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ORIGINAL ARTICLE

Flow and Self-Presentation in Runners Participating in 5 and 10 Kilometer Road Races

Abstract

The purpose of this investigation is to explore the relationship between flow state and self-presentation in runners. It was hypothesized that Self-presentation will be negatively and moderately correlated with the flow experience. A questionnaire packet containing an informed consent form, a demographic information handout, a Race Flow Scale (Modified DFS-2; Jackson & Eklund, 2002), and the Modified Self-Presentation in Sport Questionnaire (SPSQ; McGowan et al., 2008) was administered to 210 male and female runners. The analyses of this investigation are presented in two subsections: descriptive statistics and correlational analyses (including the results of a canonical correlation). It was found that individuals who experience self-presentational concerns are less likely to attain the state of flow. Implications and future research directions are discussed.

Introduction

The thoughts that athletes experience while engaging in a task can influence their emotional state (Hanin, 2000), their safety during that performance (Masters & Ogles, 1998), or even the outcome of that performance (Connolly & Janelle, 2003). The types of cognitions athletes express during an athletic performance can also affect how much the athlete enjoys the task. The link between enjoyment and cognitions can be drawn, in one way, through *flow*. Flow is defined as an optimal psychological state in which an individual experiences complete and total absorption in an activity, which can lead to a number of positive psychological outcomes, such as enjoyment, fun, and even happiness (Csikszentmihalyi, 1990).

According to Csikszentmihalyi (1990, 1996) flow consists of nine dimensions: a balance of challenge and skill, merging of action and awareness, total concentration on the task, loss of self-consciousness, a sense of control, clear goals, unambiguous feedback, time transformation, and autotelic experience. In order for an athlete to achieve the state of flow, these dimensions as well as a certain number of other factors must be balanced, e.g., the athlete must be experience certain thoughts to achieve a state of flow (Jackson and Csikszentmihalyi, 1999).

The fourth dimension, the loss of self-consciousness, touches upon the idea that athletes in flow lose the perception of themselves in the activity. An athlete may completely stop thinking about him or herself and allow for a sense of oneness or unity with the activity or environment to occur.

Thoughts of self-consciousness are one type of cognitions that are thought to affect an athlete's ability to achieve the state of flow. Self-presentational concerns are believed to inhibit the attainment of flow (Jackson & Csikszentmihalyi, 1999). Worries about how competent one appears and what one's appearance looks like tend to detract from focus on performance.

There are a variety of factors and circumstances that influence an individual's self-presentational efforts. First, the "want" or "desire" to create a certain impression on another person is strongly influenced by how relevant, or necessary, it is to create that impression in order to achieve one's goals. This idea was supported by Bohra and Pandey's (1984) research where impression motivation increased when individuals had higher dependency on the target for future outcomes that they may value or desire. Although Bohra and Pandey examined this phenomenon in a business setting, the applicability to a sport setting makes intuitive sense (James & Collins, 1997), as the presence of significant others in the sport setting, such as coaches, judges, and spectators can also motivate athletes to self-present. And sometimes the mere possibility for future interactions with the target is sufficient to increase impression motivation (Schneider, 1969).

How many people see the behavior also influences the motivation an individual has to self-present. Schlenker and Weigold (1992) found that the more public the behavior, the more motivated individuals were to present a desirable impression. If it seems that few people will learn about the positive impression that one has created, then an individual will feel that the effort spent creating the impression may not be worth the little reward he/she may receive in creating it.

Individuals' motivation to self-present is also influenced by how much they value the outcome associated with a given self-presentation. As the value of social, material, and personal outcomes of the interaction increase, so does motivation to self-present (Leary, 1995). The characteristics of the target individual also affect how motivated an individual

may be to self-present. Leary (1995) found that individuals were more likely to be motivated to self-present in front of targets they perceived to be powerful, high in status, and/or attractive.

The discrepancy between the impression one wishes to create and the image currently in place also has an impact on self-presentation. More specifically, the larger the discrepancy between the two, the more motivated the individual will be to self-present (Leary & Kowalski, 1990). For example, if an individual wishes to create an impression of competence amongst his teammates or a group of spectators, but knows he is presently perceived to be incompetent, he may feel strongly motivated to shape his self-presentation to "correct" the earlier impression.

