Burke. 2000. Special Millennium Issue on the State of Sociological. *Social Psychology*.63 (4):284-297.
- Vazsonyi, A. T., Ksinan, A., Mikuska, J. and Jiskrova, G. 2015. The Big Five and Adolescent Adjustment: An Empirical Test across Six Cultures. *Personality and Individual Differences*. 83: 234-244.
- Ziegler, M., Danay, E., Heene, M., Asendorpf, J. and Buhner, M. 2012. Openness, fluid intelligence, and crystallized intelligence: Toward an integrative model. *Journal of Research in Personality*, 46:173-183.

\*\*\*\*\*