Paraplegia

Self-actualisation of Elite Wheelchair Athletes

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Summary

The purpose of this study was to examine the self-actualisation of male and female elite wheelchair athletes in comparison to the general population and to able-bodied athletes. All subjects completed the Personal Orientation Inventory (POI), and statistically significant differences were identified. In general, wheelchair athletes were similar to the general population. Male wheelchair athletes were significantly more self-actualised than able-bodied athletes, but female wheelchair athletes were self-actualised to the same extent as able-bodied athletes.

Key words: *Wheelchair athletes; Psychological characteristics; Self-actualisation; Comparison with norms and able-bodied athletes.*

As the wheelchair sports movement continues to grow, interest in the psychosocial functioning of its athletes is heightened. Sports are often cited as a viable approach to rehabilitation and to maintenance of good mental health (Jackson and Davis, 1983; Lindstrom, 1980; McCann, 1986; Molnar, 1981; Price, 1986; Sherrill, 1986), but little research has been conducted on the personalities and/or mental health orientations of wheelchair athletes. Szyman (1980) was perhaps the first researcher to show a statistically significant relationship between sports participation and self-concept. Monnazzi (1982) reported that paraplegic athletes were similar to able-bodied (AB) athletes in parameters measured by the Middlesex Hospital Inventory: anxiety, depression, obsession, phobia, and somatisation. Goldberg and Shephard (1982), in a comparison of high and moderately active persons in wheelchairs, reported three significant differences on the Sixteen Personality Factor Questionnaire. The high actives (i.e. wheelchair athletes) were more emotionally stable and venturesome whereas moderate actives were more practical. Recently several researchers (Henschen *et al.*, 1984; Horvat *et al.*, 1986) have examined the mental health of wheelchair athletes in relation to AB athletes and the general population. Findings indicated that wheelchair and AB athletes demonstrated similar psychological profiles and had above average moods when compared to the general population. These findings, however, were based on visual comparison of various profiles rather than documented by statistical analysis.

Clearly additional research in the psychomotor domain is needed on wheelchair athletes. This is particularly important if the sport psychology practices used in AB athlete training and coaching are to be extended to wheelchair sports (Goodling and Asken, 1987; Ogilvie, 1985; Rieder, 1979). Athletes, as well as coaches, are interested in knowing the characteristics that promote learning, growing, and succeeding through sports. Knowledge of such characteristics facilitates goal setting and often serves as motivation in relation to sport training and performance (O'Block and Evans, 1984).

Maslow (1970, 1971) posited a number of characteristics that distinguished self-actualisers from non-self-actualisers. Maslow's list is similar to composites generated by sport psychologists and athletes describing individuals successful in sport (Asken and Goodling, 1986; Nelson, 1987; Silva and Hardy, 1986). Indeed self-actualisation is often cited as a goal and/or an outcome of sport (Gundersheim, 1982; Ibrahim and Morrison, 1976; Magill, 1975). Self-actualisation theory thus seems particularly applicable to the psychosocial study of wheelchair athletes. It is a mental health, rather than a deficit, approach. According to self-actualisation theory, individuals who possess certain beliefs, values, and/or characteristics are most likely to become the best they can be. The characteristics believed to form the personal orientations of self-actualisers are listed in Table I.

Self-actualisation, globally defined, refers to inner drive for self-fulfillment; it is internal motivation 'to become everything that one is capable of becoming' (Maslow, 1970). Shostrom, who developed the psychological inventory used in this study, defined self-actualisation as 'an active process of being and becoming increasingly inner directed and integrated at the levels of thinking, feeling, and bodily response' (Shostrom, 1976).

The purpose of this study was to extend the self-actualisation theory to wheelchair sports, thereby increasing the body of knowledge concerning the psychosocial functioning of disabled athletes. Specifically, the following questions guided this research: (1) Are male and female wheelchair athletes similar in self-actualisation? (2) Are wheelchair athletes similar to the test manual normative adult group? and (3) Are wheelchair athletes similar to able-bodied athletes?

Method

Subjects

Subjects ($N = 68$) for this investigation were 31 male and 12 female wheelchair US athletes who competed in the 1986 Pan American Wheelchair Games in Aguadilla, Puerto Rico; 11 male basketball players comprising the 1987 US team to Belgium; and 14 female basketball players comprising the two finalist teams in the 1987 US National Championships. Ages of the subjects ranged from 16 to 54 years. Mean ages of the males and females were 19.42 and 28.91 years, respectively. Number of years disabled ranged from 3 to 35, $M = 12.33$. Other characteristics of these athletes appear in Table II.

