MASTER THESIS
Learning in Complex Systems: MALKL
May 2017

Attribution style, theory and empirical findings

Article 1:

Attribution theory, state of the art

Article 2:

Investigating gender differences in Norwegian athlete's attribution style using Sport Attributional Style Scale

Charlotte Krohn

Faculty of Health Sciences

Department of behavior science

OSLO AND AKERSHUS
UNIVERSITY COLLEGE
OF APPLIED SCIENCES

Acknowledgments

I would like to thank all who have helped me to complete my work on my master's thesis. A big thanks goes to Ane Rasmussen, Kjersti Stjernen and Maren Asbjørnsen for good discussions, proofreading and helping me to stay on course in this period. I would also like to thank Istvan Moldovan for valuable input in the start-up phase and the selection of the questionnaire. Thank you to all of the participants who made it possible for me to conduct the study, I could not have done it without you.

A big thank you to my family, friends and employer who have organized, supported and helped me throughout this process.

Finally, I would like to thank my supervisor Ingunn Sandaker for valuable input, good feedback during the writing process and for believing in me.

Table of contents

Abstract

Attribution theory is a long-standing and widely discussed theory that addresses individuals' explanation of causes of events. People attribute events of success and failure individually. Previous studies indicate that performance in sporting events may be improved by changing individuals' attribution style. Article one describes attribution and attribution theory as state of the art. The article addresses the most important findings within attribution theories such as Fritz Heiders' social perception and impersonal/personal causality, Kelley's covariation model and Weiners' attribution – based theory of motivation. The article highlights five underlying causal dimensions: internality, stability, controllability, globality and intentionality. These may clarify why athletes' explain causes of success and failure as they do in addition to explain gender differences in sporting situations. Attribution theory is a cognitive approach that seeks to investigate causal roles that influence subsequent behavior. Behavior analyses disagree and argue to be more accurate when acquiring understanding of individuals' attributions for causes of success and failure. Article two comprehends the use of Sport Attributional Style Scale to investigate gender differences on 40 (20 males, 20 females) Norwegian athletes'. This is a self-report, one-time questionnaire sent on Gmail to athletes' who participated in a sport either on a national or international level. The findings of the study are not in line with the assumption that male athletes' attribute in a greater extent than female athletes' to internal, stable and controllable factors to successful events. The study provides a basis for further investigations of the Norwegian athletes' attribution style.

Key words: Attributions, attribution theory, behavior analysis, Sport Attributional Style Scale, gender differences, Norwegian athletes

Attribution theory, state of the art

Charlotte Krohn

Faculty of Health Sciences
Department of behavior science

OSLO AND AKERSHUS
UNIVERSITY COLLEGE
OF APPLIED SCIENCES

Author note

Charlotte Krohn, faculty of health sciences, department of behavior science, Oslo and Akershus University College of Applied Sciences.

Questions regarding this article are addressed to Charlotte Krohn. E-mail: charlotte_k91@hotmail.com

Abstract

The goal of this article is to enlighten the origin and growth of attribution theory, as well as introducing another theory to explain the cause of behavior. Attribution refers to explanations of events in our lives. Attribution theory is a cognitive theoretical model that attempts to examine why individuals explain events in the manner that they do. The theory explains the cause of behavior in a circular and mentalistic manner, which according to behavioral analyses is an incomplete and circular way of explaining the occurrence of behavior. Behavioral analysts believe that one must look at the behaviors history of learning, antecedens, reinforcement, punishment and consequences to explain the establishment, changes and the maintenance of behaviors.

Even though behavior analysts and cognitive psychologist gives attribution style different status as respectively a description of behavior or a causal mode, the phenomena is highly important and both approaches should add value to the field in a joint effort.

Key words: Attribution, attribution theory, behavior analysis, performance, Sport Attributional Style Scale

Introduction

Attribution

Attribution is the process of finding a cause for our own or other's behavior. It is how we explain events and why we explain the events in the manner that we do. People seek to find reasons for people's behavior (McLeod, 2012). We use attributions to defend our behavior if we feel attacked, or if we have made a mistake we tend to use attributions to explain their behavior. Emotional and motivational drives often affect people's attribution styles. We tend to point to injustice in an unfair world, defending our behavior and distance ourselves to negative outcomes (University of Twente [UoT], 2017).

Attribution theory

Attribution theory is the study of models that explain the process of attribution; it examines how people explain behavior and why they explain it as they do. People are interested in understanding why an event occurred, what is the cause of the event and understand the causal context on the person's environment. This refers to the basic idea of attribution theory (Weibell, 2011).

Fritz Heider was the first to advocate attribution theory. By piecing together information until they got a reasonable cause, Heider believed that people were naive psychologists who tried to understand others or their own behavior (UoT, 2017). How individuals interpret events and how this relates to their thinking and behavior indicate what the theory is concerned with. To understand why another person performs a particular behavior, one or more causes of behavior can be attributed (UoT, 2017). According to Heider it is possible to make two attributions; internal attributions and external attributions. Internal attributions assign execute behaviors based

on their personal characteristics or attitudes. External attributions indicate that situational factors affect a person's behavior (UoT, 2017).

Let us go back to the beginning of Heider's work on attribution theory, starting with his developing of models of attribution for person perception and object perception. But person perception and social interaction was his genuine interests (Malle, 2015). Heider's social perception consisted of two major understandings. The first named social perception, involves that a social perceiver tries to recognize the constant (invariance) underlying behavior when he is presented with streams of behavior. Based on fundamental concepts, the social perceiver's cognitive system tries to conceptualize these streams of behavior (Malle, 2015). According to Heider (1958), perceptions, intentions, capacity and motives are all included in invariances and that the stream of ongoing behavior does not influence them (as cited in Malle, 2015). The second major insight regards causality that is one of the primary elements in social perception. In this major, a form of causality (attributional) analysis is to reconstruct the process of identifying invariances (Malle, 2015). Heider distinguished between two concepts of causality: impersonal causality and personal causality, today called internal and external causes of behavior. Impersonal causality refers to unintentional behaviors such as blinking your eyes or physical events such as a storm or hurricane. Personal causality refers to intentional and purposive human behavior or actions, such as cleaning the kitchen (Malle, 2015). The distinction between impersonal and personal causality guides how people predict, estimate and affect social behavior and according to Heider (1958) this distinction had a crucial importance for commonsense psychology (as cited in Malle, 2015). As mentioned above impersonal or unintentional and personal or intentional causality is called external and internal causality today. Heider did not include internal causes that bring behavior in a mechanical way this came under impersonal

causality. Heider included behavior that was purposive and intentionally to personal causality (Malle, 2015).

The interest of attribution research increased considerably in the 1960s and 1970s. Researchers gave large amounts of attention to Heider's work and his model of social perception. Based on Heider's ideas, two main strands can be identified; one of them was Harold Kelley's work on causal attribution. According to Heider's work, causal judgments were fundamental in social perception, but Kelley argued that individuals were only engaging in behavior that covary with an event and called it the principle of covariation (Malle, 2015). Behaviors that are attributed internally are characterized by low consensus, high consistency and low distinctiveness. In other words when a person behaves toward an object the cause of the behavior is perceived to internal attribution if few other people behave as the person, if the person behaves the same way toward the object over time and if the person behaves the same way toward other objects (Malle, 2015). In contrast, if a cause to behavior should be attributed external other people has to behave as the person does, the person has to behave the same way toward the object over time and the person have to behave differently towards other objects (Malle, 2015). Causal reasoning researchers embraced Kelley's model of covariation because it applied equally to behaviors (whether intentional or unintentional) and physical events (Malle, 2015). Even though there was little or no experimental studies that supported Kelley's covariation model or that covariation information had an effect on judgments (Malle, 2015).

Discounting principle was one of the later rules that Kelley suggested for causal reasoning. Discounting principle refers to if a second cause weakens the credibility of the first cause or explanation. An example of this is if a colleague of you says that she had a workout session with an athlete yesterday, but when you talk to the athlete they did not have that session.

Then you dismiss the first explanation. Kelley wanted to solve the causal selection problem by examine which perceivers select particular causes for explaining a given behavior or event, but he did not manage it. Rather, he influenced attribution research by assuming that the internal-external categorization applies to all behaviors and events in general. People break down causes to either internal, something within the person, or external, something in the environment (Malle, 2015).

The work of attribution still uses the internal-external distinction when explaining the cause of a behavior, but some researchers suggested alternatives to the internal – external labeling. Bernard Weiner was one of them; he added two more distinctions – one between controllable and uncontrollable causes and the other one between stable and unstable causes (Malle, 2015). In purpose of explaining performance outcomes, health and divergent social behavior, Weiner improved predictions for individuals' emotions and motivations with these two distinctions (Malle, 2015). Weiner's attribution – based theory of motivation is the most commonly adopted theory under this label. Weiner's theory was primarily based on the expectancy-value framework, added with the motivation element of his mentor John Atkinson (Weibell, 2011). However, Weiner was concerned about Atkinson's theory because it lacked experimental validity so in the early 1970s he developed the theory inspired by Heider's social perception and impersonal/personal causality theory and Rotter's internal-external locus of control. Weiner proposed four main perceived causes of achievement outcomes where ability and effort are internal to the person and task difficulty and luck are external to the person. This was a more solid model and made it clear that predictions about future success are made based on past attributions (Weibell, 2011).

Weiner based his model on three dimensions; Locus of causality, stability and controllability. The first dimension was constructed after Heider's internal-external distinction. He called this dimension locus of control after the use of Rotter but later changed it to locus of causality (Weibell, 2011). This dimension refers to the understanding of a persons behavior to lie either inside the person such as ability or to lie outside the person, such as the environment. Stability as the second dimension, refers to whether the internal factors such as ability, are stable or not, does it change from situation to situation? Controllability is the third dimension and refers to whether factors are under optional control of the person or not. Intentionality and globality was mentioned as two possible dimensions by Weiner but was not taken into account because of philosophical problems of intentionality and lack of evidence in globality (Weibell, 2011).

