

## **Goal orientation, self-theories and reactions to success and failure in competitive sport**

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### **Abstract**

This study focuses on how sport participants in general react to success and failure in competitive sport. Eighty (80) respondents who compete in sport on international, national, provincial and school level were used for this study. Data were collected by employing the Task and Ego Orientation in Sport Questionnaire (TEOSQ), the Self-Theory Questionnaire that measured if the participants have a fixed- or growth mindset, as well as a questionnaire that was specifically developed to determine the participant's reaction to success and failure. Descriptive statistics as well as inferential statistics were used to determine significant correlations between the psychological constructs and significant differences between the different levels of participation. The results indicated that the participant's reaction to success and failure is much more positive than negative. In terms of how ego- and task orientation relate to the participant's reaction to success and failure, it was found that task orientation and the growth mindset relate strongly to a more positive reaction to success and failure. The role of the different levels of participation on the reaction to success and failure showed surprisingly that respondents, who participate at school and provincial levels showed a more positive reaction to failure than those who compete on a national and international levels.

**Key words:** Goal orientation, self-theories, success, failure, reactions.

### **Introduction**

A massive amount of research has already been done in the ambit of goal orientation and self-theories in sport (Dweck, 2000; Roberts & Ommundsen, 2007). The research over the last two decades pertaining to the crucial dimensions of goal orientation and self-theories in sport have not only contributed to a fuller understanding of motivation in sport, but has developed to such a high level of research that contributed significantly to establish a high quality body of knowledge. This has led to the construction of independent theories that can facilitate and increase the generation of more knowledge in this important area. In a literature review, a specific lack of knowledge pertaining the participant's reaction to success and failure were identified. This specific research was undertaken to determine the relation between goal orientation and self-theories on the participant's ability to cope with success and failure.

Success and failure in competitive sport play a crucial role in terms of motivation and overall well-being of the sport participant. The major problem in competitive sport is that there can only be one winner and Donaldson, the play expert, underpins the problem in his article *Play to win and every victory is a funeral*. In this article, he analyses the problem that there can only be one winner and if success is only associated with winning, then the rest of the participants that did not win, experience failure (Donaldson, 1984). It is therefore crucial that the definition and perception of success and failure in sport must go beyond the narrow identification with only winning where there is a belief that being number one is the only

trademark of success. The massive amount of research that was done by Duda (1993) and Roberts and Ommundsen (2007) has elevated this problem by broadening and enriching the perceptions of success and failure in sport. The essence of task orientation is to improve, gain new skills, a desire to learn and to meet the demands of the task. The ego orientated participant is in sharp contrast with the task orientated participant in the sense that the ego orientated participant has a preoccupation with showing superiority and rather prove himself instead of improving, as well as the perception that the ultimate success in sport is to beat the opponent with the least effort (Duda, 1993). A recent overview of the extreme importance of a high task orientation in sport is condensed in the following statement by Roberts and Ommundsen (2007: 168):

*“When participants perceive mastery criteria (high in task orientation) to be operative in the sport context, motivation is optimized, participants are invested in the task, persist longer, performance satisfaction and enjoyment are enhanced, peer relationships are fostered, cheating is lessened, burnout and dropout are reduced and athletes feel more positively about themselves”*

Taking this statement as representative of the vast amount of research that supports this statement, it will be reasonable to argue that high task orientation will certainly improve the ability to react and cope more positively with success as well as failure.

Another crucial factor that interacts significantly with success and failure in sport is the perceptions of the participant's sporting ability, which is also called self-theories (Dweck, 2000; 2005). There are basically two perceptions of your own sporting abilities, namely the entity theory or fixed mindset versus the incremental theory or growth mindset. The entity theory or fixed mindset is displayed when individuals believe that they have an unchanging ability. This means that they have a certain talent and irrespective of whether they learn a skill or not, the talent remains the same. The incremental theory or growth mindset is in contrast with the entity theory where individuals with an incremental theory believe that they can grow and constantly develop their abilities. They also believe that through learning and practising they can become more competitive by improving their talents. Participants in the growth mindset believe that although you have natural talent for a specific activity, there is always the possibility to cultivate and improve if sufficient effort is put into the activity (Dweck, 2000; 2005).