Reference groups

Three reference groups were used. The first was Statistically Normal Adults

Table I Definitions of POI scales

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1. *Time Competence* measures tendency to live in the present rather than the past or future. Time-competent people are able to tie the past and present together in meaningful continuity and are not burdened by guilts, resentments, and regrets from the past. Their aspirations are related to present goals, and they have faith in the future without being rigid or over-idealistic (23 items).
 2. *Inner-directedness* measures the extent that persons are guided by internal motivations rather than external influences. Such persons are autonomous or independent; they have liberated themselves from rigid adherence to social pressures and expectations (127 items).
 3. *Self-actualising Value* measures affirmation of the primary values of self-actualising people. These values include autonomy, self-determination, willingness to risk being oneself, self-confidence; affirmation of the basic goodness of self, life, and humankind; ability to fuse sex and love, spirituality and sensuality, kindness and ruthlessness, work and play; dedication to one's work; high powers of concentration; problem-centeredness; accurate perception of and acceptance of reality; enjoyment of detachment and privacy; increased capacity for peak experiences and/or emotional/aesthetic highs; and spontaneity, naturalness, and simplicity (26 items).
 4. *Existentiality* measures ability to react situationally without rigid adherence to principles (32 items).
 5. *Feeling Reactivity* measures sensitivity of responsiveness to one's own needs and feelings (23 items).
 6. *Spontaneity* measures freedom to react spontaneously to one's own needs and feelings and the ability to be oneself (18 items).
 7. *Self-regard* measures affirmation of self because of worth or strength (16 items).
 8. *Self-acceptance* measures affirmation of acceptance of self in spite of weaknesses or deficiencies (26 items).
 9. *Nature of Man* measures the degree of the constructive view of the nature of masculinity/femininity (16 items).
 10. *Synergy* measures the ability to transcend dichotomies, to see opposites of life (like work and play, winning and losing) as meaningfully related (9 items).
 11. *Acceptance of Aggression* measures the ability to accept one's natural aggressiveness as opposed to defensiveness, denial, and repression of aggression (25 items).
 12. *Capacity for Intimate Contact* measures the ability to develop contactful, intimate relationships with other human beings. These relationships are unencumbered by expectation or obligation (28 items).
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Adapted from Shostrom, 1974.

($N = 158$), the group whose means and standard deviations are presented in the POI test manual (Shostrom, 1974) and recommended for use in comparative studies. This reference group includes both males and females. The second was Male Able-bodied Athletes ($N = 265$), a statistical composite developed from the research of Magill (1975), Ibrahim and Morrison (1976), Gundersheim (1982), and Hardy (1986). The third was Female Able-bodied Athletes ($N = 134$), a statistical composite developed from the research of Schmitt (1974), Ibrahim and Morrison (1976), and Gundersheim (1982).

Instrument

Self-actualisation was measured by the Personal Orientation Inventory (POI) of Shostrom (1974). This self-report instrument consists of 150 bipolar items derived from the self-actualisation writings of Maslow (1970, 1971). Scores are yielded for two major scales and 10 subscales (Table I).

Extensive research has been conducted on the validity and reliability of the POI (Buros, 1978; Tosi and Lindamood, 1975). Construct validity is verified by the

Table II Characteristics of wheelchair athletes

Characteristics	Males		Females	
	n	%	n	%
Disability				
Spinal cord injured	35	77.8	13	56.5
Amputee	2	4.4	2	8.7
Other	8	17.8	8	34.8
Number of years disabled				
1-5	8	17.8	4	17.4
6-10	13	28.9	5	21.7
11-16	11	24.4	5	21.7
17-21	10	22.2	5	21.7
22-35	3	6.6	4	17.4
Sport classification				
^a ISMGF I	12	26.7	2	8.7
ISMGF II	8	17.8	2	8.7
ISMGF III	5	11.1	2	8.7
ISMGF IV	3	6.7	3	13.0
ISMFG V & VI	3	6.7	3	13.0
Basketball, ISMGF I	2	4.4	3	13.0
Basketball, ISMGF II	7	15.6	4	17.4
Basketball, ISMGF III	5	11.1	4	17.4
Sport specialisation				
Track	15	33.3	6	26.1
Basketball	14	31.1	11	47.8
Swimming	6	13.3	3	13.0
Other	10	22.2	3	13.0
Elite athlete status				
First place winner	24	53.3	16	69.6
Not first place	21	46.7	7	30.4

^a ISMGF refers to International Stoke Mandeville Games Federation, the governing body for international wheelchair sports.

ability of the inventory to discriminate statistically between groups clinically nominated as self-actualised, normal, and non-self-actualised (Fox *et al.*, 1968; Shostrom, 1964; Shostrom and Knapp, 1966). Concurrent validity has been demonstrated by expected relationships between selected POI scales and other psychological instruments: the Minnesota Multiphasic Personality Inventory (Shostrom and Knapp, 1966); the Sixteen Personality Factor Questionnaire (Meredith, 1967); the California Psychological Inventory (Martin *et al.*, 1981); and the Eysenck Personality Inventory (Karle *et al.*, 1981). The stability coefficients are above 0.75 on all scales except Self-Actualising Value (0.74), Nature of Man (0.69), and Synergy (0.50) (Wise and Davis, 1975). Test-retest reliability coefficients are similar to those reported for the Minnesota Multiphasic Personality Inventory (Ilardi and May, 1968).