Weiner (1972) stated that Locus of control (internal or external) and stability (fixed or variable) is two dimensions that affect how individuals explain the cause of success and failure (as cited in Stricker, 1997). Ability, effort, task difficulty and luck are the causes perceived as most responsible for success and failure. Individuals who attribute failure to lack of effort does not mean that the person intends to fail, it means that the person will put down more effort in the future in order to prevent failing again and try harder and take responsibility for his failure (Stricker, 1997).

Five dimensions

Weiner (1985) considered five causal dimensions in attribution style: internal/external (locus), stability, controllability, globality and intentionality.

Locus of causality is by far the most known and accepted dimension and plays an important role in most attribution theories. This dimension concerns the distinction about something inside the person and factors in the environment. Locus of causality demonstrated

empirical evidence that supported it as a fundamental dimension of perceived causality. This dimension was inspired by Rotter's locus of control; locus of control had a wide acceptance and has been extensively used when discussing the internal/external dimensions. Weiner pointed out that there is a distinction between locus of causality and locus of control in that an event can be internal but uncontrollable. To avoid any confusion he suggested the term locus of causality and added the dimension controllability as a separate dimension. Most people see internal and external dimensions as opposite of each other, where internal is dispositional and external is situational. However, some researchers believe that this dimension is multi-dimensional and that other future research should treat them as two separate dimensions (Kent & Martinko, 1995, p. 21-31). Based on the overall findings on locus of causality indicating that this dimension is the primary dimension of perceived causality even though many researchers believe that the locus of causality is multi-dimensional (Kent & Martinko, 1995, p. 21-31).

Stability dimension refers to causes being stable over time or not. This dimension is also widely accepted in earlier studies and the validity is properly convincing. An example within this dimension is internal factors such as ability and mood. Mood can vary over time while ability is usually stable. This dimension, according to Weiner, is the most important determinant of expectancy shifts. The results quickly reveal if people have faith in themselves through studies within attribution (Kent & Martinko, 1995, p. 21-31).

Controllability as the third dimension has not received the same level of acceptance as locus of causality and stability has by attribution theorists and researchers. This dimension refers to the extent of which a cause is seen as being under the control of the individual or not. There have been discussions if it should be a solitary dimension while it in some cases has not correlated with locus of causality. Weiner and other attribution researchers believe that

controllability is important for understanding attribution style, but this dimension may vary in importance depending on the situation. Based on previous research, one should be careful by identifying and confirm which dimension is relevant when generalizing and applying the theory to different contexts (Kent & Martinko, 1995, p. 21-31).

Globality was suggested as a dimension by Abramson, Seligman and Teasdale (1978) when they reformulated their learned helplessness model and claimed that it is orthogonal to the previously proposed dimensions: locus of causality and stability. Globality as a dimension refers to whether causes are generalizable to situations or if the cause only occurs in a particular situation (Kent & Martinko, 1995, p. 21-31). An example of whether a cause is generalizable or not is when an athlete performs poorly in an alpine competition that requires understanding of sports technics. There are two possible ways to attribute that are both internal and stabile: lack of ability and lack of technical understanding. If the person attribute to lack of ability, this is global and may lead to failure in a variety of other situations. If the athlete attributes to lack of technical understanding, future failure should only occur in the situations involving technical understanding within alpine. Many discussions have been made regarding this dimension, whether it should be included in studies within attribution theory because previous studies have indicated different regarding validity. Within groups studies one can argue both for and against this dimension. An example against this dimension may be when one emphasis on a single situation (an athlete's everyday life). On the other hand, an athlete's everyday life consists of different situations (competitions, training, sleep, economy). In the latter, one should defiantly apply globality as a dimension within studies of attributions (Kent & Martinko, 1995, p. 21-31).

Intentionality is Weiner's last dimension of the five causal dimensions. Referring to which one that best describes the difference between effort and strategy. Attributing an event

with lack of effort and incorrect strategy is both internal and unstable. The difference between these two is that you are able to choose the amount of effort you put into a job, even though you may not intentionally use a wrong strategy to achieve a goal. An example of the difference is when an athlete chooses to spend time hanging out with friends and party, instead of working towards future competitions (effort) versus an athlete who works very hard but tend to fail doing the right things toward the competition (wrong strategy). Clifford (1984, 1986) did not identify intentionality as a causal dimension, but named the dimension ”strategy” as a method and technique in developing skills (as cited in Kent & Martinko, 1995, p. 21-31). Clifford (1984) believed that strategy as attribution was important in performance situations and indicated that when attributed strategies occur, this may lead to highly constructive results that may affect future performance (as cited in Kent & Martinko, 1995, p. 21-31). Clifford (1986) acknowledged that such strategic attributions were rare, but acquiring strategic attributes in their attribution’s responses to failure situations would be a benefit to individuals (as cited in Kent & Martinko, 1995, p. 21-31). Recent research also suggests that this dimensions is particularly relevant in social motivation and should be used in studies within attribution theory (Kent & Martinko, 1995, p. 21-31).

Performance theories

One of many reasons why the attribution theory has been implemented in sport contexts in recent years is how athletes’ attribute success and failure. Earlier studies have indicated that change of athletes’ attribution style can affect their performance's satisfaction and resilience in training and competition (Hendy & Boyer, 1993; Stricker, 1997).

Psychological theories have over a decade been used regularly to study human behavior in relation to classroom success, group, individual and organizational effectiveness in work settings

such as education and business. Although researchers have been concerned about performance in both classrooms and at work, there are few sport psychologists who have been using attribution theories on athletes'. Attribution theory involves individuals' explanation of events in their life and is a cognitive approach (Stricker, 1997). Athletes, coaches and sport psychologists are interested in finding ways to determine the relationship between success and failure and uncover the cause of reduced effort and performance impairment. Success and failure are psychological states based upon the individuals' perceptions of what constitutes a win or a loss for the individual, rather than synonymous with only winning or losing (Stricker, 1997). Information about the athlete's enduring beliefs or expectations that are based on their attribution can help predicting the athlete's attitudes towards success and failure. Success builds pride and confidence for high achievers and failure doesn't affect their self-esteem, but for low achievers success doesn't increase the persons pride and confidence and therefor it is not as rewarding. According to attribution theory, the common denominator for high achievers is that they will approach instead of avoid tasks related to success and they believe that success is due to high ability and effort. The common denominator for low achievers is that they tend to avoid tasks related to success because they doubt their ability and that success is due to luck or other factors beyond their control (UoT, 2017).

This is necessary and relevant information for both the researcher and coach in order to reveal the athlete's typical competitive behavior before a competition. This information will most likely benefit the coach and athlete and potentially optimize competitive mode to prepare the athlete in best possible way. Attribution style, social learning and the athlete's performance success at competitive achievement –related tasks have according to Stricker (1997) an empirical relation to Weiner's attribution theory of achievement motivation. In Weiner's (1972) attribution

theory he stated that the four elements of ability, effort, task difficulty, and luck could generalize to most achievement tasks (as cited in Stricker, 1997). A person's initial expectation of success is based up on whether he believes that success or failure is due to ability or luck. If the person attributes success to luck and failure to lack of ability, this may indicate that the person is insecure in his explanations. If an individual attributes success to ability and failure to bad luck, the person is confident in his explanations regarding events in life. Stricker (1997) believe that people who feel they are in control of their lives accept responsibility for their behavior. People who take responsibility for their actions indicate that they have control; they choose behavior that gives them a sense of self-worth and a feeling that they are worthwhile to others. A responsible person rejects irresponsible behavior and does not deprive the ability of others to meet their need, instead keeping the focus on fulfilling their own needs (Stricker, 1997).

Athletes' performances and their future expectations of success may be influenced by the athletes' causal attributions (Stricker, 1997). In order to increase the probability of future success, the athletes' should attribute positive events to internal causes. If athletes' attribute positive events to stabile and global too, this will be an advantage for performance and persistence (Hanrahan & Cerin, 2009). Understanding and explaining an individuals success and failure is necessary if athletes' want to develop and improve their ability in the sport (Allen, Jones & Sheffield, 2008).

Attribution theory vs. behavior analyses

Attribution theory and behavior analyses have many similarities in their basic theory, one of them is the subjects desire to have control of their life. The need for control is fundamental and has been described as the central motive that leads human behavior (Fishman & Husman, 2017). An individual's perception of being able or unable to control the occurrence of reinforcers refers

to behavioral outcome contingency. Causal attributions, on the other hand, refer to an individual's perception of a given explanation as a cause of what happens to him (Pettersen, 1987).

There is a difference between saying that an individual can control what happens to himself and a person's sense of a given determinant as a cause. The first case deals with the person's ability to influence the outcome through their own behavior as long as the causality has been attributed to the person's characteristics or to the environment. In the second case, the person identifies the most likely causes of an event and each of these causes can be classified as internal or external in relation to him. By attributing a cause internally does not mean that the person believes that he can control the event and vice versa, if the person attribute a cause externally does not mean that the person cannot control the event (Pettersen, 1987). Internal control refers to personal control, positive and / or negative events are a consequence of a person's behavior. External control means that the control lies outside the person, meaning that positive and /or negative events are unrelated to the person's own behavior in certain situations (Pettersen, 1987).

In attribution theory, internal and external locus refers to when an individual attribute a cause to either lie within the person, such as personality traits or lie outside the person such as bad luck. On the other hand, Rotter's theory refers to internal – external to perceived behavioral outcome contingency (Pettersen, 1987). This means that a person feels able or not able to influence the occurrence of reinforcement. By internal locus of control, a person believes that he can influence the occurrence of reinforcement by his own behavior. With external locus of control, a person believes that he cannot influence the occurrence of reinforcement with his behavior; it lies outside his control (Pettersen, 1987).

Cognitive therapists have indicated great interest in understanding private events, but they have not succeeded in convincing behavioral analysts about their approach or findings. The reason might be that cognitive therapists do not describe the findings in a language that behavior analysts find useful. Cognitive therapists have used information from computer science in order to explain private events and their role within complex human behavior while behavior analysts has expanded their basic behavioral language. Without involvement of cognitive psychology, they have applied their language to complex human behavior. Instead of pulling in different directions or to interpret the content of cognitive psychology with behavioral conditions, they should rather open up for dialogue and learn from each other (Forsyth, Chase & Hackbert, 1997).