Taking the massive amount of research on self-theories into account, it is also reasonable to argue that sport participants who have been measured high on the growth mindset will certainly react more constructively to success and failure in their competitive sport.

The role of the different levels of performance has not received sufficient interest in terms of research. In an electronic search, there were no results on this research topic. The notion exists that more positive reactions to success and failure are linked with higher levels of sport participation. For example, sport participants on a national and international level should be able to handle success and failure in a more constructive way due to their level and preceding experience in sport. This hypothesis has not yet been tested. The gravitational hypothesis

theory suggests that those participants with appropriate dispositions for example assertiveness, tough minded, self-confident are the people that survive the adversities like failure and disappointment and gravitate to the highest level in their sport. This natural selection process and survival of the fittest are sometimes referred to athletic Darwinism (Cox, 1994). On the basis of this theory, it can be argued that the ability to cope with success and failure have to be part and parcel of the participant's coping skills to survive the difficult disappointments of failure in their sport. Lane, Jones and Stevens (2002) reported that sport participants with a high self-esteem are able to have more positive thoughts about themselves after they have failed.

#### Aim of study

The primary aim of this study focuses on how sport participants in general react to success and failure in competitive sport. The second aim of this study is to examine how goal orientation (ego- and task orientation) and self-theories (fixed- and the growth mindset) relate to the reactions to success and failure. The third aim of this study is to determine if the level of participation (international-, national-, provincial- and school level) influences the ability to react more positively to success and failure.

#### Hypotheses

It was expected that the majority of sport participants in this study would react constructively towards success and failure. According to available literature on goal orientation and self-theories, it was also expected that task orientation (mastery orientation) and the growth mindset would relate positively with constructive reactions to success and failure. It was anticipated that more experienced participants on international level will be able to cope effectively with success and failure.

#### Methodology

This is a survey study and a quantitative research approach was used. Sport participants were asked to imagine a situation in which they experienced success as well as failure, then to complete the questionnaire. Data were collected by employing the Task and Ego Orientation in Sport Questionnaire (TEOSQ) and the Self-theory Questionnaire that measured if the participants have a fixed or growth mindset. A self-developed questionnaire was employed to determine the participant's reaction to success and failure.

A pilot study was done using 40 third year and honours students in the Department of Biokinetics, Sport and Leisure Sciences at the University of Pretoria to determine whether the questionnaires were suitable for the study. Comments and suggestions that were made were used to improve the questionnaires.

A convenient sampling method was used. The sample consisted of 80 respondents that were randomly selected and all were volunteers who were actively competing in a sport at the University of Pretoria. Data were collected over a wide range of sport disciplines. Data sampling was done through courtesy of the High Performance Centre at the University of Pretoria. The criteria for participating were that all participants should be participating actively on a certain level.

The division criteria for this study were as follows:

- School – Participating on school level in sport. The participant must participate on the highest school level, namely representing his or her school.
- Provincial – Participant should compete on a provincial level in sport. The participant must participate on the highest provincial level, namely representing his or her province in a competition or match.
- National – Participant should compete competitively on a national level in sport.
- International – The participant is competing competitively on an international level. The participant should have represented his or her country in the international arena.

Any participant that did not satisfy these criteria completely was excluded from the data set.

#### Instruments

**Task and Ego Orientation in Sport Questionnaire (TEOSQ):** Duda and Nicholls' task- and ego orientated sport questionnaire assesses individual differences and the emphasis is placed on ego- and task involved goal perspectives in sport (Duda, 1992). When completing the questionnaire, the participants had to think when they felt successful in sport. The 13-item questionnaire reflects task- or ego involvement in sport. There are seven questions based on task orientation and six questions based on ego orientation, which assess participants along a five-point Likert scale ranging from strongly agree to strongly disagree (Singer, Murphey & Tennant, 1993). The scale has a high reliability for the orientations, with alpha coefficients of 0,81 for task orientation and 0,89 for ego orientation (Baric & Horgas, 2006).

