

Athlete self-confidence questionnaire (ASQ): a valid and reliable instrument for measuring athlete self-confidence

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Abstract

This research is motivated by the lack of the latest instruments that can be used to measure athlete self-confidence. As we know, athlete confidence is one of the determining factors in the appearance of athletes in the field. The instrument is a series of tests and others, which are used to collect data to be processed. Instruments are tools selected and used by researchers in the data collection process. Therefore, it is important to have a valid and reliable instrument to measure athlete self-confidence. The use of valid and reliable measuring instruments in data collection ensures that the results obtained are also valid and reliable. This study used the R&D method involving 25 hockey athletes from Bogor City. The results showed that of the 32 question items tested, only 13 questions met acceptable validity and reliability criteria (Cronbach's alpha = 0.841). The Athlete Self-confidence Questionnaire (ASQ) proved to be effective for measuring athletes' self-confidence, using only 13 items from the 32 items developed.

Keywords: Validity; Reliability; Questionnaire; Self-confidence

INTRODUCTION

One way to assess the mental state of an athlete is to measure his level of confidence. Measurement of self-confidence in hockey athletes is in line with previous studies which reveal that in developing a model of self-confidence in sports, one must be careful (Lochbaum et al., 2022). From that a questionnaire was made so that it could create and develop a measurement tool. The instrument is a series of tests and others, which are used to collect data to be processed. Instruments are tools selected and used by researchers in the data collection process (Taherdoost, 2021). Reliability refers to the extent to which a measurement will produce the same results after repeated testing and reliable measurements will produce stable and consistent results. The use of valid and reliable measuring instruments in data collection ensures that the results obtained are also valid and reliable.

This self-confidence is often associated with a variety of positive feelings such as happiness, enthusiasm, joy, and feeling in control (Yalcin & Ramazanoglu, 2020). Therefore, the importance of self-confidence questionnaires for relatively stable self-evaluation of skills, abilities, leadership, initiative, and behavior as well as other conditions related to one's feelings. Their belief in their abilities affects their thoughts, behaviors, and emotions in a variety of ways. Therefore, athletes who have optimal self-confidence all the problems that come to affect themselves and their performance (Fadare et al., 2022). And is considered the key to the success of athletes at all levels (Chaouali et al., 2017; Machida et al., 2017). It depends on how he thinks positively and negatively about himself (Haridas, 2020).

Thus, athletes with poor self-confidence can disrupt training patterns and even interfere when they want to compete. Therefore, athletes who show poor performance can be associated with loss of concentration or tense when under pressure, or other competitive mental problems such as excessive anxiety, loss of motivation, and lack of confidence, all of which can have a negative impact on the athlete's game (Purnamasari & Novian, 2021). For this reason, self-confidence must be possessed by every athlete because self-confidence automatically motivates athletes to perform at their best. This is

because self-confidence is an important factor that affects the athlete's mind positively (Yalcin & Ramazanoglu, 2020). To achieve peak performance athletes need psychological qualities such as emotional stability, self-confidence, and fortitude to be able to cope with significant pressures and demands in competitive sports and achieve success (Burns et al., 2022). Self-confidence is also the key to fulfilling one's needs. Understanding and believing that everyone has their own strengths and weaknesses is the first and main step in building self-confidence. Athletes' self-confidence can solve problems and restore athletes' performance on the field (Kırkibir & Zengin, 2021). Confidence in the athlete can adversely affect the athlete's performance (Mansell & Turner, 2022). Conversely, balanced self-confidence allows one to realize all their desires (Kholmurzayev Muzaffar Baxtiyarovich, 2024). With the growing importance of self-confidence in sporting environments, this is evidenced by various studies that have examined the factors that increase athletes' self-confidence (Knight et al., 2018).

Previous research suggests that overconfidence in athletes can have a negative impact on their performance. Excessive confidence often leads to decreased performance as athletes become overconfident and less alert to actual challenges (Amirkhanyan et al., 2024). On the other hand, balanced self-confidence has been shown to help athletes achieve their goals (Niering et al., 2023). However, this research still lacks in providing practical solutions to measure and manage athletes' self-confidence more systematically and effectively.

It is sad when an athlete is not confident and has negative thoughts about himself or herself. To build proportionate self-confidence, an athlete must start from within. It is very important that the individual concerned alone can overcome his or her insecurities. This suggests that individuals must have the ability to assess themselves objectively. Therefore, a tool to measure the level of self-confidence of athletes is needed to deal with the problem of athletes' self-confidence. Researchers want to make a self-confidence questionnaire that is tested for validity and reliability.

