

Original research article

**MYSTICAL EXPERIENCE TO MEASURABLE DESCRIPTION:  
THE RELATIONSHIP BETWEEN SPIRITUALITY AND FLOW  
IN GOLF**

*UDC 796.352.2:130.1*

**Michael Spittle<sup>1</sup>, Rebecca Dillon<sup>2</sup>**

<sup>1</sup>College of Sport and Exercise Science, Victoria University, Melbourne, Victoria, Australia

<sup>2</sup>School of Health Sciences, Federation University, Ballarat, Victoria, Australia

**Abstract.** *Descriptions linking flow experiences and spirituality are quite common in reports of sporting experience by athletes. Both spirituality and flow seem to have transcendent qualities, however, we have a limited empirical understanding of their relationship in sport. This study aimed to examine spirituality as a potential correlate of flow in golf. To investigate this, 93 competitive golfers completed two measures of flow, the Zone Test (ZT) and Dispositional Flow Scale (DFS), and two measures of spirituality, the Spirituality in Sports Test (SIST), and Spiritual Well-being Scale (SWBS). Because researchers have not used the ZT and SIST extensively and they have had limited psychometric validation (Dillon & Tait, 2000), their reliability and validity were assessed. The ZT and SIST were found to have satisfactory internal consistency and validity. The measures of spirituality were not significantly related to the measures of flow, suggesting no relationship between spirituality and flow. Golfers who indicated a religious affiliation reported significantly more spirituality than golfers who identified no religious affiliation, however, there were no significant differences between these groups on flow. Golfers of higher ability reported significantly more flow than golfers of lower ability. Findings are discussed in relation to previous research on spirituality and flow.*

**Key words:** *flow, zone, spirituality, sport, golf.*

INTRODUCTION

Concentration on the shot, action and awareness, and a sense of spirituality are significant factors in Arnold Palmer's description of tournament play in golf:

He's aware of where he is and what he's doing, but his mind is on the playing of the instrument with an internal sense of rightness – it is not merely mechanical, it is not only

---

Received January 15, 2014 / Accepted April 24, 2014

**Corresponding author:** Michael Spittle, Associate Professor

College of Sport and Exercise Science, Victoria University, PO Box 14428 Melbourne, Victoria, Australia, 8001

Phone: 03 9919 9512 • E-mail: michael.spittle@vu.edu.au

spiritual; it is something of both, on a different plane and a more remote one (Palmer, 1973, p. 141).

A description such as this is quite common in reports of sporting experience (Jackson, 1995). Many athletes describe their sporting performances with reference to flow, “being in the zone,” or with an affiliation to a spiritual state. Despite lay writings on flow and spirituality in sport (Murphy & White, 1995), little is known about their relationship.

Flow is conceptualized as an intrinsically enjoyable state that occurs when there is a balance between perceived skills and perceived challenge of the task (Csikszentmihalyi, 1990). Csikszentmihalyi (1990) assembled nine defining characteristics of flow: challenge-skill balance, merging of action and awareness, clear goals, unambiguous feedback, concentration on the task at hand, sense of control, loss of self-consciousness, transformation of time, and autotelic experience. The substantial flow literature has seen it emerge as an imperative factor in sports performance, with empirical research methods and measures allowing researchers to search for correlates of flow. One factor that has been suggested as a correlate of flow is spirituality (Dillon et al., 2000). Research in sport has traditionally held an ambiguous view towards spirituality. This is probably due to the difficulty associated with developing operational definitions of “spiritual” and “well-being”. Seaward (2001) described spiritual well-being as higher consciousness that is developed through an insightful and nurturing relationship with oneself and others, a strong personal value system, and a fulfilling and meaningful purpose in life. This definition highlights personal, interpersonal, and transpersonal qualities.

There are numerous anecdotal accounts of spirituality and flow in sport. A number of these are in the form of lay writings. For example, Murphy (1972) “Golf in the Kingdom,” is a semi-fictional tale about a golf professional, which describes uncanny or mystical experiences in golf. Murphy & White (1995) “In The Zone – Transcendent Experience In Sports,” describes mystical and remarkable things that happen to people in a range of sports. Peck (1999) “Golf and the Spirit,” explores the emotional, psychological, and spiritual aspects of golf. Andrew Cooper’s (1998) “Playing in the Zone: Exploring the Spiritual Dimensions of Sport,” describes sport as a means to open a person to a selfless awareness that allows them to discover deep and joyous spiritual significance. The popularity and positive response to these writings suggests that many participants can identify with these experiences (Murphy et al., 1995).