**Self-theory Questionnaire:** This questionnaire was developed to determine whether the participant has a growth mindset or a fixed mindset. The three- and eight-item self-theory questionnaires along a six-point Likert scale ranging from strongly agree to strongly disagree (Dweck, 2000). Two different validation studies on the three- and eight-item questionnaires showed correlation coefficient values ranging between 0.83 and 0.92 (Edwards & Steyn, 2008). A study involving 352 participants revealed high Cronbach Alphas of 0.74 for the entity and 0.80 incremental theories questions (Biddle, Wang, Chattzisaraitis & Spray, 2003). The three-item applied sport setting scale was used to assess motivational aspects of the entity- and incremental theories after participation.

**Self-developed Questionnaire:** A self-developed questionnaire was developed to determine how the sport participants react to success and failure (whether they use it as constructive or destructive). They were tested with five questions on each of the four levels, namely positive reactions to success, positive reactions to failure, negative reactions to success and negative reactions to failure. A five-point Likert scale was used to assess the participant's reactions to success and failure. The questionnaire's validity was tested by a professional statistical analyst and also underwent a pilot test to improve its validity. Although some of the questions Cronbach Alpha value were just averaging under the Social Sciences' norm of 0.80, there were still quite a few questions that were too low to measure on a consistent level. Results on the total reliability analysis of this questionnaire indicated that this instrument does not measure these factors on a consistent level and the Cronbach Alpha score of 0.497 is an indication that this instrument still needs further refinement.

#### Data collection procedure

A convenient sampling method was used for this study. All the subjects for this study were sport participants that practiced at the High Performance Centre of the University of Pretoria. They were approached by the researcher after their sport practice- and gymnasiums sessions.

Before the questionnaire was administered, the researcher explained the goal and the procedure of the research and also gave them an option of participating in the study. All the consent forms as required by the Ethics Committee of the University of Pretoria were signed before the questionnaire was administered.

#### Data analysis

The information obtained from the sample was captured onto computer and analysed by means of the Statistical Product and Service Solutions Package. Results were analysed by means of the following statistical methods. Kruskal-Wallis test was used to test differences between the responses of respondents competing in sport on different levels (Howell, 1992). The Spearman correlation coefficient method was used to determine whether statistically significant relationships existed between the main factors measured in the combination of questionnaires.

#### Multivariate statistics

Multivariate statistics analyses were used to determine the underlying structure in the questionnaire, as well as how consistently the questionnaire measures these constructs (Tabachnick & Fidell, 1996).

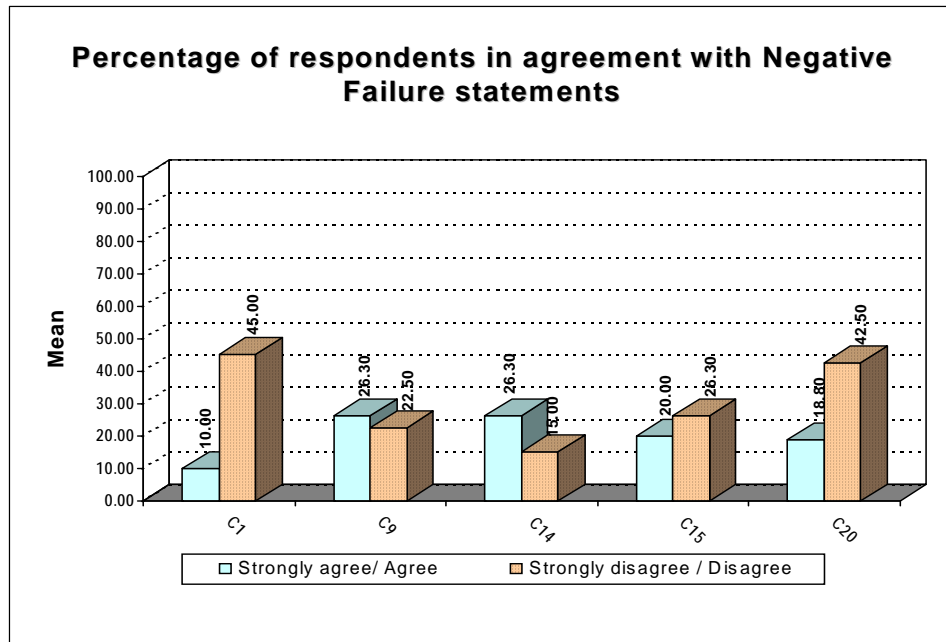
#### Descriptive statistics

This method was used to give a description of the sample and respondents' responses to the various questions. The results of all questions were recorded to group the extremes of agreement and disagreement together. Mean scores were also used to summarize performance on total scores of the dimensions.