A particular strength of the POI is its resistance to faking or response distortion, a problem that plagues many self-report instruments. Many research studies have documented this strength (Abbott and Harris, 1973; Braun and LaFaro, 1969; Foulds and Warehime, 1971; Steilberg, 1976).

Results and discussion

Self-actualisation profiles of male and female wheelchair athletes in relation to the test manual adult normative reference group (i.e. the 50 T-score line) appear

Figure Self-actualisation profiles of male and female wheelchair athletes in relation to adult normative sample in test manual (i.e. the standard score line of 50).

in the Figure. Although visual inspection indicates some gender differences, independent t-tests revealed no significant differences between male and female wheelchair athletes on any of the 12 scales.

When using profiles to present research findings, it is important that visual comparison be verified by statistical tests of significance. The Figure, for instance, shows a number of differences between athletes and the test manual normative sample but most of these are chance or non-significant. The major value of profiles thus is to help identify overall trends and/or strengths and weaknesses. The Figure shows that wheelchair athletes tend to excel in Self-actualising Value, Spontaneity, and Self-regard but exhibit weakness in Self-acceptance. To ascertain that these visual observations are valid, it is necessary to study Tables III and IV.

Table III reveals that, in comparison with the test manual normative group, male wheelchair athletes were significantly different on four scales (Self-actualising Value, Spontaneity, Self-regard, and Self-acceptance) whereas female wheelchair athletes were significantly different on only one (Spontaneity). In terms of the self-actualisation theory, the greatest strength of wheelchair athletes is Spontaneity, the ability to express feelings and to act spontaneously and holistically rather than trying to think and do as society dictates. This value orientation is consistent with Socrates' exhortation: 'Be thyself'. Male wheelchair athletes, but not females, had

Table III Comparison of wheelchair athletes with test manual reference group and able-bodied athlete reference group

POI scales	Norm group		AB athlete group	
	t	p	t	p
Time competence				
Males	-0.92	0.37	4.86	0.01*
Females	-1.10	0.28	0.12	0.89
Inner-directedness				
Males	-0.18	0.86	4.29	0.01*
Females	-0.25	0.81	1.06	0.30
Self-actualising value				
Males	3.56	0.01*	4.03	0.01*
Females	0.68	0.50	0.27	0.79
Existentiality				
Males	-1.91	0.06	4.36	0.01*
Females	-1.72	0.09	0.98	0.34
Feeling reactivity				
Males	0.03	0.98	0.89	0.38
Females	0.80	0.44	0.77	0.45
Spontaneity				
Males	4.76	0.01*	2.35	0.02
Females	4.03	0.01*	1.80	0.09
Self-regard				
Males	4.44	0.01*	3.91	0.01*
Females	2.48	0.02	2.52	0.02
Self-acceptance				
Males	-5.28	0.01*	2.10	0.04
Females	-1.78	0.09	1.13	0.27
Nature of man				
Males	0	1.00	3.77	0.01*
Females	-0.53	0.60	0	1.00
Synergy				
Males	-0.77	0.45	3.10	0.01*
Females	-1.09	0.29	-0.37	0.72
Acceptance of aggression				
Males	0.43	0.67	1.15	0.26
Females	0.45	0.66	0.83	0.42
Capacity for intimate contact				
Males	-0.04	0.97	3.45	0.01*
Females	-0.19	0.85	4.04	0.01*

* Significant at 0.01 level or less

significantly higher Self-regard and lower Self-acceptance than the normative adult reference group. This finding is similar to research on AB male athletes (Magill, 1975) and cerebral palsied male athletes (Sherrill and Rainbolt, 1988). Athletes value themselves for attributes but are less able than the normative reference group to accept themselves as they are, in spite of weaknesses or limitations. This split in feelings toward self is sometimes manifested in compulsiveness, overcompensation, anxiety, and/or stress as a person works harder and harder to overcome personal deficits as a prerequisite to self-regard.