Self-presentation can also be influenced by a number of individual difference factors. According to Leary and Kowalski (1990), individual differences relating to how attuned one is to the perceptions of others, how concerned one is with adhering to social norms, and how fearful of negative evaluation one is, can all effect one's motivation to self-present. These three descriptors seem to line up with Martin, Leary, and O'Brien (2001)'s self-presentation trait motives. They found that individuals who were high in public self consciousness, self-monitoring, and fear of negative evaluation, were more likely to use self-presentation than individuals who scored low on such measures.

Self-presentation is an important factor to consider in the sport scenario because it can influence the affective response one has to competition. Schlenker and Leary (1982) contend that when individuals want to make certain impressions on others, but doubt or fear that they will be unable to do so, they experience social anxiety. The anxiety experienced in sport settings (i.e., sport competition anxiety) may be classified as a particular type of social anxiety (Leary, 1992), as much of the variance in competitive anxiety is accounted for by self-presentational concerns (Wilson & Eklund, 1998). Sport competition anxiety is defined in terms of experiencing apprehension or anxiety in competitive situations (Martens, 1977). Self-presentational examples of sources of competitive anxiety may include appearing unskilled, incompetent, unfit, or unable to handle pressure (James & Collins, 1997). In a study examining male and female athletes from across eleven sports, two-thirds (67.3%) of all sources of stress/anxiety that athletes experienced during performances related to self-presentational concerns in some way (James & Collins, 1997). In addition to these findings fear of negative social evaluation and self-presentation were reported as sources of stress/anxiety in their own rights. Intuitively, it is difficult to imagine experiencing these types of anxieties and still attaining the state of flow.

Jackson (1995) outlined nine main occurrences preventing flow. Among the nine situations described by Jackson in which flow is less likely to occur, situations in which an athlete lack confidence and lack focus make up two of the nine. According to the athletes Jackson interviewed, lacking confidence is very likely to interrupt or prevent flow. If an athlete is critical about him/herself, then not only does he/she lose confidence and offset the balance of skill and challenge, but also loses focus on the task at hand. Lacking optimal focus is another factor that athletes attributed as being preventative and disruptive to flow. If an athlete is not completely absorbed in the activity; and his/her mind is wandering, or is worrying about his/her competitor, then this can be detrimental to attaining a flow state.

Given that self-presentational concerns relate to athletes experiencing decreases in confidence and pulling an athlete's focus away from the competition, it is possible that self-presentational concerns may play a role in preventing the attainment of flow. Although Jackson and Csikszentmihalyi pointed to self-presentational thoughts as some of the types

of thoughts that can inhibit flow, the empirical relationship between self-presentational thoughts and the attainment of the state of flow has never been established.

The focus of the current study is to examine the role of self presentation in one's ability or lack of ability to achieve the state of flow among recreational runners. It is hypothesized that individuals with self-presentation concerns while running will be less likely to experience flow while running.

Method

Participants

Male and female recreational runners (N = 210) aged 18 to 82 years (*M* = 35.49, *SD* =12.55) were recruited to participate in this investigation at road races located in a southeastern region of the United States. The sample consisted of runners participating in either a 5K (80 participants) or 10K (130 participants) road race. At the finish lines of both 5k and 10k road races, participants were asked if they would be willing to complete a few surveys. All participants filled out written consent forms prior to participation in this study.

Instrumentation

Demographic Information. Participants were asked to indicate their age, gender, the time in which they completed either the 5 or 10 kilometer race, and their personal best time at the distance in which they competed in (either 5K or 10K).

Race Flow Scale (Modified DFS-2; Jackson & Eklund, 2002). The 36-item Dispositional Flow Scale-2 inventory was modified to assess individuals' tendency to experience flow state during the course of the race they had just completed. Respondents are asked to rate how often they experienced the given flow characteristic on a scale from 1 = "*never*" to 5 = "*always*". Each item in this inventory is meant to describe one of Csikszentmihalyi's (1990) nine dimensions of flow (i.e. balance of challenges and skills, merging of action and awareness, clear goals, unambiguous feedback, concentration, sense of control, loss of self-consciousness, time transformation, and autotelic experience). Examples of items include, "I am not concerned with how others may be evaluating me" (e.g., loss of self-consciousness subscale), and "I have a sense of control over what I am doing" (e.g., sense of control subscale). The subscales of each of these dimensions have been found to address unique aspects of the flow experience (Jackson & Eklund, 2002). The factorial validity of the original version of the scale was supported by first-order factor loadings ranging from .51 to .83 (*μ* = .73) and correlations among the factor loadings that range from .16 to .73 (median r = .48). Evidence for scale content validity was demonstrated through the examination of relationships between certain related psychological correlates and the flow state, including perceived ability, anxiety, and intrinsic motivation (Jackson, Kimiecik, Ford, & Marsh, 1998). Reliability estimates for the instrument subscales ranged from .78 to .86, with a mean alpha of .82 (Jackson & Eklund, 2002).