The validity test is an important step in evaluating the content or content of a measurement instrument. The aim is to assess the extent to which the measuring instrument used is in accordance with the research objectives. This is in line with previous research which reveals that a measure that shows the levels of validity or validity of an instrument is the definition of validity (Clark & Watson, 2019). Meanwhile, it shows an understanding that an instrument can be trusted enough to be used as a data collection tool because the instrument is good enough. In the context of validity testing, there are two commonly used formulas or methods, namely the correlation between individual behavior and the total score (behavioral person correlation) and the correlation between individual items and the total score (correlated item-total correlation). The correlation between individual behavior and total score is one of the methods that can be applied using statistical software such as SPSS. This method assists researchers in evaluating the extent of the relationship between individual responses on a questionnaire and the overall score generated by the questionnaire.

METHODS

This Research and Development (R&D) study aims to test the validity and reliability of athlete self-confidence measurement instruments. Data was collected from 25 Bogor City hockey athletes using a questionnaire consisting of 32 statements, which were grouped into the dimensions of technical and physical skills, competition experience, mental readiness, and self-evaluation. The instrument was developed through a question design stage to ensure proper representation of relevant aspects of self-confidence in a sporting context. The collected data were then analyzed using confirmatory factor analysis (CFA) method to test construct validity, as well as calculating internal reliability coefficients such as Cronbach's alpha to measure instrument reliability. The R&D stages include instrument needs research, instrument design development, pilot testing on relevant samples, and evaluation of results to ensure the instrument developed can provide accurate and consistent measurements related to athletes' self-confidence.

RESULTS AND DISCUSSION

Results

The tool to measure aspects of self-confidence consists of 4 indicators and 8 self-confidence factors and contains 32 items before the trial. the measuring instrument lattice before testing can be seen in table 1.

Table 1. Pre-Test Grid

Variables	Indicator	Factor/Indicator	Positive	Negative
Self-Confidence	1. Technical and Tactical Skills	1. Technical Skills	1, 19	2, 5
		2. Physical Strength	3, 6	14, 22
	2. Competitive Experience	1. Positive Experience	10,9	21, 16
		2. Negative Experience	24, 20	17, 27
	3. Mental Readiness	1. Mental Training	23, 15	18, 11
		2. Mental Stress	7, 13	4, 8
	4. Self-Evaluation and Self-Acceptance	1. Progress Evaluation	25, 26	30, 29
		2. Acceptance of Failure	12, 28	31, 32
Total			16	16

Table 1. Shows the questionnaire before testing. The first test was the validity test. All sample answers in the trial were entered manually into Ms. Excel and then transferred to SPSS. The question is declared valid if the r score value is greater than r table. At a significant test of 0.05 the value of r table and for n = 23. The validity test results obtained can be seen in table 2.

Table 2. Validity Test Results

Question	r count	r table	Description
1	0.269	0.396	Invalid
2	0.462	0.396	Valid
3	0.248	0.396	Invalid
4	0.252	0.396	Invalid
5	0.548	0.396	Valid
6	0.146	0.396	Invalid
7	0.476	0.396	Valid
8	0.336	0.396	Invalid
9	0.277	0.396	Invalid
10	0.141	0.396	Invalid
11	0.613	0.396	Valid
12	0.369	0.396	Invalid
13	0.342	0.396	Invalid
14	0.405	0.396	Valid
15	0.172	0.396	Invalid
16	0.188	0.396	Invalid
17	0.741	0.396	Valid
18	0.593	0.396	Valid
19	0.342	0.396	Invalid
20	0.111	0.396	Invalid
21	0.381	0.396	Invalid
22	0.491	0.396	Valid
23	0.143	0.396	Invalid
24	0.509	0.396	Valid
25	0.537	0.396	Valid
26	0.583	0.396	Valid
27	0.362	0.396	Invalid
28	0.176	0.396	Invalid
29	0.575	0.396	Valid
30	0.339	0.396	Invalid
31	0.458	0.396	Valid
32	0.386	0.396	Invalid

Based on Table 2. From the validity test results in the table above, it can be seen that the rtable value is 0.396. Of the 32 statement items tested, only 13 items were declared valid. This shows that only a small part of these statements meet the validity criteria with a value. After going through validity and reliability tests, the self-confidence questionnaire is suitable for use in research. The self-confidence questionnaire after the pilot test can be seen in table 3.

Table 3. After-Test Grid

Variables	Indicator	Factor/Indicator	Positive	Negative
Self-Confidence	1. Technical and Tactical Skills	1. Technical Skills	-	2,5
		2. Physical Strength	-	14,22
	2. Competitive Experience	2. Negative Experience	24	17
		3. Mental Readiness	1. Mental Training	-
	2. Mental Stress		7	-
	4. Self-Evaluation and Self-Acceptance	1. Progress Evaluation	25, 26	29
		2. Acceptance of Failure	25, 26	31
	Jumlah			4

Based on Table 3, it can be seen that of the 32 items previously compiled, only 13 items were used as valid and reliable measuring instruments of 0.841. Thus the self-confidence questionnaire as an aid to athlete self-confidence contains 32 items, namely: technical and physical skills (4 items), competitive experience (2 items), mental readiness (1 item), self-evaluation and self-acceptance (4 items). Furthermore, the author arranged the item numbers randomly in order to provide clearer results. The measurement process is based on the answer choices used in the form of values 1-5 ranging from Strongly Disagree to Strongly Agree. For positive items from Strongly Agree to Strongly Disagree for negative items.