Attributions are interpreted differently by different approaches and deals with the understanding of "why" questions. It is a collection of various theoretical and empirical contributions that emphasize individuals' interpretations of why events happen as they do. Although people constantly ask and answer with "why" questions, attribution activities or the role of causal explanation is not well enough explained. One reason for this lack of understanding is that reason-giving and explanation-seeking activities have not been specified clearly enough. Forsyth et al. (1997) tries to demonstrate that attributions can be an interpreted form of behavioral analytic perspective that involves relating otherwise arbitrary events in relation to a social – verbal context from which they originate. Attribution deals with people's dispositions or other psychological states and is an inference about why an event occurred. These causal interferences describe the relation between some causal antecedent(s) and outcome(s). When people respond to an event, there are several causal interpretations being given. But perhaps the most important aspect of this theory is that attributions require verbal specifying of events and results. Attributions is a form of verbal action of organisms explanations, causes and descriptions

about oneself, others or events in life. There are challenges that no matter how one sees it, it will always be a difference of how cognitive therapists and behavioral analysts see the psychological role attributions plays in human behavior (Forsyth et. al., 1997).

To make the world a stable, orderly and predictable place a major function of the attribution process is, according to most cognitive psychologists, to understand, organize and form meaningful perspectives about the social world (Forsyth et al., 1997). Individuals should establish relations between events and outcomes in order to get their interpersonal environment more effective. The established relations can lead to more efficient and appropriate behavior, but it may also lead to inappropriate and ineffective behavior. Reason-giving can lead to effective action when individuals interact with their environmental contingencies that are influential. In such cases, it leads to effective and appropriate behavior, but it may also have the opposite effect. If the environmental contingencies are being used as a reason for behavior in private event such as feelings or unpleasant thoughts that might lead to ineffective behavior. Attributions to emotions or unpleasant thoughts used as reason for doing or not doing something is in cognitive psychology accepted as the cause of behavior. An example of this is blaming the fear for not doing something that feels uncomfortable, which is largely supported by our social-verbal society because. Anxiety is accepted or reinforced as a reason for example, not flying, but it is probably not the reason that a person chooses not to fly. Cognitive therapists contradicts them for their treatment of anxiety or depression is to reduce, eliminate and help the client to control these dysfunctional attributions, thoughts and emotions (Forsyth et. al, 1997). Even though they implicit says that it is these dysfunctional thoughts that are causing the problem. As long as something makes sense for the client or therapist and the cause of behavior are being supported by our social-verbal society, then it is ok to attribute cause to behavior, feelings or thoughts.

Cognitive therapists are therefore not interested in attributions themselves, or conditions that produce attributions, rather more interested in their causal or meditational roles in influencing subsequent behavior. Attributions have been treated by cognitive therapists in the way that one do not need any further explanation beyond what the hypotheses are asking for (Forsyth et. al, 1997).

Behavior analysts argue that it is necessary to ask question related to the origins of attributions as a verbal process and believes that it will be incorrect to describe attribution as a cognitive process (Forsyth et. al, 1997). Questions related to attribution origins and function of reason-giving accounts is missing in modern research on attributions in cognitive psychology. Many claim that it is impossible to understand complex social phenomena such as attributions; however, behavior analysts have proven the opposite. Attributions are mainly about verbal behavior learned through social experiences in our verbal society. Attributions and reason-giving is verbal actions of organisms, particularly verbal behavior that describes possible relations between events (Forsyth et al., 1997). Skinner (1984) said that the relation between individual's behavior and the consequences of their behavior is controlled by the causes of behavior of rational people (as cited in Forsyth et. al, 1997). Behavior analysts' use causes because our social-verbal society has maintained explanations in certain situations, even though they prefer verb form of attribution as an act to attribute. This stands in contrast to the cognitive use of attribution style, which largely is pulled out of its context. Cognitive therapists attention has been directed to an understanding of what attribution style is as a causal variable and not what the attribution makes as a dependent variable in relation to the context. Behavior analysts are more concerned to emphasize the importance of attributions as a human act in terms of their historical and current environmental relations. Leading to specific behavior and how such conditions can be

described in ways that match the descriptions of how other behaviors are produced (Forsyth et. al, 1997). In other words, they want the explanations to be about prediction and control with sufficient scope and precision. People's independent variables, i.e. the cause of behavior, are the external conditions that behavior is a function of. It is therefore necessary to analyze the environment as an explanation of behavior (Forsyth et al., 1997). Behavioral analysts look at private events as important as any other behavior, but believe it is important to place control in the environment to explain the occurrence of all behaviors. Because all behavior is seen as a function of the environment and cannot be changed directly without changing the environment, behavior analysts do not accept public or private behavior as the reason for other behavior (Forsyth et al., 1997). Therefore, attributions are not causes of behavior but attributing and other environmental behavioral relations occur on the basis of environmental events. Behavior analysts claim that examining the effect of directly measurable and manipulate independent variables on directly measureable dependent variables best construct a reliable, cumulative built science (Forsyth et al., 1997). These variables occur in the environment and in the organism's observable behavior. They see attributions as an ongoing action – in – context that requires accurate explanation of the context. They believe that the action of events might be reinforced or not reinforced; it depends on the context that selectively affects relations (Forsyth et al., 1997).

Cognitivists have treated attribution style as a foundation for other behavior. They claim that it is a trait-like cognitive schema that acts as a filter through which individuals that perceives the cause of events in our world (Forsyth et al., 1997). Attribution style do not refer to what individual do in certain contexts, it is intended to represent something that a person has. This is a meditational view of causality. Environmental conditions lead to attributions, attributions leads to behavior or behavior leads to attributions (Forsyth et al., 1997). Behavioral analysts have

difficulties with hypothetical and unobserved causes for behavior because they are used in a circular way. Attribution theorists collect verbal reports of attributions and use this cognitive process to explain the verbal report and other behavior. In this process, the verbal process remains unexplained. They try to expose attributions through questionnaires or verbal self-report, but they ignore the social consequences that are involved in causal explanations. This is unsatisfactory for most behavior analysts. They are more interested in describing overt and covert verbalizations. Since attributions is a social phenomenon that requires individuals to produce verbal behavior specifying the possible causes of events, they are not observed as a particular form of behavior that requires a unique conceptual system (Forsyth et al., 1997). A way for behavior analysts to inform our understanding of attributions is to understand attributions as a verbal process and to bring all the gathered knowledge of verbal processes in the explanatory analysis (Forsyth et al., 1997).

According to Baily (2000) behavior analysis reached its peak before the paradigm shifts in the late 1980s and this science has been passed by new emphasis on human rights. This despite that behavior analysis has a good research base, the fundamentals of the science are stronger than ever and the contributions seems more significant than just a few years ago (Baily, 2000). Behavior analysis was well known for behavioral changes and improving performance among others, including people with mental retardation living in institutions. After the change of paradigm, their work was not as interesting even tough their procedures actually worked. Advocacy groups asked questions about their use of aversive procedures and believed that these procedures could hurt the clients. They were more concerned about the feelings of people with mental retardation and the concerned messages from the parents rather than conduct successful procedures for behavioral changes. The times were changing with a new emphasis on clients'

rights and human rights and the consumers changed and brought another value system. If behavior analysts had been aware of this paradigm shift they would have been able to make adjustments to their research methodology and communication strategies (Baily, 2000).

Behavioral analysis is the right approach in understanding human behavior, but they need to change in line with the complex and constantly changing world. This science offers a complete, pedagogical and therapeutic treatment. They know how to diagnose performance issues in organizational positions, and how to improve productivity in almost any organization as well as a steady stream of behavioral research has been done within sports psychology. A problem is that they do not get enough attention form the public arena or people do not understand the principles of their procedures (Baily, 2000).

Some reasons that might have been crucial for the less attention behavioral analysis has gained may be that they speak only to themselves, through their own journals and to others at their own conferences. Although they have solutions to everyday problems that bother us, solutions that are human, efficient and if given chance, chosen by individuals (Baily, 2000). Great solutions that match the cultural values, they are democratic and support moral behavior. But for this to come to the world they need to change tactics. They must develop systematic strategies to spread the word about their science, research and solutions (Baily, 2000).

Conclusions

Attribution theory has constantly been evolving since Fritz Heider (1958) first introduced the theory (as cited in Malle, 2015). Attribution is defined as people's explanation of events that occur in their lives (McLeod, 2012). Attribution theory refers to the model of causal explanation given by individuals, trying to infer why individuals give these explanations (Weibell, 2011). Heider (1958) suggested two possible ways to attribute events on, internal and external, which

refer to either characteristics of the individual or behavior as a result of the environment (as cited in Malle, 2015). The perhaps the most well known researcher on this topic is Bernard Weiner and his attribution-based theory of motivation (Weibell, 2011). Weiner presented three dimensions individuals tend to attribute events along: locus of causality, stability and controllability. Locus of causality refers to Heider's suggestion of the difference between internal-external causality (Weibell, 2011). Stability refers to whether the behavior or cause is stable or varies over time or between situations. Controllability refers to the extent to which the individual has control over events in life (Kent & Martinko, 1995, p. 21-31). Furthermore, Weiner suggested four causes that are perceived as most responsible for success and failure: ability, effort, task difficulty and luck (Stricker, 1997).

Later, Weiner mentioned in addition two possible dimensions that also could explain the causes of events in life; Globality and intentionality, but did not include them in his theory until later because intentionality had some philosophical challenges and there was no evidence supporting globality dimension (Stricker, 1997). In the mid-1980s, however, Weiner (1985a) finally proposed the last two dimensions that could be applicable to explain individuals' attribution style (as cited in Kent & Martinko, 1995, p. 21-31). Globality refers to the degree to which you may generalize a cause to other situations. Does the cause only occur in certain situations? Intentionality refers to the extent to which the cause is done purposely or not (Kent & Martinko, 1995, p. 21-31).

Athletes are largely dependent of, or particularly concerned with the results their performance leads to. How athletes attribute reasons for success and failure may greatly affect their performance (Hendy & Boyer, 1993). This may be the reason why attribution theory has been implemented in sporting contexts in recent years (Stricker, 1997). Information about

athlete's expectations based on their attribution may help predict something about the athlete's approach towards success and failure. Therefor, studies that investigate athletes' attribution style to success and failure may be highly relevant and necessary in optimizing the athletes' performances in sporting situations (Stricker, 1997).