The inventory directions were changed for the purposes of the present investigation to orient participants towards the race that they had just participated in, rather than races in general terms. The desired construct of measurement pertained to flow during the race that participants had just run; therefore the instructions of the inventory reflected this change. The directions of the original version of the DFS-2 read "Please answer the following

questions in relation to your experience in your chosen activity. These questions relate to the thoughts and feelings you may experience during the participation in your activity…Think about how often you experience each characteristic during your activity and circle the number that best matches your experience." The modified version used for the present study read "Please answer the following questions in relation to your experience in the race you have just participated in. These questions relate to the thoughts and feelings you may have experienced during the race…Think about how often you experienced each characteristic during the race and circle the number that best matches your experience." The directions of the original version of the DFS-2 also ask the participant to answer the questions "When participating in _____ (name activity)." This has been changed to "While running in the race _____," for the purposes of this study.

Modified Self-Presentation in Sport Questionnaire (Modified SPSQ; McGowan, Prapavessis & Welch, 2008). This questionnaire is comprised of 21 items making up four subscales. The original version of the SPSQ (Wilson & Eklund, 1998) comprised of 33 items designed to measure four self-presentational concerns: appearing athletically untalented, physical appearance, fatigue/lacking energy, and performance composure inadequacies. These four self-presentational concerns made up the four subscales. Wilson and Eklund established that the four SPSQ subscales had adequate internal consistencies with alphas ranging from .90 to .93. Additionally, construct validation was supported through the observation of strong and theoretically meaningful relations between the SPSQ dimensions and competitive trait anxiety (Wilson & Eklund, 1998). The Modified SPSQ contains the subscales: Appearing Athletically Untalented (AAU; 6 items), Physical Appearance (PA; 5 items), Fatigue/Lacking Energy (FLE; 4 items), and Mental Composure Inadequacies (MCI; 6 items). Items are scored on a five point Likert-type scale ranging from "never" to "always". The subscales demonstrate acceptable levels of internal consistency (Cronbach's alpha) with AAU, α = .91; PA α = .89; FLE α = .89; and MCI α = .84. Additionally, the factor loadings for the AAU, MCI, PA and FLE subscales ranged from .65 to .87, .60 to .81, .66 to .80 and .66 to .88, respectively (McGowan et al, 2008). For the purposes of this study, the words "in my uniform" were removed from items 8 and 12, as the participants will not be wearing uniforms. Data was collected at road races where choice of clothing is up to the participant.

Procedure

Approval for the current study was obtained from the Human Subjects Committee of the Institutional Review Board. Upon approval, participants were invited to participate in the study. Participants were approached after 5K and 10K road races at a stationed table near the race-awards table and post-race food tables. As they passed by, individuals were asked by the researcher if they would be willing to fill out a few surveys in a sport psychology research study. Upon agreeing, participants were given the questionnaire packet containing an informed consent form, a form to provide demographic information, the Race Flow Scale (DFS-2; Jackson & Eklund, 2002, and the Modified Self-Presentation in Sport Questionnaire (SPSQ; McGowan et al., 2008). Completion of the survey packet took between 20 and 30 minutes. Once the questionnaire packages were completed they were collected and the participants were thanked for their participation in the study.

Data Analysis

To test the hypotheses that individuals with self-presentation concerns will be less likely to get into flow, a simple Pearson's *r* correlation between the two constructs was run. To elaborate upon the Pearson's *r* correlation findings, a canonical correlation between the SPSQ subscales and the Race Flow Scale subscales was also run. This type of analysis allowed for multivariate examination of relationships among the subscales of the SPSQ and the Race Flow Scale. Correlations of .3 or greater between subscales and the associated canonical variate will be considered meaningful.