Some researchers have indirectly tested the relationship between spirituality and flow. For example, Vernacchia, McGuire, Reardon, & Templin (2001) investigated the psychosocial factors that were important in the athletic and personal development of 15 Olympic track and field athletes. Spiritual and religious factors emerged among six of the athletes’ responses to interview questions. Spirituality or beliefs appeared to be important in helping them with the highs and lows of their careers in sport.

An exploratory study by Dillon et al. (2000) was the first of its kind to directly investigate spirituality and flow in sport. Dillon et al. (2000) designed their own instruments to measure spirituality and flow, the Spirituality in Sport Test (SIST) and the Zone Test (ZT). Participants were 62 college students who indicated that they were, or had been members of sports teams, such as soccer, basketball, volleyball, and hockey. Dillon et al. (2000) reported a positive relationship between spirituality and flow in team sports. The study was limited to a small sample of college students, using measures that had no previous psychometric validation, and to a range of team sports. The current study builds on this exploratory work of Dillon et al. (2000) by using a larger sample with established measures. The sample in the current study comprises a wider range of ages of participants and ability levels and focuses on one individual sport rather than a range of team sports.

Thus, the current study aimed to examine the relationship between spirituality and flow in golf, an individual sport. In addition, the study aimed to investigate the extent to which religious beliefs and golfing ability influence flow experience in golfers.

## METHOD

### Participants

Through convenience sampling at golf tournaments, we recruited 93 competitive golfers, encompassing 30 male (32.3%) and 63 (67.7%) female golfers. Descriptive information on the sample is provided in Table 1. The sample comprised a wide age range and a wide handicap range, with most golfers competing at a club level. Over half the sample (55.9%) had participated in golf for more than 10 years.

**Table 1** Participant details

| Age   |    |      | Competition level |    |      | Golf handicap |    |      | Religious affiliation |    |      |
|-------|----|------|-------------------|----|------|---------------|----|------|-----------------------|----|------|
| Range | n  | %    | Level             | n  | %    | Range         | n  | %    | n                     | %  |      |
| 18–24 | 12 | 12.9 | Professional      | 2  | 2.2  | <4            | 12 | 12.9 | None / not specified  | 38 | 40.9 |
| 25–29 | 7  | 7.5  | National          | 2  | 2.2  | 5– 9          | 24 | 25.8 | Catholic              | 23 | 24.7 |
| 30–34 | 5  | 5.4  | State             | 4  | 4.3  | 10–18         | 32 | 34.4 | Anglican              | 13 | 14   |
| 35–39 | 3  | 3.2  | District          | 23 | 24.7 | 19–27         | 21 | 22.6 | Presbyterian          | 11 | 11.8 |
| 40–44 | 5  | 5.4  | Club              | 62 | 66.7 | 28–36         | 4  | 4.3  | Christian             | 4  | 4.3  |
| 45–49 | 17 | 18.3 |                   |    |      |               |    |      | Lutheran              | 2  | 2.2  |
| 50–54 | 9  | 9.7  |                   |    |      |               |    |      | Protestant            | 1  | 1.1  |
| 55–59 | 19 | 20.4 |                   |    |      |               |    |      | Church of Christ      | 1  | 1.1  |
| > 59  | 16 | 17.2 |                   |    |      |               |    |      |                       |    |      |

### Measures

Participants completed a demographic survey and four psychological measures.

*Demographic survey.* We included a demographics survey to attain information about age, gender, religious affiliation, golf handicap, and participation in golf.