Attribution theory is a cognitive theory developed by cognitive therapists who try to understand the causes of behavior (Pettersen, 1987). The only thing they do, according to behavior analyses, is to illuminate attribution theory in a circular and mentalistic way. They do not explain anything and use a language that behavioral analyses do not mean is a useful and understandable language. Behavior analyses believe that one must go further in the depth of attributions to state a cause and effect relation. Rather, one must try to understand why individuals use the causes they do and indicate that attribution is a form of verbal behavior (Forsyth et al., 1997). Meaning that the causes of the individuals arise from the antecedences and consequences of behaviors. Although the author of this article agrees with the behavioral analyses principles of behavior, behavioral analyses has failed to illuminate their science to the rest of the world (Baily, 2000). Baily (2000) argues that even though the public dose not know enough about behavior analyses (but luckily increasing interest), the author of this article has chosen to use Sport Attributional Style Scale – short form. This is a validated and reliable questionnaire dealing with athletes' explanations of positive and negative sporting events developed by Hanrahan & Grove (2013). It is time for a new study using this questionnaire on Norwegian athletes, investigating their attribution style along the five underlying and theoretical dimensions: internality, stability, globality, controllability and intentionality.

References

Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of abnormal psychology, 87*(1), 49.

Allen, M. S., Jones, M. V., & Sheffield, D. (2009). Causal attribution and emotion in the days following competition. *Journal of sports sciences, 27*(5), 461-468.

Bailey, J. S. (2000). A futurist perspective for applied behavior analysis. *Handbook of applied behavior analysis*, 473-488.

Fishman, E. J., & Husman, J. (2017). Extending attribution theory: Considering students' perceived control of the attribution process. *Journal of Educational Psychology, 109*(4), 559.

Forsyth, J. P., Chase, P. N., & Hackbert, L. (1997). A behavior analytic interpretation of attributions in the context of behavior therapy. *Journal of behavior therapy and experimental psychiatry, 28*(1), 17-29.

Hanrahan, S. J., & Cerin, E. (2009). Gender, level of participation, and type of sport: Differences in achievement goal orientation and attributional style. *Journal of Science and Medicine in Sport, 12*(4), 508-512.

Harahan, S. J., & Grove, R. (2013). Sport Attributional Style Scale – Short Form. Retrieved from https://www.researchgate.net/publication/258345187_Sport_Attributional_Style_Scale_-_Short_Form

Hendy, H. M., & Boyer, B. J. (1993). Gender differences in attributions for triathlon performance. *Sex roles, 29*(7-8), 527-543.

Malle, B. (2015). Attributional Processes: Psychological.

Kent, R. C., & Martinko, M. J. (1995). Measurement of attributions in organizational research. In M. Martinko (Red), *Attribution theory: An organizational perspective* (p. 21-31). CRC Press. Retrived from

https://books.google.no/books?id=_J1rdq_lKH8C&pg=PA21&lpg=PA21&dq=five+underlying+causal+dimensions&source=bl&ots=DYSDt68t1t&sig=jboCixI7fkjsFY1uELTErHv1A14&hl=no&sa=X&ved=0ahUKEwj_6rne5rTTAhWGhiwKHVMYB0AQ6AEIJzAA#v=onepage&q=five%20underlying%20causal%20dimensions&f=false

McLeod, S. (2012). Attribution Theory. *Simply Psychology.* Retrieved from https://www.simplypsychology.org/attribution-theory.html

Pettersen, N. (1987). A conceptual difference between internal-external locus of control and causal attribution. *Psychological Reports, 60*(1), 203-209.

Stricker, R. S. (1997). Attributional style and perceived physical self-efficacy as predictors of sport performance (Doctoral dissertation). Institute of philosophy, The University of Mississippi. Retrieved from http://search.proquest.com/docview/304357037/

University of Twente. (2017). Attribution Theory. Retrieved March 11 2017 from https://www.utwente.nl/en/bms/communication-theories/sorted-by-cluster/Interpersonal%20Communication%20and%20Relations/attribution_theory/

Weibell, C. J. (2011). Principles of learning: 7 principles to guide personalized, student-centered learning in the technology-enhanced, blended learning environment. Retrieved from https://principlesoflearning.wordpress.com/dissertation/chapter-3-literature-review-2/the-human-perspective/attribution-theory-weiner-1971

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological review, 92*(4), 548.

Investigating gender differences in Norwegian athlete's attribution style using Sport Attributional Style Scale

Charlotte Krohn

Faculty of Health Sciences
Department of behavior science

OSLO AND AKERSHUS
UNIVERSITY COLLEGE
OF APPLIED SCIENCES

Author note

Charlotte Krohn, faculty of health sciences, department of behavior science, Oslo and Akershus University College of Applied Sciences.

Questions regarding this article are addressed to Charlotte Krohn. E-mail: charlotte_k91@hotmail.com

Abstract

Previous studies have indicated that there may be gender differences with regard to athletes' attribution of success and failure. However, others studies indicate that there are no differences. The data appears to be inadequate in that some studies have only investigated college students within a university, while others have done studies on triathlon athletes', indicating different results. The discussion is far from done with regard to gender differences and their attribution style.

This study investigated gender differences in Norwegian athletes' in terms of their attribution style. A sample of 40 athletes' engaging in individuals' sports on a national or international level in their sport (20 males, 20 females) completed measures of Sport Attributional Style Scale. Findings regarding gender differences in attribution style have been somewhat inconsistent in this study. One possible explanation may be due to lack of participants. This study cannot indicate significant gender differences, except on the intentionality dimensions. This illustrates a small correlation between the independent variable (gender) and the dependent variable (intentionality dimension). The researcher believes that more studies with larger sample are necessary in terms of investigating Norwegian athletes attribution style to indicate possible significant gender differences. With that in mind, this study has attempted to highlight a possible way for athletes' to optimize performance.

Key words: attribution style, Norwegian athlete, Sport Attributional Style Scale, gender difference

Introduction

People tend to explain the cause of an event using cause and effect relations, even when there is none. This is called attribution. Attribution patterns may play a major role in sports and might affect athlete's performance (McLeod, 2012).

For an athlete to develop and improve his or her ability, it is necessary to analyze and understand success and failure of the past. This process is called causal attribution and can be categorized along five dimensions; locus of causality, stability, globality, controllability and intentionality (Allen, Jones & Sheffield, 2009). With locus of causality, one is referring to whether the cause or causes of an event lies within or outside of a person. Stability refers to the cause or causes of an event as either being stable, or varying over time. Globality refers to which degree the cause or causes of an event may be generalizable to other events. Controllability refers to the extent of which a cause or causes is under the control of the individual or not. Finally, intentionality refers to whether the cause or causes are perceived as purposive or accidental by the person (Kent & Martinko, 1995, p. 21-31).

Attributing success and failure

Athletes', coaches and others interested in sports want athletes' to achieve their best possible performance in competitions. One is constantly searching for improvement, optimization in training and a deeper understanding of what it is to be a top athlete. The mental aspect of performance, in general and in sporting events, has gained more attention in recent years. One theory of how athletes may influence their own performance is Weiner's attribution-based theory of motivation. Weiner (1985) suggested locus of causality, stability and controllability as three underlying attributions for performance. In recent years, there has been an increase in research on and implementation of attribution theory and performance within the contexts of sports. How

athletes explain success and failure may, based on previous research affect their performance satisfaction, expectation of future success and persistence in training and competition (Hendy & Boyer, 1993).

Attributing success to internal and stable causes, such as stable ability over time, may work to an athlete's advantage. The reason is that the athlete may then be more aware of what will be necessary in order to perform well in the future (Hendy & Boyer, 1993). Successful athletes tend to attribute performance to stable and controllable factors such as ability and effort. High effort and believing in their ability to perform well may lead to greater likelihood of success. On the other hand, unsuccessful athletes tend to attribute success to unstable and uncontrollable factors. They do not believe that they have the ability to perform well, nor do they put enough effort to win a contest. The tendency for the unsuccessful athletes to attribute success to external, unstable and uncontrollable factors may lead to low self-esteem, low motivation and poor performances (Hendy & Boyer, 1993; Gernigon & Delloye, 2003). Athletes' may experience success and failure differently; some may experience success without an objective win or experience failure without objective loss (Hanrahan & Gross, 2007). It is more important to look at how athletes define success and failure and to make them understand that the explanations for success and failure are related to performance behaviors and motivation (Hendy & Boyer, 1993). Another difference between athletes is how they define their competence in their variable goal perspective. Task and ego are two prominent achievement goal orientations. An athlete with a dominant task orientation may define success in managing tasks or enhancing his own personal skills. An athlete with a dominant ego orientation may define success as being better than his competitors. This indicate that athletes in same sporting situation with different

achievement goal orientations may disagree whether an event is perceived as successful or not (Hanrahan & Gross, 2007).

A motivational environment in sports is related to sources such as managing, progress, learning and people having a goal orientation. Athletes perceiving the motivational environment to be mastery-oriented reported functional achievement strategies such as the will to learn in practice and continue to practice as very important. Being involved in a motivational environment in sports is also important for the development of lifetime skills such as health, awareness and long-term interest in sports. The ego-oriented athletes perceived the motivational environment as more performance-oriented. These athletes' were more interested in gaining recognition and increasing their social status than training when engaging in sports. A sporting environment that involves participation in tasks is a positive and unique way of influencing and affect Norwegian athletes while pointing out that interaction in a sporting environment is important. The process of building a motivational sporting environment must take into account disposable goals and the context of the situation because it is the basis of this process (Ommundsen, Roberts & Kavussanu, 1998).

As mentioned above, attributions have a tendency to affect achievement, success and persistence, but in addition, types of sports can affect performance measurements and attributions (Hanrahan & Cerin, 2009). According to Hanrahan and Biddle (2002), athletes' who competed in track and field sports were more likely to focus on task orientation, because success was measured in personal records and distances. Athletes' in team sports rated significantly lower on task orientation. This may indicate that individual athletes attributed their performances to internal and controllable more often than the team sports athletes'. Individual athletes' may be virtue of their pointed sport; more easily pretend to have greater control and responsibility for

their performances. They do not have to rely on or trust anyone other than them selves as team sports athletes' may (Hanrahan & Cerin, 2009).