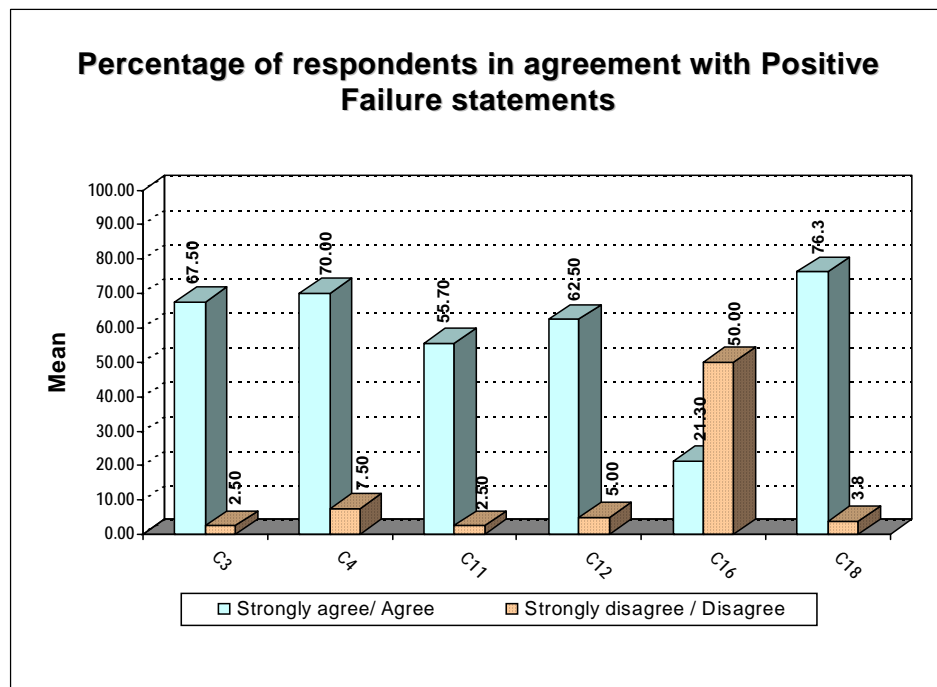
### **Results**

The results in Figure 1 indicate that the minority of respondents agreed with statements that reflect negative failure. Almost half (45%) disagreed that if they fail, they struggle to recover and it feels as if they have lost their appetite for their sport (C1). Another 40% disagreed with the statement that when they had failed, it feels as if their hard work had been in vain (C20). Respondents were more divided in their agreement with the following statements, where approximately a quarter either agreed or disagreed with the statements: I feel depressed if I experience failure and disappointment in my sport (26.3% agreed)(C9); When I lose I feel very upset (26.3% agreed)(C14); When I have won I feel that I can take it easier (20% agreed)(C15). These questions may not discriminate very well on the dimension of negative failure.

Most of the respondents agreed with all except one statement on positive failure (see Figure 2). Half of the respondents disagreed that they love to be the underdog, with only 21.3% agreeing with this statement (C16). The majority (76.3%) agreed that when they had failed, they could not wait to show people that they still had the ability to succeed (C18). Another 70% could identify themselves with the statement "When the going gets tough, the tough gets going" (C4).