*The Zone Test* (Dillon et al., 2000). The ZT attempts to measure being in the zone in sport, derived from descriptions of athletes' experiences (Dillon et al., 2000). It consists of 10 items on a 4-point Likert scale from 1 (*almost never*) to 4 (*almost always*). For the purposes of this study we modified the test to have a 6-point scale from 1 (*never*) to 6 (*always*). We made this modification to allow participants more choice, as some participants may experience the extremes of 'never' or 'always'. We corresponded with the author of the ZT who approved this change. We also needed to alter the phrasing of some items to relate to an individual instead of team sport. A sample item is: "During a round I have experienced the sense that I am completely absorbed in the activity at hand". Possible scores on the ZT range from 10 to 60, with high scores indicating "more" experience of being in the zone and low scores indicating "less". Dillon et al. (2000) reported a Cronbach alpha of .96, supporting the reliability of the ZT and a correlation of .39 with the Athletic Coping Skills Inventory-28, supporting its concurrent validity. In the current study, internal consistency was satisfactory, with a Cronbach's alpha value of .87. Concurrent validity was supported by a significant Pearson's correlation between the ZT and DFS ( $r=.54, p<.001$ ).

*The Spirituality in Sports Test* (Dillon et al., 2000). The SIST is a 10-item test, which has the same 4-point Likert scale as the ZT. As for the ZT, we modified the scale to a 6-point Likert scale from 1 (*never*) to 6 (*always*) and modified the phrasing of several items for individual sport. An example of an item is: "Spirituality or religiosity helps me to deal more positively with my mistakes on the course." We scored the test by summing all 10 items so that possible values range from 10 to 60, with high scores indicating "more" spirituality in sport and low scores indicating "less" spirituality in sport. Dillon et al. (2000) reported a Cronbach alpha of .98, indicating strong reliability, and a correlation of .71 between the SIST and the Spiritual Involvement and Beliefs Scale, supporting its concurrent validity. In the current study, internal consistency of the SIST was satisfactory, with a Cronbach's alpha value of .96 for the scale. The correlation between the SIST and SWBS was  $r=.55, p<.001$ , supporting the concurrent validity of the SIST.

*Dispositional Flow Scale* (Jackson & Marsh, 1996). The DFS measures the frequency with which athletes perceive flow experiences during their main sport or activity (Jackson, Kimiecik, Ford, & Marsh, 1998). It is a 36-item trait measure that is scored on a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). An example of a DFS item is: "Things just seem to happen automatically". The DFS has nine subscales; challenge-skill balance (CS); action-awareness merging (AA); clear goals (CG); unambiguous feedback (UF); concentration on task at hand (CO); sense of control (CN); loss of self-consciousness (SC); transformation of time (TT); and autotelic experience (AT) (Jackson et al., 1998). Internal consistency of the DFS, as assessed by Cronbach's alpha, ranged from .70 to .88 (Jackson et al., 1998). To score the scale, item scores are summed to a total of 180, and 20 for each of the nine subscales. High scores indicate "more" flow experience and low scores "less" flow.

*Spiritual Well-being Scale* (Paloutzian & Ellison, 1982). The SWBS is a general measure of spiritual well-being. The scale consists of 20 items, with response bias taken into account by reverse wording of about half of the items. Participants respond on a 6-point Likert scale ranging from (*strongly agree*) to (*strongly disagree*). The religious well-being (RWB) score is calculated from 10 of the items and refers to one's well-being in relationship to God. An example RWB item is: "I believe that God loves me and cares about me." The existential well-being (EWB) score is calculated from the remaining 10 items and refers to one's perception of life's purpose and satisfaction without any specific religious reference. A sample EWB item is: "I feel that life is a positive experience." An overall SWBS score is calculated by summing the scores for all 20 items. Possible values for the SWBS range from 20 to 120, with high scores indicating "more" spiritual well-being and low scores indicating "less" spiritual well-being. No normative data is available for this scale, however, Ledbetter, Smith, Vosler-Hunter, and Fischer (1991) suggested that one would expect the mean for the RWB and EWB subscales to be close to 35 and the total SWBS mean to be near 70. The SWBS is a well-established scale (Miller, Fleming, & Brown-Anderson, 1998), which has been reported to be reliable and internally consistent (Paloutzian et al., 1982).

### **Procedure**

We obtained ethical approval for this study. We initially made contact with the governing bodies and event administrators or club officials prior to golf competition days to gain approval to administer surveys. We then attended two women's competitions and two men's competitions within a three-week period to administer the questionnaires. Participants were able to complete the questionnaires when they received them or take them away to complete at another time and mail back to the researchers in a pre-paid envelope.