There are many variables that may influence athletes' attribution style when giving causes for success and failure. In addition, success and failure are psychological conditions based on the subjective opinion of the individual; therefore, researchers should focus on subjective definition of success and failure when measuring attributions in sports outcomes (Bird, Foster & Maruyama, 1980).

According to behavioral analyses, individuals attribute success, failure, positive and negative events in terms of their previous history of learning and their current environmental relations (Baily, 2000). History of learning refers to each organism's past individual experiences by reinforcement and punishment. Organisms respond totally differently to the same set of environmental conditions. This implies that some behaviors are selected by contingencies (increases in frequency) while others are weakened. How individuals choose to act and how they behave is a result of former history of learning (history of reinforcement) that have selected, shaped and maintained individuals behavior (Cooper, Heron & Heward, 2007, p.44). As Cooper, Heron and Heward (2007) state, "We are what we do, and we do what we have learned to do" (Cooper et al., 2007, p. 44).

Verbal behavior is a form of operant behavior that is explained by consequences and context. The behavioral analyses define verbal behavior as the occurrence of a behavior of an individual that generates stimuli that affects the behavior of another organism. Changing the conditions in the environment will lead to a change in the behavior of an organism (Baum, 2005, p. 129-157).

Attribution is a mentalistic concept within cognitive theory, which makes it difficult for behavioral analyses to get a better understanding because observation is challenging. Such as language in public events, private events depend on public practice in the verbal society. It consists of thoughts, feelings and expressions that only the person can report. These events lie in the environment where behavior never can occur in private events (Baum, 2005, p. 129-157). Private events are normal as well as important in problem solving and decision-making (Skinner, 1992, p. 432-452).

In private events the same person is the speaker and listener and the persons verbal behavior for the speaker will be reinforced by changes in the same person's behavior (listener). This can occur, for, example when an individual instructs himself or talks to himself that leads to an act (Baum, 2005, p. 129-157). An athlete may talk to himself or give some instructions to himself before å competition such as telling himself that he is not allowed to doubt himself or escape from the competition. When a contest seems impossible to complete then the athlete may tell himself that he will not give up, but complete the tasks he has agreed with himself to complete. Self-talk or self-instructions may involve a deal that function as an antecedent to complete the task or competition.

In order for self-talk to be called verbal behavior, there must be a change in for example, an athlete's behavior that acts as a listener too (i.e. complete the task that the athlete have decided to complete) (Baum, 2005, p. 129-157). A person who talks to him self is an excellent listener. The person speaks the same language and has had the same verbal and non-verbal experience as the listener. As a listener, the person is aware of his own behavior; he is optimally prepared to understand what is said that lead to very little time lost in the transmission (Skinner, 1992, p. 432-452).

Gender differences

Previous studies in psychology and sport indicate that male athletes' are more concerned about achievements and performance than female athletes'. Female athletes' tend to be more concerned with the social aspects of the sport, seeking more approval and recognition through relations with others (Kolnes, 1994). The overall outcomes of Kolnes (1994) study indicate that female athletes' tend to be more adaptable in their lifestyle while male athletes' are more oriented towards sporting performances. Females point on the social context as very important when engaging in sport, in addition to mental and physical benefits that they daily exercise provide. They also think more about life after the end of the career. Males, on the other hand, emphasize the actual competition as an important aspect of engaging in sport, while it is crucial to be the best in their sport. They also emphasize the control of their own psyche and regard themselves as distinctive competitors and performance-oriented. This indicates that the male athletes explain success of internal factors such as ability and effort (Kolnes, 1994).

Studies within psychology are not the only one that indicates gender differences in sporting events; studies within attributions have similar results on gender differences. According to Deaux and Farris (1977) males attribute to a greater extent than females to internal and stable causes such as ability to task performance. In terms of performance, females attribute to a greater extent than males to external causes such as luck (Deaux & Farris, 1977). The study of Bird and Williams (1980) demonstrate that male athletes' explain performances on the basis of effort, the belief of control over the outcome of their performances and enough effort will lead to success. Female athletes', on the other hand, believed that their performance outcome is controlled by external factors in that success was in term of luck (Bird & Williams, 1980). The study of

Croxton and Klonsky (1982) indicate the same results as the studies above, that females attribute failure to internal factors and success to external factors.

As mentioned above, previous studies indicate differences between females and males in practicing sport. Females are in greater extent concerned with the external environment and the benefits of engaging in sports such as exercising with others and the life after their sports career (Kolnes, 1994). Within research on attribution, it is not just individual experience of success and failure or the type of sport athletes' engaging in, which may influence how athletes attribute causes of success and failure. The first studies conducted within attribution have indicated gender differences as a relevant variable in measuring attributions in sports performances and outcomes. Female athletes' often attribute success to uncontrollable luck or social support and failure to ability. Male athletes' however, attribute successful performances to stable ability and controllable effort and attribute failure to luck. But recent measurements of attributions in sports related situations indicate little or no gender differences (Frieze, McHugh & Duquin, 1976). The study of Frieze et al. (1976), indicate that female athletes' attributed more internally than the males to both success and failure, even though the male athletes' attributed cause of success to ability in greater extent than the female athletes'.

Earlier research indicates that gender may have an impact on both achievement goal orientation and attributions. In terms of achievement goal orientation, the findings have been somewhat inconsistent. Some researchers believe that there is no difference in gender in terms of task orientation, but they discovered that males scored higher than females on ego-orientation (Hanrahan & Cerin, 2009). Hanrahan and Biddle (2002) discovered no gender differences related to ego-orientation, but on task subscales, females rated higher than males. Hanrahan and Cerin

(2009) discovered that gender is a moderator of the relation between the level of participation and attribution style, and a predictor for achievement goal orientation.

In the study of Hendy and Boyer (1993) female triathletes attribution of success and failure indicate opposite of previous research. Females attributed, in greater extent than males, to internal and controllable factors such as ability and effort to affect performance. Triathlon is not seen as a male dominant sport, which may be a reason why female triathletes in the study had self-confidence when attributing success to internal characteristics. In addition, Hendy and Boyer (1993) assumed that female athletes' in previous studies have not dared to take credit for their successful performances even though they believed in themselves. Based on the different findings and disagreements regarding gender differences in attribution studies, the goal of this study is to shed light on the matter of gender differences among Norwegian athletes' engaging in individual sports.

Sport Attribution Style Scale

Based on the growing interest in investigating attribution theory in sporting situations Hanrahan, Grove and Hattie (1989) developed the Sport Attributional Style Scale, a questionnaire that measured athlete's attribution style along five dimensions; locus of causality, stability, globality, controllability and intentionality. They were concerned about understanding causal cognitions in sports, and how the knowledge could be developed in to a method for improving athletes' performance and persistence (Hanrahan & Grove, 1990).

Many studies have been done on attributions regarding specific sporting situations, but none have investigated the athletes' attribution style along the five dimensions mentioned above. From previous studies, only three dimensions have been used; globality, controllability and intentionality have been changing. There have been major discussions and disagreements about

which dimension should be the third dimension. Some researchers have suggested that globality is absolutely necessary while others have stated that intentionality is the best regarding attribution style in sporting situations (Hanrahan et al., 1989).

According to Hanrahan et al. (1989) many have studied attributions about specific sports situations, but there are no earlier studies that have all five dimensions in one questionnaire, neither used elite athletes from outside university environment. So based on previous research on attribution style Hanrahan et al. (1989) developed a questionnaire that met all of these criterions and named it Sport Attributional Style Scale (SASS). The SASS is a self-report measure of attribution style that describes various sporting situations (Hanrahan & Cerin, 2009) and consists of 24 item questions describing 12 positive and 12 negative sporting events. Hanrahan and Grove (1990) later shortened their original SASS to a new, validated and reliable questionnaire; Sport Attributional Style Scale – Short Form consisting of 10 items describing half positive and half negative events. An example of a question or item: "You perform very well in a competition" and "you perform poorly in a competition" (Hanrahan et al., 1989).

The outcome of a sport situation is important in any sport; that is why it will be an ideal environment to study the athletes' attribution style because they are used to explain success and failure (Hanrahan et al., 1989). When moving from performance to an outcome situation, individuals may percept success differently (Hanrahan & Gross, 2007). This might affect the results in the present study as athletes', regardless of sport and season, answered the SASS. Some of the athletes' have recently been competing, while other athletes' were in the training phase.

The main aim of the present study was to investigate any differences between genders in terms of their attribution style by using the SASS. The researcher collected the data of the athletes' using the SASS because it is a validated and reliable questionnaire that consists of

sports-related events that the athletes' could relate to. The researcher of the present study believed that Norwegian male athletes attributed success in greater extent to internal, stable and controllable factors than Norwegian female athletes'. Even tough the author found it difficult to believe that Norwegian female athletes' would in greater extent attribute success to uncontrollable luck and failure to lack of ability.

Method

Participants

According to the Norwegian administration act § 13 e, anyone who performs work in connection with research task imposed secrecy scientist(s) (Forvaltningsloven, 2009). To protect the participants in this study the questionnaires were anonymous in the sense that the participants were only divided into gender and age. The participants in this study consisted of Norwegian athletes' competing on a national or international level in their sports. The participants were divided in two groups, 20 males and 20 females' participants with a total average age on 25 years. The researcher used a nonprobability, purposive sample of the participants. The reason was that the researcher wanted a sample who met some predetermined criterion such as doing sport on an national or international level in an individual sport (Cozby & Bates, 2012). The sample is somewhat biased. The researcher had a relation with the participants so obtaining permission to conduct the research was fairly easy. The sample also included only athlete's engaging in individual sports and most of the athletes' live in Oslo, the capital of Norway. But the advantages outweigh the sample concerns for the researcher (Cozby & Bates, 2012).

Setting

The SASS short form is a one-time questionnaire that was e-mailed through Gmail to the athletes. This made it possible for the athletes' to answer the questionnaire whenever.