Results

The analyses of this investigation are presented in two subsections within this chapter. Descriptive statistics are presented in the first subsection. Correlational analyses are presented subsequently including Pearson r correlation tests and canonical correlation analyses of flow and self-presentation variables.

Descriptive Statistics

Table 1 reports descriptive statistics for the four subscales of the Modified SPSQ and the nine flow subscales of the Race Flow Scale. As presented in Table 1, means for the SPSQ subscales range from 1.51 to 1.94, with Mental Composure Inadequacies being descriptively the lowest endorsed subscale, and Fatigue/Lacking Energy being descriptively the highest endorsed subscale. As the Modified SPSQ is scored on a five point Likert-type scale ranging from "*never*" to "*always*" with a score of 3 being the midpoint response alternative, mean scores of less than two are indicative of relatively weak endorsement of race-related SPSQ self-presentational concerns.

The means for the nine Race Flow Scale subscales range from 3.45 to 4.41, with standard deviations ranging from .61 to .96. Descriptively, the most endorsed of the nine subscales of the Race Flow Scale was autotelic experience, while the least endorsed was time transformation. As the Race Flow Scale was scored on a five point Likert-type scale ranging from "*never*" to "*always*" mean scores ranging from 3.45 to 4.41 are indicative of moderate to high endorsement of race-related experience of flow characteristics.

Table 1. Descriptive statistics for the four subscales of the Modified SPSQ and the nine flow subscales of the Race Flow Scale

Study Variable	Mean	Std. Deviation
SPSQ AppearAthUntalented	1.72	.88
SPSQ PhyApperance	1.63	.85
SPSQ FatigueLackEnergy	1.94	.99
SPSQ MentalCompInadequa	1.51	.69
Flow ChallengeSkillBalance	3.98	.61
Flow MergeActAwareness	3.75	.65
Flow ClearGoals	4.13	.64
Flow UnAmbigFeedback	3.84	.69
Flow Focus	3.56	.76
Flow SenseOfControl	3.78	.68
Flow LossOfSelfConsciousness	3.66	.96
Flow TimeTransformation	3.45	.81
Flow AutotelicExperience	4.41	.58

Correlational Analyses

Total Score Analysis. Total scores for flow and self-presentation were calculated by adding responses of individual items. The total score for flow and self-presentation were correlated using a simple Pearson's r correlation. The Pearson's r correlation between the total scores for flow and self-presentation was r (208) =-.317, $p < .01$. This finding supports the idea that during the race, a tendency to experience more self-presentational concerns was associated with a tendency to experience less flow.

Subscale Score Analysis. The four subscales of the Modified SPSQ, and the nine subscales of the Race Flow Scale were correlated using a simple Pearson's r correlation in order to examine relationships among each of the subscales.

As illustrated in Table 2, the correlations among self-presentation and flow variables ranged from -.02 to -.34. Small to moderate but significant ($p < .01$) negative correlations appeared between SPSQ subscales and many of the flow subscales. Most notably, between SPSQ subscales and the flow subscales of challenge-skill balance and sense of control. Also worth noting are the small and non-significant correlations found between the flow subscales of time transformation and autotelic experience with each of the subscales of the SPSQ.

Table 2. Pearson r correlations between the subscales of the Modified SPSQ and the Race Flow Scale

Study Variable	2	3	4	5	6	7	8	9	10	11	12	13
1.SPSQAppearAthUntalented	.82**	.75**	.79**	-.29**	-.25**	-.19**	-.25**	-.15*	-.30**	-.30**	.11	-.05
2 SPSQPhysicalApperance	1.00	.64**	.74**	-.33**	-.32**	-.23**	-.22**	-.20**	-.34**	-.26**	.05	-.02
3 SPSQFatigueLackEnergy		1.00	.75**	-.22**	-.16*	-.18**	-.19**	-.16*	-.27**	-.24**	.07	-.07
4 SPSQMentalCompInadequ			1.00	-.30**	-.22**	-.23**	-.26**	-.17*	-.29**	-.19**	.11	-.08
5 FlowChallengeSkillBalance				1.00	.49**	.50**	.46**	.51**	.63**	.28**	.12	.45**
6 FlowMergeActAwareness					1.00	.38**	.38**	.43**	.56**	.34**	.17*	.27**
7 FlowClearGoals						1.00	.45**	.51**	.47**	.27**	.12	.50**
8 FlowUnAmbigFeedback							1.00	.50**	.50**	.33**	.03	.25**
9 FlowFocus								1.00	.59**	.35**	.20**	.45**
10 FlowSenseOfControl									1.00	.37**	.05	.41**
11FlowLossOfSelfConscious										1.00	.14*	.23**
12 FlowTimeTransformation											1.00	.17*
13 FlowAutotelicExperience												1.00