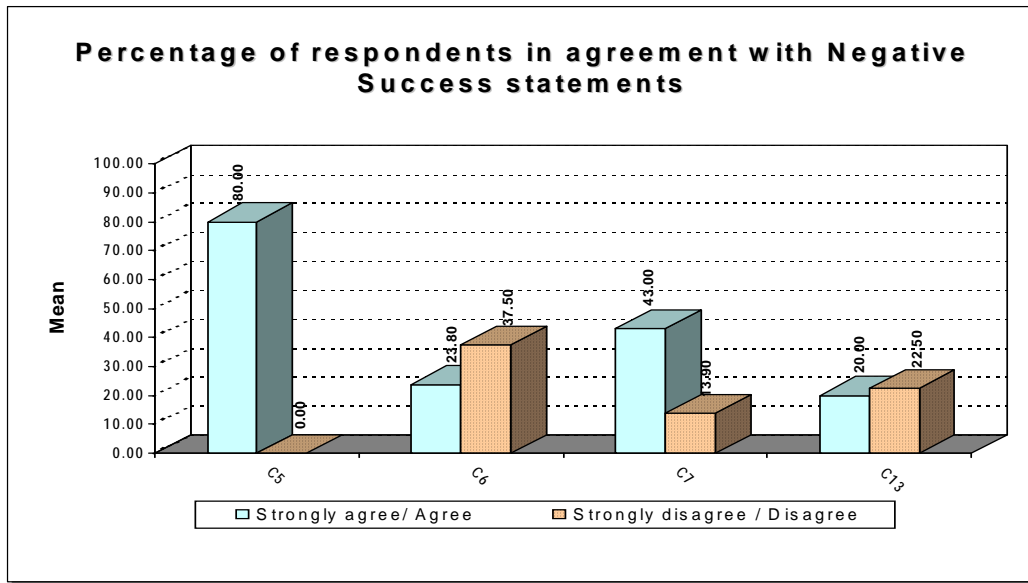
**Figure 1:** Negative failure respondents



**Figure 2:** Positive failure respondents

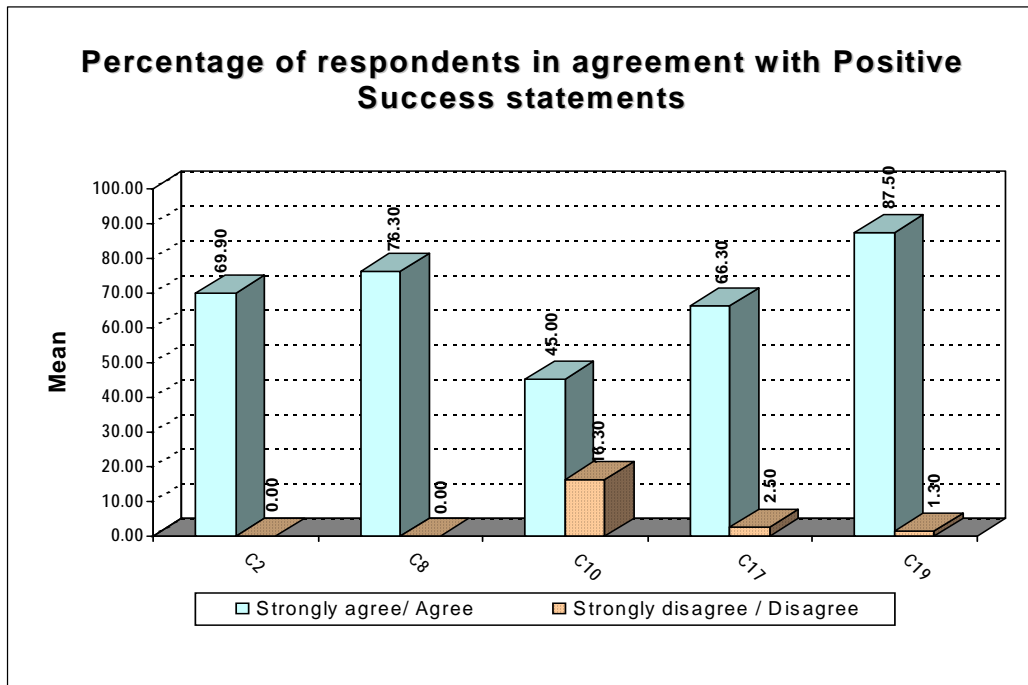
Respondents were less consistent in answering question relating to negative success (see Figure 3). The majority of respondents by far (80%) agreed that success motivates them to perform, but can be dangerous when it goes to one's head (C5). Almost half (43%) agreed that they experience pressure to defend themselves when they do well (C7).

Another 67.5% and 62.5% respectively agreed that if they fail, it motivates them to work harder and that failure or disappointment had never been real obstacles to them (C3). Half (55.7%) agreed that they recover quickly after a disappointing performance (C11).