Instrumentation

The questionnaire used in the present study is composed by Hanrahan & Grove (1990), a short form of the Sport Attributional Style Scale (SASS). The original SASS consists of 16 – item, but to attain a higher response rate from the athletes' and since time was a consideration, the shortened version consisting of 10 – item was used. The SASS consists of sport – related events along the five dimensions of internality (locus of causality), stability, globality, controllability and intentionality (Hanrahan & Grove, 1990). When each item was presented, either positive or negative events, the athletes' had to rate the cause on a 7-point bipolar scale.

Design

This study is a quasi-experimental design with two groups with no control group or randomization of the groups. Due to the absence of a control group, it does not qualify as an experimental design (Svartdal, 2010, p. 167-180). Some may say that the present study is a survey research but a quasi-experimental design allows the researcher to examine the impact of an independent variable (gender) on a dependent variable (attribution style) (Cozby & Bates, 2012)

Internal Validity

If the researcher documents validity this means that the researcher documents that the effect of an experiment is caused by the manipulation of an independent variable that leads to a change in the dependent variable (Svartdal, 2010, p. 165-166).

There are several variables that may have an impact on the results of an experiment without necessarily being the effect of the experiment. This is something the researcher must take into account by making sure to control these conditions the best way possible. Threats to the internal validity can be many, such as not do a randomization of the participants (Cozby & Bates, 2012). Many psychological studies do not represent a good sample of the population because the researcher knows the participants that even may be reason for participation. Although this may lead to a bias and largely produce a non-representative sample, it will in many cases bring us useful information. However, a randomized sample will not tell us anything about the citizens in a country so instead of focusing on the sample, one should focus on replication of studies. To increase the likelihood of generalization researchers should select several different samples from populations and conduct numerous studies (Cozby & Bates, 2012).

The researcher must also considerate that other events in the participant's life may have had an impact on the day the participant responds to the questionnaire (Cozby & Bates, 2012). Missing values are a common occurrence and occur when you don't store data value for the variable in an observation. If one have some missing values it can have a significant effect on the conclusions that can be drawn from the data. Dropouts may also lead to missing values, meaning that some participants choose to terminate their participation before they have completed it or that participants uses their right not to answer (Field, 2014, p.107-108). All these variables that may affect the results in the study must be taken into account in the analysis of the data.

External validity

External validity refers to the findings being generalized to other larger populations. Is the sample representative of the population the sample is derived from? If so, one has achieved generalization (Svartdal, 2010, p. 163-164; Cozby & Bates, 2012).

In order to increase the likelihood of generalization, it is an advantage to do a randomization of the participants. The participants represent a sample of a population and if the sample is proper, the obtained information from the participants can be used to precisely estimate characteristics of the population (Cozby & Bates, 2012). The small sample in this study indicate low response rate that may limit the ability to generalize (Cozby & Bates, 2012). In order to get a greater response rate, a tool such as a follow-up reminder is a benefit to get each athlete to respond within its due. Researchers should attempt to convince people that the survey's purpose is important and participation will be a valuable impact on the result (Cozby & Bates, 2012).

Reliability

Stabile measures are the main goal in an experiment, and makes it possible to ensure that the results are trustworthy and reliable (Svartdal, 2010, p. 164-165). Did the participants follow the order of the questionnaire or did they jump back and forth among the questions? If they jumped back and forth, does it affect the results? Priming may affect the response rate in the study if the order of the question has not been randomized (Garland, 2011). Additionally, the researcher made it clear for the athletes' that they could ask questions if something was unclear.

To measure the scale reliability it is common to use the Cronbach's alpha that measure the correlation and constructing a variance-covariance matrix for all items (Cozby & Bates, 2012; Field, 2013, p. 708-710).

The researcher of the present study did a pilot study of the questionnaire on eight persons to check for reliability and other possible weaknesses of the questionnaire. By sending out a trial run mad it easier to discover errors due to the translation, instructions and questions related to the questionnaire (Cozby & Bates, 2012). The people in the pilot study consisted of people competing on a professional level, while others were family and friends training on a regular

basis. To avoid measure errors as best as possible and systematical errors that can occur in a study to achieve the probability of reliability (Howitt & Cramer, 2011).

Procedure

To recruit the Norwegian athletes' who competed on a national and international level, the researcher googled different sports in Norway and found the participants on different sport websites. The researcher then sent a request to the relevant participants on Facebook while some of them was asked at the researchers' workplace (the Norwegian Olympic Sport Center).

The researcher had to translate the SASS short form into Norwegian (see appendix) to make the participants understand the questions better. It was then sent to eight participants as a pilot study to check for biases such as sentence structure, translation and understanding of the questions. After receiving comments on the questionnaire, the researcher made the necessary changes before sending it on Gmail to each participant. To attain a higher response rate, the researcher used Gmail to make it easer for each participant to access the questionnaire. The questionnaire started with a consent form explaining the project's purpose without any information that could reveal or affect the study. The researcher also informed the participants that they at all times had the opportunity to withdraw form the study, without any explanation. After the questionnaire was completed, the answers were immediately sent to the researcher through Gmail drive.

The SASS short form consists of ten sport-related situations or items, five positive events and five negative events presented in random order. Negative and positive versions of the same situation were never placed next to each other and the participants had to choose one most likely cause of why that situation happened. Each of the items was placed on a separate page and permitted the participants to use their own definitions of success and failure instead of outcomes

of winning or losing. For example instead of stating "you loose a competition" one item stated "you perform poorly in a competition". Then they had to rate the cause on a 7-point bipolar scale along the five dimensions; Internality, stability, globality, controllability, intentionality. Internality dimension, the 7-point bipolar ranged from 1 = totally due to other people or circumstances to 7 = totally due to me. Stability dimension, the 7-point bipolar scale ranged from 1 "will never again be present" to 7 "will always be present". Globality dimension, the 7-point bipolar dimensions ranged from 1 "influences just this particular event" to 7 "influences all my life events". Controllability dimension the 7-point bipolar scale ranged from 1 "controllable by me" to 7 "not controllable by me". Intentionality dimension the 7-point bipolar scale ranged from 1 "intentional" to 7 "unintentional". The researcher had to changed the range on the controllable and intentional dimension because it was framed wrong in the translated version of the questionnaire. The participants were also requested to indicate how important the event would be if it happened to them and how clearly they were able to imagine the event happening on the 7-point bipolar scale, but these two questions is not included in the present paper because of its interest.

Results

The aim of the study was to investigate gender differences in attribution style using the Sport Attributional Style Scale. The study examined Norwegian athletes' engaging in individual sports on a national or international level. The researcher used excels to compare gender differences across the five dimensions of internality, stability, globality, controllability and intentionality.

Figure 1 includes the total scores for all five dimensions for positive events for both female and male athletes'. The average score for female athletes on all five dimensions is 5,776

while for the male athletes' is 5,866. The standard deviation for the female athletes is 0,642 while for the male athletes' are 0,615. The variance of a sample for the female athletes' is 0,389 and for the male athletes' are 0,378. Norwegian female athletes rated a bit higher than male athletes on internality and stability on positive events, but it was the same rate on globality while male athletes rated a bit higher on controllability and intentionality.

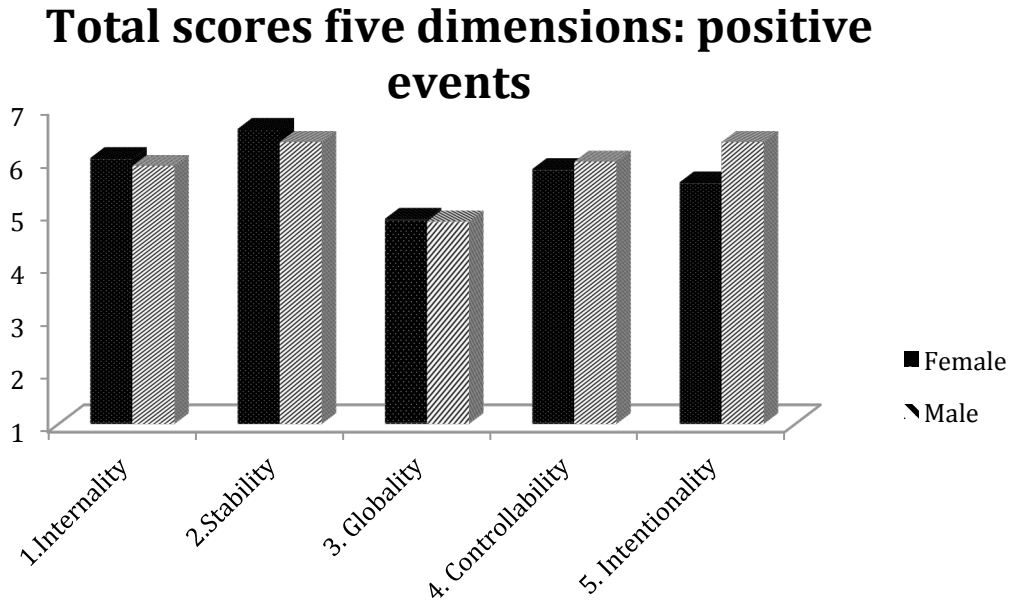

Figure 1: Average scores along the five dimensions for female and male athletes' on the 7-point bipolar scale.

Figure 1 includes the total scores for all five dimensions for positive events for both female and male athletes'. The average score for female athletes on all five dimensions is 5,776 while for the male athletes' is 5,866. The standard deviation for the female athletes is 0,642 while for the male athletes' are 0,615. The variance of a sample for the female athletes' is 0,389 and for the male athletes' are 0,378. Norwegian female athletes rated a bit higher than male athletes on internality and stability on positive events, but it was the same rate on globality while male athletes rated a bit higher on controllability and intentionality.