### Data analysis

We first computed descriptive statistics on questionnaire scores. We then tested the reliability and validity of the ZT and SIST using Cronbach's alphas and correlations between ZT and the DFS and between the SIST and SWBS respectively. To examine the relationship between flow and spirituality in sport we conducted Pearson's correlations between the measures of flow (ZT and DFS) and the measures of spirituality (SIST and SWBS). To compare religious and non-religious groups, we split the sample into golfers who identified as religious and golfers who identified as without religious affiliation and then compared their spirituality (SIST and SWBS) and flow (ZT and DFS) scores using independent t-tests. To compare golfers of different ability, we divided the golfers into low and high golf ability groups based on their handicap (high = handicap of 9 or less, low = handicap of 10 or above). This split was based on the common conception of good level golfers being "single digit handicap players", i.e., having a handicap of less than 10. Other studies in sport psychology have used similar cut-offs of handicaps of around ten or less for defining skill level in golf (Gregg & Hall, 2006; Perkins-Ceccato, Passmore, & Lee, 2003; Taylor & Shaw, 2002; Wallace, Otto, & Nevill, 2007). We then compared their scores on the measures of flow (ZT and DFS) using independent t-tests.

## RESULTS

### Descriptive statistics

The means and standard deviations for the psychological variables are shown in Table 2. Mean scores on the flow scales, the ZT and DFS, were towards the low end of the range. The means for the spirituality scales, the SIST and SWBS, also were towards the lower end of the scale. On the SWBS, the RWB subscale means tended towards the middle of the range and the EWB subscale means tended towards the higher end of the range.

**Table 2** Means and standard deviations for the psychological scales

| Scales | M      | SD    |
|--------|--------|-------|
| ZT     | 27.80  | 8.44  |
| SIST   | 22.26  | 11.06 |
| DFS    | 120.94 | 17.71 |
| CS     | 13.02  | 2.56  |
| AA     | 11.90  | 2.75  |
| CG     | 15.57  | 2.52  |
| UF     | 16.32  | 2.58  |
| CO     | 13.22  | 2.63  |
| CN     | 12.41  | 2.76  |
| SC     | 12.16  | 3.18  |
| TT     | 10.62  | 3.30  |
| AT     | 15.71  | 2.57  |
| SWBS   | 80.35  | 15.45 |
| RWB    | 34.97  | 12.74 |
| EWB    | 45.39  | 7.46  |

*Note:* SIST: Spirituality in Sport Test; SWB: Spiritual Well-being; RWB: Religious Well-being; EWB: Existential Well-being; ZT: Zone Test; DFS: Dispositional Flow Scale; CS: Challenge-Skill Balance; AA: Action-Awareness Merging; CG: Clear Goals; UF: Unambiguous Feedback; CO: Concentration on Task at Hand; CN: Sense of Control; SC: Loss of Self-consciousness; TT: Transformation of Time; AT: Autotelic Experience

### Relationship of flow and spirituality in sport

The correlations between the measures of flow (ZT and DFS) and the spirituality measures (SIST and SWBS) were not significant (Table 3). There were significant correlations between the SIST and two subscales of the DFS, sense of control (CN) and transformation of time (TT). There was also a significant relationship between RWB and concentration on task at hand (CO). Although these correlations were all statistically significant, they were not strong, ranging between  $r=.21$  and  $r=.29$ .

**Table 3** Correlations of the psychological scales for spirituality and flow

| Flow Measures | Spirituality Measures |      |       |      |
|---------------|-----------------------|------|-------|------|
|               | SIST                  | SWBS | RWB   | EWB  |
| ZT            | .20                   | -.09 | -.01  | -.17 |
| DFS           | .20                   | .04  | .07   | -.05 |
| CS            | .13                   | -.10 | -.047 | -.14 |
| AA            | .20                   | -.01 | .11   | -.20 |
| CG            | .01                   | -.04 | -.05  | .02  |
| UF            | -.02                  | -.01 | -.06  | .10  |
| CO            | .20                   | .16  | .21*  | -.02 |
| CN            | .25*                  | .07  | .14   | -.08 |
| SC            | .05                   | .02  | -.06  | .14  |
| TT            | .29**                 | .13  | .19   | -.05 |
| AT            | .15                   | -.04 | .01   | -.09 |

\*  $p < .05$ , two-tailed. \*\*  $p < .01$ , two-tailed.

