Assessing the correlation of Machiavellian beliefs, spiritual intelligence and life satisfaction of Iran’s national team athletes (The Iranian national athletes as a Case Study)

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A R T I C L E I N F O

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A B S T R A C T

The aim of this study is to investigate the relationship of Machiavellian Belief, Spiritual Intelligence and life Satisfaction among Iranian National Athletes. Statistical population contains the world and Olympic champions in the selected sports including basketball, volleyball, Kabbadi, Greco-Roman, freestyle wrestling, cycling, shooting, rowing, fencing, and karate therefore 220 people were selected in which 212 of them accepted to cooperate. The data were collected by means of three questionnaires that include: King Spiritual Intelligence (SISIR-24), Diener life satisfaction questionnaire (SWLS) and Machiavellian Believe questionnaire (Mach IV) that consists of 37 questions based on the Likert scale. The scale was 1 to 5, (1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, and 5 = strongly agree). The reliability of the questionnaire was studied with composite reliability (CR). Construct Validity of the scale has been evaluated by confirmatory factor analysis (CFA). Research hypotheses have been tested by structural equation modeling (SEM) in LISREL software. To investigate the relationship between athletes’ Machiavellian Believe and life satisfaction, the Spearman correlation coefficient was used. Spearman correlation coefficient is 0.281 that shows there is a significant relationship between spiritual intelligence and life satisfaction among athletes (p < 0.05). In order to investigate the relationship between Machiavellian Believe and life satisfaction of athletes, Spearman correlation coefficient was used. Based on the results of the test, Spearman correlation coefficient equals to 0.372 that indicates there is a significant relationship between Machiavellian Believe and spiritual intelligence among athletes (p < 0.05). There is a direct relationship among these variables because the calculated correlation coefficients were positive. It is suggested to the managers of sport organizations and events to hold workshops in order to strengthen philosophical attitude and spiritual intelligence among athletes and champions for achieving higher level of life satisfaction.

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1. Introduction

The term “Machiavellian beliefs” originates from the name of Niccole Machiavelli. Machiavelli proposed that others should be regarded as vicious, lazy, and untrustworthy and that a ruler should use cruelty, exploitation, and deceit to maintain power (Walter et al., 2005). Christie (1970) proposed that the Machiavellian worldview had three distinct themes. The first theme involves using manipulative strategies, such as deceit and flattery, in interpersonal relations. The second theme is a cynical perception of others as weak and untrustworthy. The third theme is indifference to conventional morality in thought and action (Fehretal, 1992). Machiavellianism is associated with interpersonal social competition that is concerned with gaining the upper hand (Barber, 1994). In one sense, high Machiavellians can be ideologically neutral, have little emotional involvement in interpersonal relationships, and will shift commitments when it is to their advantage to do so (Mudrack & Mason,
1995). Generally, Machiavellianism refers to the personality trait of making use of others for one’s success (Chen, 2010).

Spiritual intelligence (SI) includes awareness of unity or connectedness with self, others, the community, the earth, and the cosmos. SI is important for individuals who want to explore questions in life, such as Why are we here? and What is our relationship to one another, to the community, and to the universe? (Sisk, 2008). Spiritual intelligence, in general, involves a set of abilities, capacities, and spiritual resources one uses in everyday work life and personal life and can increase a person’s adaptability and problem-solving ability, allowing the person to find meaning and purpose in life events, internal and external health, relaxation, and rejuvenation (Mirzaaghazadeh et al., 2014). Therefore, we can say that spiritual intelligence implies that beliefs and values are central to life. Spiritual intelligence, as an infrastructure of beliefs, has a basic role, particularly in the promotion and provision of mental health.

A positive assessment of life satisfaction includes the emotional, cognitive aspects of one’s life and includes assessing one’s emotional reaction to events and cognitive judgement of satisfaction. Satisfaction with life indicates that the person how to live your life in the whole evaluation and estimation, and there was no assessment on the scope, that person of your life brings to the practice, is focused. The term “consent” can be used to describe a person’s judgement about life in a specific time frame or as an integrated judgement about a person’s life from birth to be defined (Slack, 1998).

Therefore, this study examines the relationship between Iranian national athletes’ Machiavellianism, spiritual intelligence and life satisfaction. Currently, professional and championship sports are an industry concentrated on gaining profit. Athletes’ main goal is to win because others encourage only winners. Furthermore, nobody pays attention to ethics. For this reason, athletes may tend to win by any method (such as doping, illegal wagering, and sport gambling) without considering moral issues (sporting behaviour, ethical behaviour, fair play, and respect for the sport, the participants, and the spectators, etc.). As Machiavelli said, in judging policies, we should consider the results that have been achieved through them rather than the means by which they have been executed. Insisting on winning presents sometimes overwhelming obstacles. Therefore, international and national federations and local authorities and policy makers should consider these complications to keep an appropriate atmosphere in sporting tournaments and events.