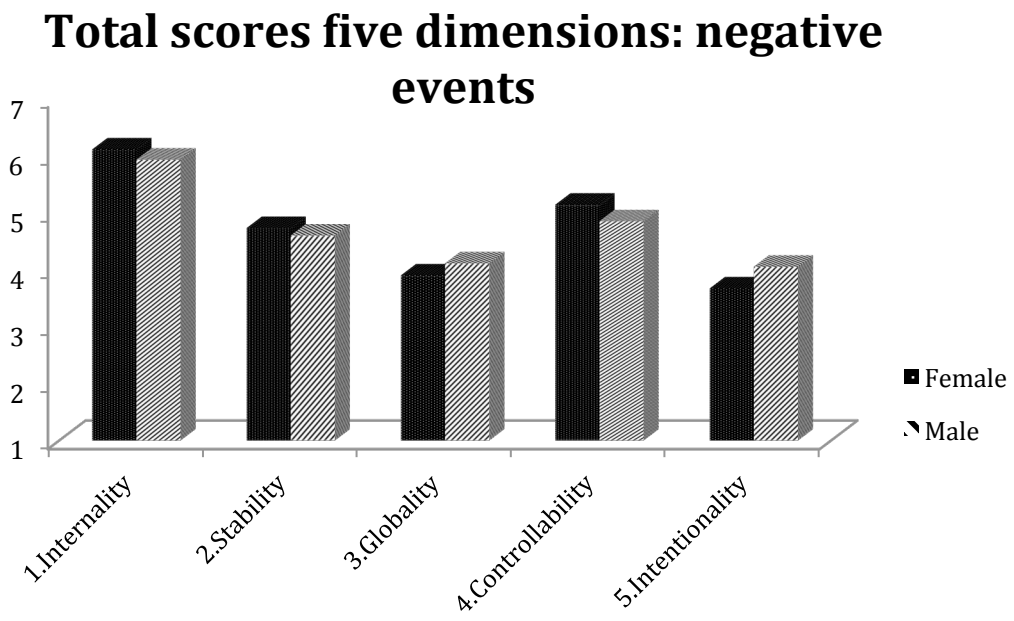

Figure 2: Average scores along the five dimensions for female and male athletes' on the 7-point bipolar scale.

Figure 2 includes the total scores for all five dimensions for negative events for both female and male athletes'. The average score for female athletes' on all five dimensions is 4,71 while for the male athletes' is 4,708. The standard deviation for the female athletes' is 0,985 while for the male athletes' are 0,760. The variance of a sample for the female athletes' is 0,970 and for the male athletes' are 0,578. Norwegian female athletes rated a bit higher than Norwegian male athletes on internality, stability and controllability. The Norwegian male athletes rated a bit higher than Norwegian female athletes on globality and intentionality. Measuring the Pearson correlation indicated no correlation on the five dimensions except on the intentionality dimension on positive events. There is a significant correlation at the 0.05 level (2-tailed).

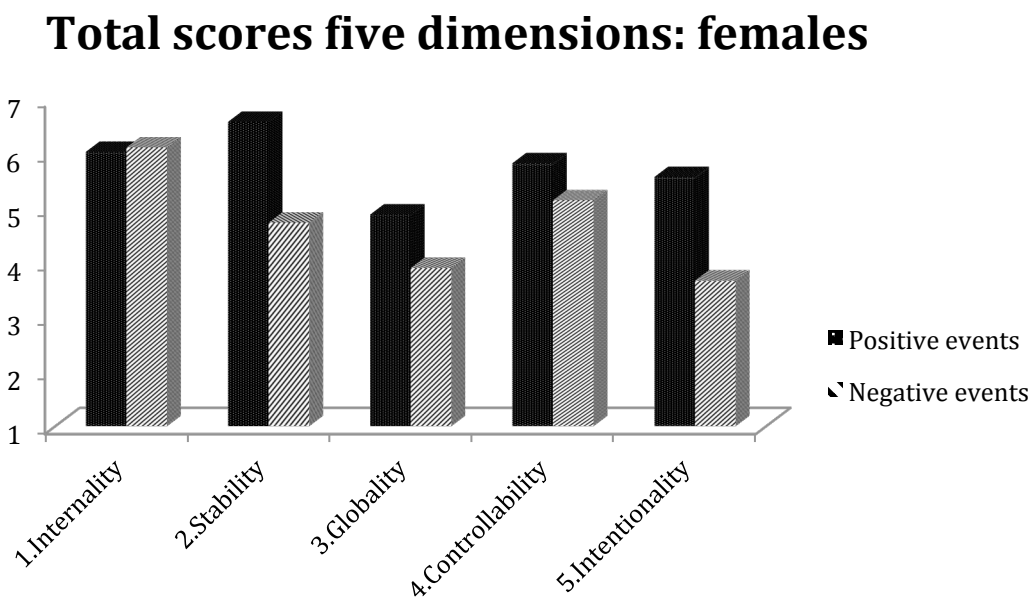

Figure 3: Average scores along the five dimensions on positive and negative events for female athletes' on the 7-point bipolar scale.

Figure 3 includes the total scores for all five dimensions for Norwegian female athletes' for both positive and negative events. The average score for female athletes' on all the five dimensions for positive events is 5,776 while for negative events are 4,71. The standard deviation for positive events is 0,642 while for negative events are 0,985. The variance of a sample for positive events is 0,389 and for negative events are 0,970. Norwegian female rated higher on positive events on stability, globality, controllability and intentionality, while internality was almost the same for positive and negative events.

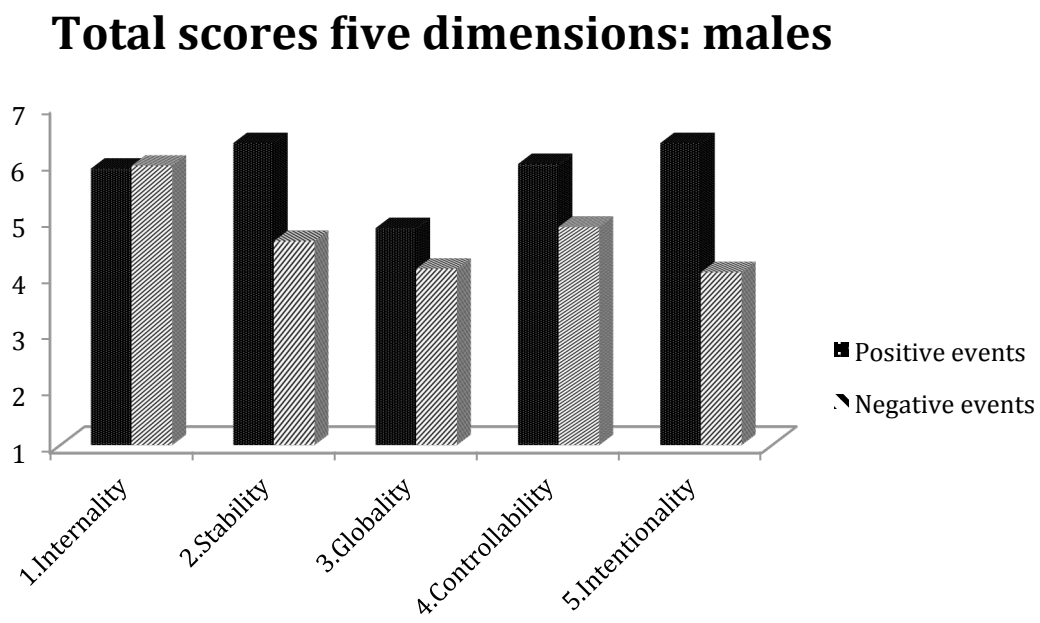

Figure 4: Average scores along the five dimensions on positive and negative events for male athletes' on the 7-point bipolar scale.

Figure 4 includes the total scores for all five dimensions for Norwegian male athletes' for both positive and negative events. The average score for male athletes' on all the five dimensions for positive events is 5,866 while for negative events are 4,708. The standard deviation for positive events is 0,615 while for negative events are 0,760. The variance of a sample for positive events is 0,378 and for negative events are 0,578. Norwegian male athletes' rated higher on positive events on stability, globality, controllability and intentionality. It was approximately the same between the positive and negative events on internality.

Discussion

The present study intended to investigate gender differences in attribution style using the Sport Attributional Style Scale on Norwegian athletes'. The result indicated no significant differences between genders.

The researcher expected the Norwegian male athletes' to attribute success to internal, stable and controllable to a greater extent than the Norwegian female athletes. The result of the present study indicated no significant differences between genders.

The female athletes' attributed success in greater extent than the male athletes to internal and stable factors and attributed failure to a greater extent than the male athletes to internal, stable and controllable factors. This indicates that the female take credit for their success, but since the result are not significantly one cannot conclude with this. The Norwegian female athletes attribute failure to internal, stable and controllable factors, this indicate that they believe that the loss are due to them selves and that they most certainly know the reason for why the negative event happened.

The Norwegian male athletes attributed success to more intentionality, controllability than the female athletes. They attributed failure to more global and intentional factors than the female athletes. This may indicate that the male athletes are more aware of why the negative events happened and that the events are generalizable to other negative events.

The results for the Norwegian female athletes indicate that they attribute positive events to be more stabile, global, controllable and intentional than negative events. This may indicate that they experience positive events to be more stabile over time and that they most certainly know the reason for why the positive events occurred and they have control over the events. There are some concerns regarding the internality dimensions, the female athletes attribute positive and negative events with a few decimals separating them. This might indicate that the female athletes believe that the positive and negative events are due to them selves and not other factors.

Looking at the results for the Norwegian male athletes' along the five dimensions between positive and negative events they attribute positive events to be more stabile, global, controllable

and intentional than negative events. This may indicate the same as the female athletes, which are aware of why positive events occurred, that they have control over the events and that it can happen in other situations and are stabile over time. Attributing positive events to be more stabile, global, controllable and intentional than negative events indicate that the athletes, both female and male, believe in them selves, they are aware of why an event occurs that may indicate high ability and high effort in sports situations.

Measuring the Pearson correlation on the dependent variable (attribution style) and the independent variable (gender) indicated no correlation on the five dimensions except on the intentionality dimension on positive events. There are a significant correlation at the 0.05 level (2-tailed) indicating that is most likely is a cause and effect relation between gender and intentionality.

Earlier studies indicate that successful athletes' should attribute success to ability and effort (Hendy & Boyer, 1993); the results in the present study indicate that the Norwegian athletes' do that. They believe that they have the ability to do well in competitions and that high effort will lead to positive events such as the coach complimenting your performance or that your teammates claim that you are a good performer.