Note: SIST: Spirituality in Sport Test; SWB: Spiritual Well-being; RWB: Religious Well-being; EWB: Existential Well-being; ZT: Zone Test; DFS: Dispositional Flow Scale; CS: Challenge-Skill Balance; AA: Action-Awareness Merging; CG: Clear Goals; UF: Unambiguous Feedback; CO: Concentration on Task at Hand; CN: Sense of Control; SC: Loss of Self-consciousness; TT: Transformation of Time; AT: Autotelic Experience

### Flow, spirituality, and religious affiliation

The means and standard deviations for the religious and non-religious golfers on scores of spirituality and flow are reported in Table 4. There were significant differences between these groups on the measures of spirituality, but no significant differences between these groups on the measures of flow.

**Table 4** Comparison of religious and non-religious golfers on spirituality and flow

|              | Non-Religious Group<br>(n=38) |        | Religious Group<br>(n=55) |        | t-value | p     | d       |      |
|--------------|-------------------------------|--------|---------------------------|--------|---------|-------|---------|------|
|              | M                             | SD     | M                         | SD     |         |       |         |      |
| Spirituality |                               |        |                           |        |         |       |         |      |
|              | SIST                          | 15.37  | 7.75                      | 27.02  | 10.53   | -5.81 | .001*** | 1.23 |
|              | SWBS                          | 71.13  | 11.60                     | 86.73  | 14.61   | -5.49 | .001*** | 1.15 |
| Flow         |                               |        |                           |        |         |       |         |      |
|              | ZT                            | 27.58  | 8.60                      | 27.95  | 8.40    | -.21  | .84     | -.04 |
|              | DFS                           | 121.34 | 20.69                     | 120.65 | 15.52   | .18   | .86     | .04  |

\*\*\* $p < .001$

Note: SIST: Spirituality in Sport Test; SWBS: Spiritual Well-being; ZT: Zone Test; DFS: Dispositional Flow Scale

### Flow and ability of golfer

The means and standard deviations for the high and low golf ability groups on scores of flow are reported in Table 5. There were significant differences between these groups on the measures of flow.

**Table 5** Comparison of high and low ability participants on flow

|      | Low Ability Group<br>(n=57) |       | High Ability Group<br>(n=36) |       | t-value | p                   | d   |
|------|-----------------------------|-------|------------------------------|-------|---------|---------------------|-----|
|      | M                           | SD    | M                            | SD    |         |                     |     |
| Flow |                             |       |                              |       |         |                     |     |
| ZT   | 25.50                       | 7.30  | 31.50                        | 8.90  | -3.54   | .000 <sup>***</sup> | .75 |
| DFS  | 116.28                      | 16.18 | 128.31                       | 17.71 | -3.63   | .000 <sup>***</sup> | .72 |

\*\*\*p<.001

Note: ZT: Zone Test; DFS: Dispositional Flow Scale

## DISCUSSION

The specific intention of this investigation was to extend the existing research by examining spirituality as a potential correlate of flow in sport. Based on previous research (Dillon et al., 2000) and the notion that athletes often make reference to spirituality and flow when reporting on their subjective experiences in sport we expected a relationship between spirituality and flow. However, in this study on golf, we found no relationship between spirituality and flow. We examined differences in spirituality and flow between religious and non-religious groups and expected that the religious group would report higher levels of spirituality. Given the expected relationship between spirituality and flow, we also, therefore, expected higher flow scores for the religious group than the non-religious group. The religious group did report higher levels of spirituality than the non-religious group, but the groups were not significantly different on flow. Based on previous research, we expected higher levels of flow for golfers of a higher ability level and we did find support for this, with higher ability golfers reporting significantly more flow than low ability golfers.

Part of the process of understanding constructs like flow and spirituality involves developing psychometrically valid and reliable assessment tools. Although the scales were altered from the Dillon et al. (2000) study, the reliability of the items in the ZT and SIST were satisfactory and consistent with Dillon et al. (2000) reliability estimates. Concurrent validity of the ZT was supported by a significant correlation with the DFS, however, while the relationship was significant, the correlation was only of moderate strength. Although being in the zone and flow are not exactly the same concept, they would be expected to have a very close relationship (Dillon et al., 2000). This was clearly not the case, so it is likely that, although they measure similar positive states, they are not measuring exactly the same construct. The SIST was related to scores on the RWB subscale of the SWBS, but was not related to the EWB subscale. This might suggest that the SIST is focused towards religiosity rather than purpose in life, given that the RWB focuses on relationship with god, rather than purpose in life, as measured by EWB.