2. Methods

2.1. Participants

The statistical population of this study was all national, world and Olympic field champion athletes in the national team camps for basketball, volleyball, Kabbadi, Greco-Roman and freestyle wrestling, cycling, shooting, rowing, fencing, and karate in the Incheon Asian Games at Azadi Stadium in Iran. There were 120 participants.

2.2. Instruments

To collect data for field work, the following questionnaire was used:

Spiritual Intelligence (SI): to assess SI and four factors, including critical existential thinking, which is subdivided into 7 items (e.g., I have often questioned or pondered the nature of reality); transcendent awareness, divided into 7 items (e.g., My ability to find meaning and purpose in life helps me to adapt to stressful situations); personal meaning production, divided into 5 items (e.g., When I experience a failure, I am still able to find meaning in it); and conscious state expansion, divided into 5 items (e.g., I recognize qualities in people which are more meaningful than their body, personality, or emotions).

Life Satisfaction (LS): To measure life satisfaction, we used the SWLS (Diener et al., 1999). The SWLS is a 5-item self-report measure. In the present study, the 5-point Likert scale form was used (1 = strongly disagree to 5 = strongly agree).

Machiavellian Beliefs (Mach): The short version of the Mach IV was used. It has 8 items on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Reliability and validity of variables have been investigated in several studies and in this study, and previous researchers had confirmed the validity and reliability. The composite reliability (CR) was used.

Based on the results of the reliability and validity (Table 1), reliability of all variables is acceptable.

2.3. Analysis

To estimate the parameter and test model fit, the covariance matrix and the maximum likelihood estimation method were used. The overall fit of the model to the data was examined via chi-square test ($\chi^2$). The chi-square test reflects the degree of discrepancy between the observed covariance matrix and the predicted model matrix. A non-significant $\chi^2$ indicates that the model has an acceptable fit to data. However, the chi-square statistic is contingent with sample size (i.e., the larger the sample size, the more likely the rejection of the model, usually larger than 200) and is susceptible to deviations from multivariate normality and model complexity (i.e., the more complex the model, the more likely it is to be a good fit) (Hu and Bentler, 1998; La Du and Tanaka, 1989). Therefore, model evaluation should include the root mean square error of approximation (RMSEA) and the comparative fit index (CFI). RMSEA represents a closeness of fit where values less than 0.05 indicate a good fit and values less than 0.08 represent an acceptable amount of error and thus an adequate fit (MacCollum et al., 1996). Cut-off values of CFI and TLI that are larger than 0.90 are considered the best-fitting models (Hu and Bentler, 1999).

3. Result

3.1. Normality test data

The Kolmogorov–Smirnov test is used to determine the normality of the collected data. As shown in Table 2, most of the statistically significant results are less than the significance level (0.05).

The results of the Kolmogorov–Smirnov test show the test distribution is normal; therefore, we can use Spearman correlation coefficients to test our hypothesis and determine the relationship between the variables.

Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach’s alpha reliability coefficient</th>
<th>Composite reliability coefficient (CR)</th>
<th>Number of questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life satisfaction</td>
<td>0.83</td>
<td>0.80</td>
<td>5</td>
</tr>
<tr>
<td>Machiavellian beliefs</td>
<td>0.71</td>
<td>0.86</td>
<td>8</td>
</tr>
<tr>
<td>Critical existential thinking</td>
<td>0.78</td>
<td>0.78</td>
<td>7</td>
</tr>
<tr>
<td>Personal meaning production</td>
<td>0.72</td>
<td>0.75</td>
<td>6</td>
</tr>
<tr>
<td>Transcendental awareness</td>
<td>0.73</td>
<td>0.74</td>
<td>5</td>
</tr>
<tr>
<td>Conscious state expansion</td>
<td>0.88</td>
<td>0.75</td>
<td>5</td>
</tr>
<tr>
<td>All of spiritual intelligence</td>
<td>0.85</td>
<td>0.90</td>
<td>24</td>
</tr>
</tbody>
</table>

Reliability and validity 1.
3.1.1. Is there any relationship between spiritual intelligence and life satisfaction among athletes?