**Figure 3:** Percentage of respondents in agreement with negative response statements.

A third (37.5%) disagreed that they are sometimes too scared to be successful (C6). Respondents were divided in their opinion on the statement that success sometimes distracts them from their goals, with a fifth either agreeing (20%) or disagreeing (22.5%) with this statement (C13).



**Figure 4:** Percentage of respondents in agreement with positive success statements.

Most respondents agreed with positive success statements (see Figure 4). The majority (87.5%) agreed that success boosts their self-confidence (C19). The majority also agreed that success breeds success (69.9%) (C2) and that success motivates them, but they keep their eyes on their goals (76.3%) (C8) and that they do their very best, even if they know they can win easily (66.3%) (C17). Very few if any of the respondents disagreed with these statements, except for the statement, “I’d rather be the top dog than the underdog”. Forty-five percent agreed, while 16.3% disagreed with this statement (C10).

### **Results reflecting the significant relations between goal orientation, self-theories and positive reactions to success and failure**

The results of this research confirmed the hypotheses that task orientation and the growth mindset relate positively to a constructive reaction to success and failure.

The Spearman correlation coefficient ( $r$  – scores) was used to determine the correlations. An  $r$ -score that is greater or equal to  $+0.45$ , as well as a  $r$ -score smaller or equal to  $-0.45$  is a significant correlation. The significance of the correlations ( $p$ -value) is smaller or equal to  $0.05$ .

There was a strong positive correlation ( $r=0.504$ ;  $p\leq 0.01$ ) between task orientation and positive failure. This strong relation indicates that the higher the scores on task orientation, the higher the scores on positive failure. This correlation is significant on the 1% level of significance.

Moderate positive correlations were found between the growth mindset and positive reactions to failure ( $r=0.443$ ;  $p\leq 0.01$ ) and success ( $r=0.417$ ;  $p\leq 0.01$ ). Both correlations were statistically significant at the 1% level of significance. Higher scores on one dimension are associated with higher scores on another dimension.

Slightly weaker, but still moderate positive correlations were found between task orientation and positive reactions to success ( $r=0.332$ ;  $p\leq 0.01$ ), but still significant at a 1% level of significance. Task orientation also correlates significantly with the growth mindset on a 5% level of significance ( $r=0.234$ ;  $p\leq 0.05$ ).

Weak positive correlations were found between ego orientation and negative reactions to success ( $r=0.295$ ;  $p\leq 0.05$ ); positive reactions to failure and negative reactions to success ( $r=0.265$ ;  $p\leq 0.05$ ). The weak correlation between these dimensions are not very strong, but still an indication of the expected direction of the results.

### **Results reflecting the level of participation (international-, national-, and provincial- and school level) influence the ability to react more positively to success and failure**

The results of this study did not support the third hypothesis that participants on international level that have more experience in terms of coping with success and failure will be able to react more constructively towards success and failure.



Table 1: Correlation matrix of the main dimensions

			Ego total	Task Total	Negative failure	Positive failure	Negative success	Positive success	Incremental	Static
Spearman's rho	Ego total	Correlation Coefficient	1.000	.318(**)	.178	.230(*)	.295(**)	.199	.099	-.033
		Sig. (2-tailed)	.	.004	.113	.041	.008	.079	.384	.772
		N	80	80	80	79	79	79	79	80
	Task total	Correlation Coefficient	.318(**)	1.000	-.029	.504(**)	.171	.332(**)	.243(*)	-.146
		Sig. (2-tailed)	.004	.	.800	.000	.132	.003	.031	.197
		N	80	80	80	79	79	79	79	80
	Negative failure	Correlation Coefficient	.178	-.029	1.000	-.234(*)	.146	-.066	-.219	.116
		Sig. (2-tailed)	.113	.800	.	.038	.200	.561	.052	.304
		N	80	80	80	79	79	79	79	80
	Positive failure	Correlation Coefficient	.230(*)	.504(**)	-.234(*)	1.000	.265(*)	.263(*)	.443(**)	.017
		Sig. (2-tailed)	.041	.000	.038	.	.019	.020	.000	.879
		N	79	79	79	79	78	78	78	79
	Negative success	Correlation Coefficient	.295(**)	.171	.146	.265(*)	1.000	-.008	.049	.054
		Sig. (2-tailed)	.008	.132	.200	.019	.	.942	.666	.636
		N	79	79	79	78	79	78	79	79
	Positive success	Correlation Coefficient	.199	.332(**)	-.066	.263(*)	-.008	1.000	.417(**)	.132
		Sig. (2-tailed)	.079	.003	.561	.020	.942	.	.000	.245
		N	79	79	79	78	78	79	78	79
	Growth mindset	Correlation Coefficient	.099	.243(*)	-.219	.443(**)	.049	.417(**)	1.000	.058
		Sig. (2-tailed)	.384	.031	.052	.000	.666	.000	.	.612
		N	79	79	79	78	79	78	79	79
	Fixed mindset	Correlation Coefficient	-.033	-.146	.116	.017	.054	.132	.058	1.000
		Sig. (2-tailed)	.772	.197	.304	.879	.636	.245	.612	.
		N	80	80	80	79	79	79	79	80