To test the reliability of the instrument, one commonly used method is to use the Cronbach's Alpha coefficient. This method allows to measure the internal consistency of the instrument by analyzing the extent to which the items in the instrument are correlated with each other, the results of the reliability test can be seen in Table 4.

Table 4. Reliability Test Results

Cronbach's Alpha	N of Items
0,841	13

Based on the table above, the reliability of the questionnaire prepared by the researcher is classified in the Good category. This shows that the questionnaire prepared tends to show consistent results if it is retested at different times and subjects.

Discussion

In a study, success in obtaining precise and accurate results is highly dependent on the validity and reliability of the measuring instruments used. Without measuring instruments that meet these standards, the data collected will most likely not support significant findings. Studies conducted by (Amirkhanyan et al., 2024; Niering et al., 2023) indicate that it is currently lacking in providing practical solutions to systematically and effectively measure and manage athletes' self-confidence. Previously, there was no specific measurement tool to measure athletes' self-confidence, so the creation of a new measurement tool in this study is a significant advantage.

This makes a widely investigated variable in sport psychology and has been the focal point of numerous studies is athlete self-confidence (Diotaiuti et al., 2021). This is in line with the finding that athletes who have higher levels of self-confidence tend to be better able to focus on the task (Ita et al., 2022), but often athletes experience worry and pessimistic thoughts about their own abilities (Marín-González et al., 2022). This can lead to unpleasant and tense emotions and negative feelings and thoughts (Sangervo et al., 2022). Therefore, measuring an athlete's level of self-confidence is important. The deeper our understanding of self-confidence, the more effective athlete coaching can be. This is in line with previous research which reveals that building self-confidence can contribute to improving performance, this is an important part of the sports psychology work process (Fadare et al., 2022).

Athletes have the ability to transform negative content in their minds into positive content. In this case, negative content that was initially related to sport performance can be transformed into content that positively supports sport performance. This suggests that athletes have the ability to change their mindsets from inhibiting to supportive, allowing them to improve their sport performance (Kaplánová, 2019).

The Athlete self-confidence questionnaire (ASQ) is a new measurement tool in the field of sport psychology created by the author, which can be used to measure and interpret athletes' psychological self-confidence. The ASQ, or Athlete Self-Confidence Questionnaire, consists of 32 items divided into two types of statements, namely positive and negative statements, and grouped into 4 indicators. To measure the score, a Likert scale is used, according to the method described by (Sugiyono, 2018). The instrument is said to be valid if it is able to produce accurate and relevant data related to the construct or variable under study, in accordance with the concept of validity that we know (Clark & Watson, 2019). Thus, the validity of an instrument such as the ASQ can be assessed based on its ability to accurately and relevantly measure the construct of sensitivity to self-confidence.

CONCLUSION

We all know that it is important to have valid and reliable measuring instruments to measure a variable under study. Because without a valid and reliable measuring instrument, the data to be obtained will not be obtained. This study provides a conclusion that the Athlete Self-confidence Questionnaire (ASQ) can be used as an appropriate measuring tool to measure athlete self-confidence because it has been proven valid and reliable.