The mean scores for the flow measures (ZT and DFS) and for the spirituality measures (SIST and SWBS) were all at the lower end of the range of scores and quite low in

comparison with the findings of Dillon et al. (2000) and Ledbetter et al. (1991) stated expectations. This may be due to the greater range in ages and ability levels of participants as well as the larger sample in this study, as well as the large number of participants who did not indicate a religious affiliation or indicated that they were non-believers.

The findings did not support spirituality as an antecedent of flow. The results suggest that spirituality is not important to experiencing flow in golf, even though anecdotal accounts of sports experience seem to suggest that the two constructs share similar qualities. In contrast, Dillon et al. (2000) found a significant relationship between spirituality and flow. The difference in findings may be due to the sports selected and the samples used. Dillon et al. (2000) examined team sports as opposed to an individual sport, golf. In addition, Dillon et al. (2000) used a sample of college students. A college student sample does not allow for a broad range of demographic and social backgrounds to be represented in the sample. This study involved a larger sample of participants who were from a range of age groups, from different occupations, and with a diverse range of golfing ability. In addition, scores on spirituality and flow in the current study were towards the lower end of the range. Dillon et al. (2000) conducted their study in the USA and we conducted the current study in Australia, therefore differences may be due to nationality factors and cultural influences.

There was no difference on flow between golfers in the non-religious group and the religious group. The religious group reported higher levels of spirituality. This finding was to be expected, however, the absence of a religious affiliation does not preclude spiritual well-being. Golfers of a higher ability reported a significantly greater amount of flow than did golfers of a lower ability on both the flow measures. Catley & Duda (1997) argued that the better a player is, the more likely they are to perceive a balance between challenge and skills. Previous research has focused more on perceived ability, a subjective measure, whereas for this investigation an objective measure (i.e. golf handicap) was used as an indication of ability level (Catley et al., 1997; Jackson, 1996; Stein et al., 1995).

Sport is not purely rational and mechanical, studies such as this one promote a need to humanize sport and may lead to further investigation into the constructs of flow and spirituality. From this line of research, sport psychologists, athletes, and coaches might consider finding deeper meaning and significance in sport and greater awareness of mind, body, and spirit. Although no relationship was found between spirituality and flow in golf, there was a relationship between flow and golf ability. This suggests that sport psychologists should continue to work with athletes to help them experience positive internal states in sport. The findings from this study have raised more questions than answers. For example, why was no relationship found between spirituality and flow? While theoretically plausible, is the link between spirituality and flow simply non-existent? Extending from Dillon et al. (2000) and the present investigation, further studies could test different samples, comparing team and individual sports to explore whether there is really a relationship between the two constructs or if there is only a relationship for team sports. In addition, a qualitative aspect could be brought into the methodologies adopted. Certainly more research needs to examine psychological antecedents in relation to flow and to further develop research in the area of spirituality in sport.