**. Correlation is significant at p < .01 (2-tailed).

*. Correlation is significant at p < .05 (2-tailed).

Canonical Correlation. Canonical correlation was performed between a set of nine flow variables and a set of four self-presentational variables. The flow set measured challenge-skill balance, merging of action and awareness, setting clear goals, receiving unambiguous feedback, focus, sense of control, loss of self-consciousness, time transformation, and autoltelic experience. The self-presentational variables measured the degree to which individuals worry about appearing athletically untalented, their physical appearance, appearing fatigued or lacking in energy, and experiencing mental composure inadequacies.

Among the four canonical dimensions possible in this analysis, only the first dimension was significant in the dimension reduction tests (see Table 3). The canonical correlation observed for this dimension was .47. Statistical information on the first canonical variate appears in Table 4. Importantly meaningful percentages of variances were observed to be 71.06% variance for SPSQ variables and 27.12% variance for flow variables (43.94% overlapping variance). The redundancy values reflect that an average of 16.01% of the variance of SPSQ variables is reproducible by flow variables. For flow variables, only 6.11% of the variance is reproducible by SPSQ variables. As the redundancy measure is an appropriate measure of the magnitude of relationships between the two variates, (Alpert and Peterson, 1972) it can be interpreted that only the redundancy of the SPSQ variables is meaningful here. The correlations between the variables and the canonical variate and standardized canonical variate coefficients are also presented in Table 4. Tabachnick and Fidell (2007) indicate interpretation of the canonical correlation

results should rely upon examination of the correlation loadings rather than the coefficient loadings. The standard rule of thumb for meaningfulness in these loadings is that they should equal or exceed an absolute value of .3 (Tabachnick & Fidell, 2007).

Table 3. Tests of Canonical Dimensions for SPSQ and Flow Variables

Dimension	Canonical Corr.	*F*	*df*	*p*
1	.47	2.20	36, 739.99	.001**
2	.24	1.05	24, 574.86	.39
3	.21	.97	14, 398	.49
4	.15	.78	6, 200	.59

** Correlation is significant at the .01 level.

       Using the .3 cutoff, all SPSQ variables loaded meaningfully on the canonical variate (see Table 4). Seven of 9 flow valuables also loaded meaningfully upon the canonical variate with the most strongly correlated being sense of control (-.71), challenge-skill balance (-.70), merging of action and awareness (-.67) and loss of self consciousness (-.60). More moderate loadings were observed for the unambiguous feedback (-.50), having clear goals (-.47), and focus (-.39). The flow variables of time transformation (.16) and autotelic experience (-.06) did not load meaningfully.

Table 4. Correlations, Standardized Canonical Coefficients, Percents of Variance, and Redundancies for SPSQ and Flow Variables

	Variate 1	
SPSQ Variables	Correlation	Coefficient
Appearing Athletically Untalented	.91	.37
Physical Appearance	.98	.72
Fatigue/Lacking Energy	.67	-.07
Mental Composure Inadequacies	.78	.00
Percent of Variance	71.06	
Redundancy	16.01	
Flow Variables		
Challenge-Skill Balance	-.70	-.46
Merging of Action and Awareness	-.67	-.29
Clear Goals	-.47	-.19
Unambiguous Feedback	-.50	.00
Focus	-.39	.13
Sense of Control	-.71	-.28
Loss of Self-Consciousness	-.60	-.39
Time Transformation	.16	.25
Autotelic Experience	-.06	.43
Percent of Variance	27.12	
Redundancy	6.11	
Canonical Correlation	.47	

Also worth noting is the pattern of sign directions of the correlations in the two sets of variables. Specifically, the correlation signs of the SPSQ variables are all in the positive direction, while all (with the exception of the trivial time transformation loading) flow variables are in the negative direction. This type of pattern within the results is meaningful because it reflects an inverse relationship between flow and SPSQ variables. That is to say that, according to these analyses, individuals experiencing greater levels of self-presentational concerns during the race were less likely to experience flow during the race.