REFERENCES

- Amirkhanyan, H., Krawczyk, M., Wilamowski, M., & Bokszczanin, P. (2024). Overconfidence: the roles of gender, public observability and incentives. *Journal of the Economic Science Association*, 10(1), 76–97. <https://doi.org/10.1007/s40881-023-00149-z>
- Burns, L., Weissensteiner, J. R., Cohen, M., & Bird, S. R. (2022). A survey of elite and pre-elite athletes' perceptions of key support, lifestyle and performance factors. In *BMC Sports Science, Medicine and Rehabilitation* (Vol. 14, Issue 1). BioMed Central. <https://doi.org/10.1186/s13102-021-00393-y>
- Chaouali, W., Souiden, N., & Ladhari, R. (2017). Explaining adoption of mobile banking with the theory of trying, general self-confidence, and cynicism. In *Journal of Retailing and Consumer Services* (Vol. 35, Issue November 2016). Elsevier. <https://doi.org/10.1016/j.jretconser.2016.11.009>
- Clark, L. A., & Watson, D. (2019). Constructing validity: New developments in creating objective measuring instruments. *Psychological Assessment*, 31(12), 1412–1427. <https://doi.org/10.1037/pas0000626>
- Diotaiuti, P., Corrado, S., Mancone, S., & Falese, L. (2021). Resilience in the Endurance Runner: The Role of Self-Regulatory Modes and Basic Psychological Needs. *Frontiers in Psychology*, 11(January), 1–9. <https://doi.org/10.3389/fpsyg.2020.558287>
- Fadare, A. S., Langco, L. A., Canalija, C. V. J., Kabirun, C. A., & Jhuniely, A.-S. B. (2022). Athletes' Confidence and Anxiety Management: A Review in Achieving Optimal Sport Performance. *International Journal of Science and Management Studies (IJSMS)*, August, 311–318. <https://doi.org/10.51386/25815946/ijms-v5i4p133>
- Ita, S., Kardi, I. S., Hasan, B., Ibrahim, & Nurhidayah, D. (2022). Level of motivation, self-confidence, anxiety control, mental preparation, team cohesiveness and concentration of elite and non-elite athletes. *Journal of Physical Education and Sport*, 22(12), 3177–3182. <https://doi.org/10.7752/jpes.2022.12403>
- Kaplánová, A. (2019). Self-esteem, anxiety and coping strategies to manage stress in ice hockey. *Acta Gymnica*, 49(1), 10–15. <https://doi.org/10.5507/ag.2018.026>
- Kholmurzayev Muzaffar Baxtiyarovich. (2024). *Researches On Ways Of Improving Student's Self-Confidence*. 97–101.
- Kirkbir, F., & Zengin, S. (2021). The Role of Athletic Self-Confidence and Coping Strategies in Predicting the Athletic Success of Trabzon University Athletic students. *Shanlax International Journal of Arts, Science and Humanities*, 9(2), 122–129. <https://doi.org/10.34293/sijash.v9i2.4298>
- Knight, C. J., Harwood, C. G., & Gould, D. (2018). *Sport psychology for young athletes*. NY: Routledge.

- Kuloor, H., & Kumar, A. (2020). Self-confidence and sports. *The International Journal of Indian Psychology*, 8(4), 1–6. <https://doi.org/10.25215/0804.001>
- Lochbaum, M., Sherburn, M., Sisneros, C., Cooper, S., Lane, A. M., & Terry, P. C. (2022). Revisiting the Self-Confidence and Sport Performance Relationship: A Systematic Review with Meta-Analysis. *International Journal of Environmental Research and Public Health*, 19(11). <https://doi.org/10.3390/ijerph19116381>
- Machida, M., Otten, M., Magyar, T. M., Vealey, R. S., & Ward, R. M. (2017). Examining multidimensional sport-confidence in athletes and non-athlete sport performers. *Journal of Sports Sciences*, 35(5), 410–418. <https://doi.org/10.1080/02640414.2016.1167934>
- Mansell, P. C., & Turner, M. J. (2022). Testing the REBT-I model in athletes: Investigating the role of self-confidence between irrational beliefs and psychological distress. *Psychology of Sport and Exercise*, 63(August), 102284. <https://doi.org/10.1016/j.psychsport.2022.102284>
- Marín-González, F. H., Portela-Pino, I., Fuentes-García, J. P., & Martínez-Patiño, M. J. (2022). Relationship between Sports and Personal Variables and the Competitive Anxiety of Colombian Elite Athletes of Olympic and Paralympic Sports. *International Journal of Environmental Research and Public Health*, 19(13). <https://doi.org/10.3390/ijerph19137791>
- Niering, M., Monsberger, T., Seifert, J., & Muehlbauer, T. (2023). Effects of Psychological Interventions on Performance Anxiety in Performing Artists and Athletes: A Systematic Review with Meta-Analysis. *Behavioral Sciences*, 13(11). <https://doi.org/10.3390/bs13110910>
- Purnamasari, I., & Novian, G. (2021). Tingkat Kepercayaan Diri dan Kecemasan Atlet PPLP Jawa Barat selama Menjalani Training From Home (TFH) pada Masa Adaptasi Kebiasaan Baru (AKB). *Jurnal Patriot*, 3(2), 203–213. <https://doi.org/10.24036/patriot.v3i2.784>
- Sangervo, J., Jylhä, K. M., & Pihkala, P. (2022). Climate anxiety: Conceptual considerations, and connections with climate hope and action. *Global Environmental Change*, 76(July), 0–2. <https://doi.org/10.1016/j.gloenvcha.2022.102569>
- Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Taherdoost, H. (2021). Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects. *International Journal of Academic Research in Management (IJARM)*, 2021(1), 10–38. <https://hal.science/hal-03741847>
- Yalcin, I., & Ramazanoglu, F. (2020). The effect of imagery use on the self-confidence: Turkish professional football players. *Revista de Psicologia Del Deporte*, 29(2), 57–64.