## REFERENCES

- Catley, D., & Duda, J.L. (1997). Psychological antecedents of the frequency and intensity of flow in golfers. *International Journal of Sport Psychology*, 28, 309-322.
- Cooper, A. (1998). *Playing in the zone: Exploring the spiritual dimensions of sports*. Boston, Massachusetts: Shambhala Publications.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper and Row Publishers.
- Dillon, K.M., & Tait, J.L. (2000). Spirituality and being in the zone in team sports: A relationship? *Journal of Sport Behavior*, 23 (2), 91-100.
- Gregg, M., & Hall, C. (2006). The relationship of skill level and age to the use of imagery by golfers. *Journal of Applied Sport Psychology*, 18, 363-375.
- Jackson, S.A. (1995). Factors influencing the occurrence of flow state in elite athletes. *Journal of Applied Sport Psychology*, 7, 138-166.
- Jackson, S.A. (1996). Towards a conceptual understanding of the flow experience in elite athletes. *Research Quarterly for Exercise and Sport*, 67 (1), 76-90.
- Jackson, S.A., & Marsh, H.W. (1996). Development and validation of a scale to measure optimal experience: The flow state scale. *Journal of Sport and Exercise Psychology*, 18, 17-35.
- Jackson, S.A., Kimiecik, J.C., Ford, S.K., & Marsh, H.W. (1998). Psychological correlates of flow in sport. *Journal of Sport and Exercise Psychology*, 20, 358-378.
- Miller, G., Fleming, W., & Brown-Anderson, F. (1998). Spiritual well-being scale: Ethnic differences between Caucasians and African-Americans. *Journal of Psychology and Theology*, 26, 358-364.
- Ledbetter, M.F., Smith, L.A., Vosler-Hunter, W.L., & Fischer, J.D. (1991). An evaluation of the research and clinical usefulness of the spiritual well-being scale. *Journal of Psychology and Theology*, 19 (1), 49-55.
- Murphy, M. (1972). *Golf in the kingdom*. New York, NY: Delta.
- Murphy, M., & White, R.A. (1995). *In the zone: Transcendent experience in sports*. New York, NY: Penguin Books.
- Palmer, A. (1973). *Go for broke*. New York, NY: Simon & Schuster.
- Paloutzian, R.F., & Ellison, C.W. (1982). Loneliness, spiritual well-being and the quality of life. In L. A. Peplau & D. Perlman (Eds), *Loneliness. A source book of current theory, research and therapy* (pp.223-237). New York: Wiley.
- Peck, M.S. (1999). *Golf and the spirit*. New York, NY: Simon & Schuster.
- Perkins-Ceccato, N., Passmore, S.R., & Lee, T.D. (2003). Effects of focus of attention depends on golfers' skill. *Journal of Sport Sciences*, 21, 593-600.
- Seaward, B.L. (2001). *Health of the human spirit: spiritual dimensions for personal health*. Needham Heights, MA: Allyn & Bacon.
- Taylor, J.A., & Shaw, D.F. (2002). The effects of outcome imagery on golf-putting performance. *Journal of Sport Sciences*, 20, 607-613.
- Vernacchia, R.A., McGuire, R.T., Reardon, J.P., & Templin, D.P. (2000). Psychosocial characteristics of Olympic track and field athletes. *International Journal of Sport Psychology*, 31, 5-23.
- Wallace, E.S., Otto, S.R., & Nevill, A. (2007). Ball launch conditions for skilled golfers using drivers of different lengths in an indoor testing facility. *Journal of Sport Sciences*, 25(7), 731-737.

## MERLJIVI OPISI MISTIČNIH DOŽIVLJAJA: ODNOS IZMEĐU DUHOVNOSTI I TOKA IGRE U GOLFU

*Opisi koji povezuju doživljaj toka igre i duhovnost su česti u izjavama koje sportisti daju. I duhovnost i tok igre imaju transcendentalne odlike, ali ipak se može naći samo ograničen broj empirijskih podataka o njihovom odnosu u sportu. U ovom istraživanju cilj je bio da se istraži potencijalna veza između duhovnosti i toka igre u golfu. U toku istraživanja, 93 aktivnih igrača golfa uradili su dva testa kao mere toka igre, uključujući Zone Test (ZT) i Dispositional Flow Scale (DFS), kao i dva testa mera duhovnosti, Spirituality in Sports Test (SIST), i Spiritual Well-being Scale (SWBS). Pošto ovi testovi prethodno nisu bili korišćeni u nešto većoj meri, i imaju samo ograničenu psihometrijsku validnost (Dillon & Tait, 2000), njihova pouzdanost i validnost su takođe procenjavane. Za ZT i SIST je utvrđeno da imaju zadovoljavajući nivo unutrašnje konzistentnosti i*

*validnosti. Mere duhovnosti nisu u značajnoj meri povezane sa merama toka igre, što ukazuje na to da nema odnosa između duhovnosti i toka igre. Golferi koji su naveli da su aktivni vernici imali su značajno veće vrednosti duhovnosti od golfera koji nisu bili aktivni vernici. Ipak, nije bilo značajnih razlika između ovih grupa u pogledu toka igre. Golferi sa boljim sposobnostima su pokazali značajno veće vrednosti toka igre od golfera sa nižim nivoom sposobnosti. Rezultati su analizirani u odnosu na prethodna istraživanja koja su se ticala duhovnosti i toka igre.*

*Ključne reči: tok, zona, duhovnost, sport, golf.*