Discussion

The types of thoughts that athletes experience during races have implications on various accounts, including emotional state (Hanin, 2000), winning or losing (Connolly & Jannelle, 2003), and enjoyment during the race (Csikszentmihalyi, 1990). While there are many different kinds of thoughts runners can experience thoughts pertaining to how others are perceiving and evaluating the runner were of particular interest in the present study because of their theoretical overlap with the concept of flow. Flow is defined as an optimal psychological state in which an individual experiences complete and total absorption in an activity, which can lead to a number of positive psychological outcomes, such as

enjoyment, fun, and even happiness (Csikszentmihalyi, 1990). The purpose of the present study was to examine the relationship between self-presentation and flow in recreational runners. It was predicted that individuals with self-presentation concerns while running would be less likely to experience flow while running.

In regards to the hypothesis, individuals who experienced self-presentational concerns were found to be less likely to attain the state of flow. This finding supports Csikszentmihalyi (1990)'s contention that in order for an athlete to attain flow, a loss of self-consciousness needs to take place. Although both Csikszentmihalyi and Jackson (Csikszentmihalyi, 1990; Jackson, 1995; Jackson & Csikszentmihalyi, 1999) pointed to self-presentational thoughts as some of the types of thoughts that can inhibit flow, the present study was the first to empirically examine the relationship between self-presentational thoughts and the attainment of the state of flow. Considering that as much as two-thirds of all sources of stress/anxiety that athletes experience during performances may be self-presentational in nature (James & Collins, 1997), self-presentational imperatives may explain, in part, why flow states can be elusive for athletes.

Limitations

Although valuable data were obtained, there are several limitations to the present study..

First, the use of questionnaires to gather self-report data on what runners think about is particularly susceptible to errors in memory recall. Data collection that was completed during the race would have increased external validity.

Second, the validity of the SPSQ for this population of runners may be questioned. Data was gathered on recreational athletes whose motivations to participate may not coincide with experiencing the types of self-presentational concerns measured. That is, many recreational athletes' motivations to participate do not revolve around winning the races they participate in, thus their concern with appearing like competent runners may not be as high as a professional or non-recreational athletes.

Finally, a descriptive correlational design was employed in this investigation and hence the possibility of confounding variables cannot be ruled out. It is possible that the significant relationship found between flow and self-presentational concerns may be able to be explained by a third mediating or moderating variable that was not observed during the present study.

Conclusions and Future Directions

The present study has provided an examination into the relationships between self-presentation and flow, specifically in recreational runners. The results of this study are consistent with assertions by Csikszentmihalyi (1990), Jackson (1995), and Jackson and Csikszentmihalyi (1999) that experiencing self-presentational concerns may inhibit the attainment of flow.

Further research in this area should be focused on implementing research methods that provide the highest validity while recording participants' thoughts. The need to effectively record athletes' thoughts throughout the course of a race, while they are occurring is critical. In addition, few experimental studies examining athletes' thoughts have been carried out. Experimental studies in this area may be able to further explain the circumstances under which athletes have certain thoughts (i.e.) under a certain amount of perceived exertion; under social pressure; or in an open environment. Finally, the assertion that self-presentational concerns inhibit the attainment of flow merits further investigation.

The correlational support obtained in this investigation does not rule out alternative explanations that flow inhibits self-presentational concern, or that some third variable produces the correlational effects between the two variables observed in this investigation.

The current study has provided an adequate foundation for future studies examining the relationship between self-presentational concerns and flow. Further research is necessary, however, to increase our knowledge of this relationships. With increased knowledge of the interrelationships between these two constructs, coaches, sport psychologists, and athletes alike can be offered understanding into the types of thoughts that occur during competition. Sport psychologists can implement programs to educate and help athletes achieve the types of thoughts needed to attain the state of flow. In addition, athletes can learn what kind of self-talk works best for them and how to interpret instruction from coaches in order to facilitate performance.

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