The significantly higher score on Self-actualising Value indicates that male wheelchair athletes tend to live by and hold the values described by Maslow (1970, 1971) as characterising self-actualising persons. According to Shostrom (1976), such persons are more fully functioning and integrated (i.e. less split) than the

Table IV Means and standard deviations for wheelchair athletes and appropriate reference groups

POI scales	Wheelchair athletes		Normal adults ^a N = 158	Able-bodied athletes	
	Males N = 45	Females N = 23		Males N = 265	Females N = 134
Time competence	<i>17.3</i> 2.9	<i>16.9</i> 3.5	<i>17.7</i> 2.8	<i>15.2</i> 3.0	<i>16.8</i> 2.8
Inner-directedness	<i>86.9</i> 10.0	<i>86.6</i> 12.2	<i>87.2</i> 13.6	<i>80.5</i> 9.7	<i>83.9</i> 10.3
Self-actualising value	<i>21.5</i> 2.5	<i>20.7</i> 3.5	<i>20.2</i> 3.0	<i>20.0</i> 2.8	<i>20.5</i> 2.7
Existentiality	<i>20.7</i> 4.0	<i>20.4</i> 3.9	<i>21.8</i> 5.1	<i>18.1</i> 3.9	<i>19.6</i> 4.3
Feeling reactivity	<i>15.7</i> 3.0	<i>16.2</i> 3.1	<i>15.7</i> 3.3	<i>15.3</i> 2.9	<i>15.7</i> 3.0
Spontaneity	<i>13.0</i> 2.0	<i>13.6</i> 2.4	<i>11.6</i> 3.0	<i>12.3</i> 2.5	<i>12.7</i> 2.4
Self-regard	<i>13.6</i> 2.4	<i>13.0</i> 1.9	<i>12.0</i> 2.7	<i>12.2</i> 2.2	<i>12.0</i> 2.2
Self-acceptance	<i>14.6</i> 3.2	<i>15.8</i> 3.4	<i>17.1</i> 4.0	<i>13.6</i> 3.5	<i>15.0</i> 3.8
Nature of man	<i>12.4</i> 1.6	<i>12.2</i> 2.1	<i>12.4</i> 1.9	<i>11.5</i> 2.5	<i>12.2</i> 2.1
Synergy	<i>7.2</i> 1.3	<i>7.0</i> 1.3	<i>7.3</i> 1.2	<i>6.6</i> 1.8	<i>7.1</i> 1.3
Acceptance of aggression	<i>16.8</i> 3.5	<i>18.7</i> 2.9	<i>16.6</i> 3.7	<i>16.2</i> 3.2	<i>16.4</i> 3.2
Capacity for intimate contact	<i>18.8</i> 3.5	<i>18.7</i> 3.8	<i>18.8</i> 4.6	<i>17.0</i> 3.1	<i>15.5</i> 3.8

Note. Means are italic print; standard deviations are regular print.

^a Test manual normative data do not separate males and females.

general population. In general, male wheelchair athletes demonstrate the directed, focused, positive psychological set that characterises AB Olympic-level contestants (Silva and Hardy, 1986; Silva *et al.*, 1985).

In comparison with the AB athlete reference group for the POI, male wheelchair athletes scored significantly higher on 8 of the 12 scales. Areas in which there were no significant differences were Feeling Reactivity, Spontaneity, Self-acceptance, and Acceptance of Aggression. This tendency for male disabled athletes to score higher on psychological measures than AB athletes has also been documented for cerebral palsied athletes on the POI (Sherrill and Rainbolt, 1988) and for wheelchair athletes on the Profile of Mood States (Henschen *et al.*, 1984; Horvat *et al.*, 1986). Several hypotheses for this finding might be posited. One, the athletes in this study were all of international calibre, and most had had several years of international competitive experience. In contrast, the AB athlete reference group for the POI was less elite. Another hypothesis is the 'growth through adversity' concept advanced in mental health literature (Aguilera and Messick, 1978; Green *et al.*, 1984). It may be that psychological growth results from overcoming the problems associated with disability.

Female wheelchair athletes in the present study were similar to AB athletes. There was a significant difference in only one area (Capacity for Intimate Contact), and this favoured the wheelchair athletes.

Conclusion

Based on the findings of this study, male and female wheelchair athletes are similar to each other and to the general population in self-actualisation. Out of 12 self-actualisation measures, there were no significant differences between wheelchair athletes and the general population on 8 measures for males and 11 measures for females. Differences, with one exception, favoured wheelchair athletes, indicating a tendency toward greater self-actualisation (at least in the areas of Self-actualising Value, Spontaneity, and Self-regard) than the general population. Furthermore, male wheelchair athletes are significantly more self-actualised than male AB athletes, but female wheelchair athletes are similar to their AB counterparts.

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