Only one statistically significant difference could be found on the total scores for simensions which was substantial at the 5% level of significance (see Tables 2 and 3). There was a significant difference between the respondents at the various levels of competition on positive reaction to failure. Those respondents at school- and provincial level had significantly more positive reaction to failure scores than those competing at national- and international level. There was no significant difference on any of the other dimension scores.

**Table 2:** Kruskal-Wallis Test (Positive failure)

	Highest level of competition	N	Mean Rank
Positive failure	International	20	31.75
	National	20	36.68
	Provincial	19	40.13
	School	20	51.45
	Total	79	

**Table 3:** Test statistics<sup>a</sup>

	Ego total	Tas k total	Negati ve failure	Positi ve failure	Negati ve succes s	Positi ve succes s	Incremen tal	Stati c
Chi-Square	6.499	7.294	.767	<b>8.053</b>	1.100	3.205	4.170	2.326
Df	3	3	3	<b>3</b>	3	3	3	3
Asym p. Sig.	.090	.063	.857	<b>.045</b>	.777	.361	.244	.508

<sup>a</sup>Kruskal-Wallis Test

## Discussion

Very few respondents agreed with statements of negative reactions to failure and almost half disagreed with statements reflecting this dimension. Most of the respondents agreed with the statements that represent a positive reaction to failure. So it seems that most of the respondents are able to use failure to motivate them and even to

facilitate their performance. Half of the respondents disagreed that they love to be the underdog. Another important tendency in the results is that the majority of respondents agreed that success motivates them to perform, but also agrees with the statement that it can be dangerous if it goes to your head. In summarizing the results, it seems that most of the respondents use success and failure to their advantage. Due to the total lack of research in this area, these findings cannot be corroborated by similar research projects. The research by Podlog (2002) has however confirmed that sport participants reacted positively to failure, especially those participants with a more process orientation and not only a winning orientation.

During Podlog's research, one of the respondents stated that although she failed in reaching her main goal (winning), she still felt that she had succeeded, because she had trained hard and put in maximum effort during training and in competition. Lane et al. (2002) reported that participants with a high self-esteem still maintained very positive thoughts about themselves even though they failed. The very strong correlation of task orientation with positive reactions to failure is really encouraging and is fully in alignment with the total body of knowledge of goal orientation (Duda, 1993; Roberts & Ommundsen, 2007). The correlation of the growth mindset with positive reactions to failure was also expected and fits into the paradigm of the growth mindset as developed by Dweck (2000; 2005).

The essential contribution of this study is to underline and emphasize the important role that task orientation combined with the growth mindset can play in mitigating the harsh and sometimes adverse realities of failure and disappointment in sport. An interesting finding in this research was the surprising intolerance of failure with the national and international participants in comparison with a much more tolerant attitude towards mistakes with participants on a school- and provincial level. The contradiction is that one can understand that there is a zero defect approach in elite sport, but at the same time elite level participants would not have reached this level if they did not develop a high level of coping ability towards failure. This puzzling paradox still needs to be explored further in future research. Results of the analysis of the underlying structure of the assessment of success and failure questionnaire indicated that the reliability of the success and failure questionnaire is still not sufficiently refined to measure accurately the participant's reactions to success and failure.