Spearman correlation coefficients were used to compare relationships between athletes' spiritual intelligence and life satisfaction. Based on the results of correlation test, shown in Table 3, the Spearman correlation coefficient is equal to 0.281, which represents a significant relationship between athletes’ spiritual intelligence and life satisfaction of athletes (p < 0.05). Furthermore, there is a positive correlation coefficient that shows there is a positive, direct relationship between the two variables, so when an athlete's level of spiritual intelligence is increased, life satisfaction increases as well (see Tables 4 and 5).

3.1.2. Is there any relationship between Machiavellian beliefs and life satisfaction among athletes?

We used the Spearman correlation coefficient to investigate the relationship between Machiavellian beliefs and life satisfaction among athletes. As the test results show, the Spearman correlation coefficient is 0.532, which indicates that there was a significant correlation (p < 0.05) between athletes' Machiavellian beliefs and life satisfaction (the calculated correlation coefficient is positive, so there is a direct relationship between these two variables).

3.1.3. Is there any relationship between Machiavellian beliefs and spiritual intelligence among athletes?

The Spearman correlation coefficient was used to measure the relationship between Machiavellian beliefs and spiritual intelligence among athletes. Test outcomes show that the Spearman correlation coefficient is equal to 0.372, indicating that there was a significant correlation (p < 0.05) between athletes' Machiavellian beliefs and life satisfaction (the estimated correlation coefficient is positive, so there is a direct relationship between these two variables) (see Fig. 1).

3.1.4. Confirmatory factor analysis and structural equations

Research hypotheses must first confirm the authenticity of the scale that was used. Factor analysis of the relationship between individual items (questions of the questionnaire) and structures is investigated. In fact, the research hypothesis cannot be based on the questionnaire data that were used. Therefore, to prove that data have been measured correctly, we used precious factor analysis. Based on the results contained in the shape of each of the following indicators to assess the scale of the 5% confidence level used in a t-statistic value is bigger than the 1.96 that shows a significant correlation.

Outcomes of the factor analysis scale are illustrated in Figs. 3 and 4. Observed load factors larger than 0.3 in all items show that some correlation between latent variables (dimensions of each of the main factors) and visible variables is acceptable. After the correlation between variables was identified, we could use a significance test. To assess the significance of the relationship between the variables, t-value statistics were used. Based on the result of Fig. 2, evaluation indicators of each of the scales at the level of 5% of t-value was larger than 1.96, showing a significant correlation between all items.

4. Goodness of fit

One of the public indices to account for free parameters when calculating fit parameters is the normalized chi-square index which is calculated by dividing the chi-square two over the degree of freedom (Schumacher et al., 1998; Klein et al., 2005). Another alternative model was tested with a theoretically drawn modification to the proposed model based on LISREL modification indices. This final model was judged to be a good fit to the data, $\chi^2 = 590.08$.

### Table 2

<table>
<thead>
<tr>
<th>Test</th>
<th>Kolmogorov–Smirnov</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life satisfaction</td>
<td>0.005</td>
</tr>
<tr>
<td>Critical existential thinking</td>
<td>0.062</td>
</tr>
<tr>
<td>Personal meaning production</td>
<td>0.055</td>
</tr>
<tr>
<td>Transcendental awareness</td>
<td>0.004</td>
</tr>
<tr>
<td>Conscious state expansion</td>
<td>0.008</td>
</tr>
<tr>
<td>Mach</td>
<td>0.038</td>
</tr>
</tbody>
</table>

Normality test data (KS) 1.
Note. N = 112. Mach = Machiavellian beliefs. DF = degree of freedom. Sig = significant level.
Normality test data (KS) 2.
Note. N = 112. Mach = Machiavellian beliefs. DF = degree of freedom. Sig = significant level.

### Table 3

<table>
<thead>
<tr>
<th>Statistics correlation</th>
<th>Correlation coefficient</th>
<th>Significant</th>
<th>N</th>
<th>Correlation</th>
<th>Type of relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman</td>
<td>0.281</td>
<td>&quot;0/003&lt;&quot;</td>
<td>112</td>
<td>*</td>
<td>Positive and direct</td>
</tr>
</tbody>
</table>

*0/05sig. **0/01sig 1.

### Table 4

<table>
<thead>
<tr>
<th>Statistics correlation</th>
<th>Correlation coefficient</th>
<th>Sig</th>
<th>N</th>
<th>Correlation</th>
<th>Type of relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman</td>
<td>0.532</td>
<td>&quot;0/003&lt;&quot;</td>
<td>112</td>
<td>*</td>
<td>Positive and direct</td>
</tr>
</tbody>
</table>

*0/05sig. **0/01sig 2.