## **Conclusion**

The first hypothesis of this research can be confirmed, because the majority of sport participants would react constructively towards success and failure can be confirmed. The implication of accepting this hypothesis indicates that most of the respondents are able to use success and failure to motivate and facilitate their performance. The second hypothesis can also be confirmed, because the task (mastery) orientation and the growth mindset relate positively with the constructive reaction to success and failure. The acceptance of this research hypothesis strengthens the notion that task (mastery) orientation and the growth mindset can mitigate the negative effects of success and failure. The third hypothesis can however be disconfirmed, because the more experienced participants on international level will be able to cope more effectively with success and failure. By discarding this hypothesis, the notion that international sport participants can cope more effectively with success and failure than those sport participants on club- and school level, cannot be accepted.

The researchers would like to conclude this article with the profound statement by Kipling (as in Covey, 1994).that a wise approach to success and failure is to see success and failure both as imposters, because they can both be very harmful to the sport participant if the sport participant is unable to cope effectively with success and failure (Covey, 1994). The opposite is also true that some of the very outstanding sport legends have succeeded in utilizing both success and failure as positive constructive forces in their sporting careers. This research topic is still unanswered and the key to real success is still hidden and therefore, this research topic still needs intensive research.

## **References**

- Baric, R. & Horgas, S. (2006). Psychometric properties of the Croatian version of task and ego orientation questionnaire (CTEOSQ). *Kinesiology*, 38(2), 35.
- Biddle, S.J.H., Wang, C.K.J, Chantzisaraitis, N.L.D. & Spray, C.M. (2003). Motivation for physical activity in young people: Entity and incremental beliefs about athletic ability. *Journal of Sport Science*, 21(12), 973-989.

- Covey, S.R. (1994). *Principle-centered Living*. (Video Tape). Provo: Covey Leadership Center.
- Cox, R.H. (1994). *Sport Psychology. Concepts and Applications*. Dubuque, IA: Brown & Benchmark.
- Donaldson, O.F. (1984). Play to win and every victory is a funeral. *Somatics*, 4(4), 26-31.
- Duda, J.L. (1992). Motivation in sport settings: a goal perspective approach. In G.D. Roberts (Ed.), *Motivation in Sport and Exercise* (pp. 57-91). Champaign, IL: Human Kinetics.
- Duda, J.L. (1993). Goals: a social cognitive approach to the study of achievement motivation in sport. In R.N. Singer; M. Murphey & L.K. Tennant (Eds.), *Handbook of Research on Sport Psychology* (pp. 421-436). New York: MacMillan.
- Dweck, C.S. (2000). *Self-theories: Their Role in Motivation, Personality, and Development*. Philadelphia, PA: Taylor and Francis.
- Dweck, C.S. (2005). Motivational process affecting learning. *American Psychologist*, 41, 1040-1048.
- Edwards, D.J. & Steyn, B.J.M. (2008). Sport psychological skills training and psychological well-being. *South African Journal of Research in Sport, Physical Education and Recreation*, 30(1), 15-28.
- Howell, D.C. (1992). *Statistical Methods for Psychology* (3<sup>rd</sup> ed.). Belmont: Duxbury Press.
- Lane, A.M., Jones, L. & Stevens, M.J. (2002). Coping with failure: the effects of self-esteem and coping on changes in self-efficacy. *Journal of Sport Behaviour*, 25(4), 23-41.
- Podlog, L. (2002). Perceptions of success and failure among university athletes in Canada. *Journal of Sport Behaviour*, 25(4), 368-393.
- Roberts, G.C. & Ommundsen, Y. (2007). Motivational climate and coaching behaviours: Lessons learned from Norwegian studies. Book of Abstracts: 12<sup>th</sup> European Congress of Sport Psychology, Halkidiki, Greece.
- Singer, R.N., Murphey, M. & Tennant, L.K. (1993). *Handbook of Research on Sport Psychology*. New York: Macmillan Publications.
- Tabachnick, B.G. & Fidell, L.S. (1996). *Using Multivariate Statistics* (3<sup>rd</sup> ed.). Northridge: Harper Collins College Publishers.