### Table 5

<table>
<thead>
<tr>
<th>Statistics correlation</th>
<th>Correlation coefficient</th>
<th>Sig</th>
<th>N</th>
<th>Correlation</th>
<th>Type of relationship</th>
</tr>
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<tbody>
<tr>
<td>Spearman</td>
<td>0.372</td>
<td>&quot;0/000&lt;&quot;</td>
<td>112</td>
<td>*</td>
<td>Positive and direct</td>
</tr>
</tbody>
</table>

*0/05sig. **0/01sig 3.
(DF = 319, p < 0.001), CFI = 0.96, RMSEA = 0.029. A considerable improvement in the final model was found in terms of the goodness of fit indices. $\chi^2/df = 590.08/319 = 1.852$.

5. Conclusion and discussion

The present study examined (1) the relationship between spiritual intelligence (existential intelligence, personal intelligences, transcendental awareness, and conscious state expansion) and life satisfaction of Iranian national team athletes; (2) the relationship between Machiavellian beliefs and life satisfaction of Iranian national team athletes; (3) the relationship between spiritual intelligence, and Machiavellian beliefs of Iranian national team athletes; and (4) the relationship between Machiavellian beliefs, spiritual intelligence and life satisfaction of Iranian national team athletes. We designed four hypotheses and tested them by correlation.

The results of hypothesis show that spiritual intelligence has a positive correlation with life satisfaction of national team athletes. The findings of this hypothesis are the same as the results of George (2006), Harmer (2008), Shaw (2008), Spjut (2004), George (2006), Emmons (2000), and Garcia-Zamor (2003). The findings of this research demonstrate a positive and significant relationship between scores of Machiavellian beliefs and life satisfaction of athletes. The results obtained here are just a starting point to encourage future studies, particularly in sport. On the other hand, athletes who have high Machiavellian beliefs can be assumed to have the highest life satisfaction, meaning athletes who possess strong Machiavellian beliefs have a high life satisfaction, which is in accordance with the findings of Sutton and Keogh (2001).

The Spearman correlation coefficient was used to examine the correlation between Machiavellian beliefs and spiritual intelligence among athletes. The results show a significant relationship between these variables. The data conclude that these variables have a positive and significant relationship. Thus, we can suppose that athletes who have considerable Machiavellian beliefs also have spiritual intelligence, and vice versa. However, this correlation may arise from different perceptions the respondents about the concepts of spiritual intelligence or Machiavellian beliefs.

The current study finds a positive and significant relationship between scores of Machiavellian beliefs as measured by Mach IV (Christie and Geis, 1970) and life satisfaction among athletes. The results obtained here are just a start to encourage future research.
particularly in the sports field. This has confirmed by the findings of Sutton and Keogh (2001). Furthermore, there are different perceptions in the community about concepts of Machiavellian beliefs. Despite the negative impression people have of Machiavellian beliefs, a number of authors looked at Machiavellian beliefs as positive (Sheikholeslami, 1989; Law et al., 2011; Sarmast, 2009; Mahmoudi, 2011). Likewise, there are different perceptions about spiritual intelligence. At times, spiritual intelligence has been defined by clear guidelines; in other cases, some researchers mix spiritual intelligence and religion and define it as anything from clear and logical to ignorant and mistaken. Machiavellian beliefs and spiritual intelligence influence cognitive factors, including the interpretation of events and optimism or pessimism. Spiritual intelligence, and lack of it, can have a huge impact on a person’s life. Despite the high rank of Machiavellian beliefs in this population, most researchers and scientists disagree with Machiavelli and accuse him of encouraging harmful behavior and promoting evil. We can say his actions were not suitable; however, they may be appropriate to prevent evil.

Levels of both Machiavellian beliefs and spiritual intelligence were high in our study. This may be because athletes thought that Machiavellian beliefs were an effective tool. Another reason there were high levels of these two variables was that the athletes attributed spiritual intelligence to themselves and ascribed Machiavellian beliefs to others, which means they consider themselves to have high spiritual intelligence but may think this is replaced by Machiavellian beliefs in others. (All people have a malevolent character in some conditions.) Based on Attribution Theory, ascribing of responsibility or grazing behaviour depends on people’s internal and external perspectives. For example, because athletes can win, losses may be attributed to others, such as a referee (Asgardon et al., 2013). Despite the negative impression of Machiavellian beliefs, a number of the writers, such as Sarmast (2009) and Mahmoudi (2001), recently said that Machiavellians...
with positive beliefs have praised their good deeds, and that Machiavellian thinking is appropriate to prevent evil. Further, and athletes may use Machiavellian thinking not just to prevent evil but to help them win, and perhaps that is why life satisfaction was high when Machiavellian thinking was also high.

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