The athletes' have learned form their history of reinforcement and punishment what is expected of an athlete, this may indicate the little different between genders. Both female and male athletes' may have been reinforced for behaviors such as being focused on each work out session and during each competition, how to be best prepared before a competition, and put enough effort in each work out session and each competition, be purposeful. This is some of the statements they have made for the positive events in the questionnaire. Behaviors that may have led to poor results may function as a punisher for those behaviors. Some of the causes that the

athletes' made for the negative events were being unfocused, performed under expectations, lack of self-esteem and nervousness. These feelings are private events according to behavior analyses and may be changed by changing the contingencies of the behavior. Athletes should in these cases learn to think differently (i.e. talking to themselves) about what leads to success and failure.

Self-talk may lead to increasing the athletes' self-esteem and their performances. As the example of an athlete's self-talk before a completion may increase his performance by reinforcing his own desired behavior for completing a competition or provide experienced success.

Some behaviors are selected by contingencies while others are weakened: This may also indicate that the athletes' may perceive control over their own behavior and how they can perform as best as possible.

We do what we have learned: The athletes' do what they have been learned, such as how to maintaining the desired behaviors that lead to the preferred reinforcers. Even though the preferred reinforces are far ahead in time such as a European championships, World championships and the Olympic Games. The reason for maintaining the desired behavior may be that the athletes' talk a lot to them self about how to perform, what it takes to become the best athlete in their sport. As mentioned, private events are crucial in decision-making, therefore, self-talk may be a great reinforcer for keeping up the good work and aim for major championships. Self-talk may also have influenced the athletes' attributions of sporting events and be used as a tool to increase and affect athletes' performance.

The present study does not indicate a significant gender difference in attributions. This may be due to the low selection of participants, but it may also be due to that Norwegian athletes' are keener to be apart of a team even though they are participating in individual sports.

Another reason regards the male athletes', who attributed success, to be more external. This may be because many of the participants' were competing in rowing. Rowing is defined both as individual and team sports because the one athlete may be rowing single sculler and double sculler (with teammates) that may indicate the results that they attribute success to be more external (success totally due to other people) than the female athletes'.

The present study indicates low degree of validity due to lack of participants, lack of control over each environment the participants answered the questionnaire in and the questionnaire was sent to the participants only once. The questionnaire was sent on email, making it difficult for the researcher to control the environment that the participants' answered the questionnaire in. Lack of participants made it difficult to indicate significance between genders. The researcher sent out request for participation to 59 athletes and only 40 responded and answered the questionnaire. The researcher wanted the participants to answer the questionnaire in a controlled environment, with focus on only answering the questionnaire. This made it difficult getting enough participants so the questionnaire had to be sent on Gmail to receive a high response rate.

The researcher recruited athletes' on Facebook or asked them face-to-face on the Norwegian Olympic Sport Center where the researcher is working which led to a non-randomized sample of participants. This may have been affecting the generalization to the population considering the biases in the answers. It is difficult to conclude that the non-randomize sample has affected the results because the participants knows the researcher, but at the same time, the athletes' have rated success to be internal, stabile and controllable and in addition, given the most likely causes of why the sporting event occurred which may indicate honest answers.

It is difficult to know if the score on the dependent variable would have been equal, lower or higher without the program due to the lack of a control group. The reason why results such as

these are sometimes are being accepted is due to the implicit idea of how a control group would perform.

The researcher in the present study checked for missing values by saving the data at all times, keeping track on how many that have responded to the questionnaire, verifying that all have answered on all the 10 items by sending a follow-up reminder of participation and reminder of answering all of the questions in the SASS. Everybody that accepted to be apart of this study answered the questionnaire after receiving the last follow-up reminder so dropouts were never a concern.

In the present study there may be difficulty to conclude generalization because the sample was too small. With only 40 athletes' divided in 20 females and 20 males make it difficult to generalize to other larger populations. The Sport Attributional Style scale is only representative for people doing sport that make it too narrow to generalize to people that are not engaging in sports. Some of the questions in the SASS were more related to team sports (i.e. "your are not selected for the starting team in an important competition") than individual sports, this made it difficult for some of the athletes' to widely imagine that the situation happened to them. Because of the small sample this led to a low response rate that may limit the ability to generalize (Cozby & Bates, 2012).

In the present study there may be difficulty to conclude external validity because there have not been done any likewise studies on Norwegian athletes doing individual sports. Some of the questions in the SASS were more related to team sports (i.e. "your are not selected for the starting team in an important competition") than individual sports that made it difficult for some of the athletes to widely imagine that the situation happened to them. Therefore, there is a high likelihood that the questionnaire can be generalized to team sports.

Measurement of Cronbach's alpha was done to check for the reliability of the study. This proves to be unreliable since the results were far from the acceptable values (.7 to .8) of Cronbach's alpha. Since the researcher did not have the opportunity to control the environment the participants' answered the questionnaire in, this made it impossible to know if the participants followed the order of the questionnaire. Did they jump back and forth between the questions, if so, did that affect the results? This may have affected the reliability of the study. The researcher believes that following the sequence of the questionnaire may increase the fidelity to the questionnaire and the results.

To avoid priming in the study, the researcher randomized the order of the question by having each question on a separate page and ensuring that negative and positive events did not come right after each other.

The pilot study may have increase the reliability of the questionnaire in standardization of their procedure, exclude any misunderstandings of the questions and making sure that the instructions was understandable (Cozby & Bates, 2012). Translation of questionnaire may have lead to misinterpretation of the questions. The researcher cannot be sure that the translation of the questions has been done correctly even though one has done a pilot study. There will most certainly be some differences in the formulation of questions when one translates something from one language to another. But translating it into the athlete's native language may have led to a more understandable and hopefully an increased response rate for each question, expecting they not to skip any incomprehensible questions.

Some of the athletes gave feedback that it was difficult to widely imagine that some of the fictional situations had occurred. The reason was either that the fictional situations had never happened to the athlete or that the situation was constructed more for team sports athletes.

Therefore, conducting real-life sporting situations might make it easier for the athletes to widely imagine situations that hopefully will lead to more honest and sincere answers.

The fact that the researcher sent out the questionnaire on Gmail may be both a weakness but also a strength. Referring it as a strength of the study means that it made it easy for the athletes' to answer it whenever. Another strength of the present study was the equally large groups of female and male athletes making it beneficial for the thesis and the comparison between gender differences.

For further work, the researcher wants to use the principles of behavioral analysis to change some of the participant's behavior and increase the participant's belief in them selves. If the athletes' allows it, the researcher wants to analyze each of the participant's answer, find out who belongs to each questionnaire and work individually with the athlete. The reason for this is the ability to optimize their thinking of themselves, their work and behavior to enhance the athlete's performances in their sport.

Future research should combine the SASS with self-efficacy theory, achievement goal orientations or other theories that can investigate motivation and other factors that can affect athletes' performances. The present study investigated more on the surface in athletes' explanations and motivations toward performances. It would have been interesting to do a pre-post test and investigating causal attributions before and after competitions, to see if the athlete's attribution style had changed after competing.

Future research should try to implement the SASS into the business life if some of the questions were more adapted to that culture. I line with athletes', leaders have to perform, be focused on their tasks, cooperative and goal-oriented.

Future research should investigate the possible difference between individual sports athletes and team sports athletes within Norwegian athletes. Are there any differences across sports in how they attribute success and failure? Do team sports athletes' attribute success to external, stable and controllable factors and failure to internal, stable and controllable factors because team sports athletes' have to rely more on others (such as their teammates). While athletes' doing individual sport may attribute success more internal and failure to external because they only have to rely on themselves and if they experience a loss, then they only disappoint themselves, may this be the case?

Future research should also investigate if there are any age differences in attributing positive and negative events. Does the older and more experienced athletes attribute positive events to be more internal, stable and controllable than younger athletes?

Conclusions

The aim of the study was to investigate any differences between genders in Norwegian athletes' in terms of their attribution style. Due to a small selection of participants there is not possible to draw any conclusions on general basis. The study gives an indication on how Norwegian athletes' explain causes of behavior in sporting situations. Based on the increasing interest in how mental health may influence performance in sports, the researcher hope that this study may be the start of a more comprehensive analysis of athlete's behavior. In addition, the researcher wanted to highlight a way of optimizing performance by running this study!

References

Allen, M. S., Jones, M. V., & Sheffield, D. (2009). Causal attribution and emotion in the days following competition. *Journal of sports sciences, 27*(5), 461-468.

Bailey, J. S. (2000). A futurist perspective for applied behavior analysis. In J. Austin & J. E. Carr (Red.), *Handbook of applied behavior analysis* (p. 473-488). Retrieved from https://books.google.no/books?hl=no&lr=&id=cucnfpq30_4C&oi=fnd&pg=PR5&dq=bailey+2000+a+futurist+perspective+for+applied+behavior+analysis&ots=M_pUPpVt3L&sig=ndxnHx51f2ra2iiPCqH1uMX82xM&redir_esc=y#v=onepage&q=bailey%202000%20a%20futurist%20perspective%20for%20applied%20behavior%20analysis&f=false

Baum, W. M. (2005). Understanding Behaviorism (2nd edition). Blackwell publishing.

Bird, A. M., Foster, C. D., & Maruyama, G. (1980). Convergent and incremental effects of cohesion on attributions for self and team. *Journal of Sport Psychology, 2*(3), 181-194.

Bird, A. M., & Williams, J. M. (1980). A developmental attributional analysis of sex role stereotypes for sport performance. *Developmental Psychology, 16*(4), 319.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied Behavior Analysis* (2nd edition). Upper Saddle River, NJ: Merrill.

Cozby, P. C., & Bates, S. C. (2012). *Methods in behavioral researche* (11th edition). The McGraw-Hill Companies, Inc.

Croxton, J. S., & Klonsky, B. G. (1982). Sex differences in causal attributions for success and failure in real and hypothetical sport settings. *Sex roles, 8*(4), 399-409.

Deaux, K., & Farris, E. (1977). Attributing causes for one's own performance: The effects of sex, norms, and outcome. *Journal of research in Personality, 11*(1), 59-72.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th edition). SAGE Publications.

Forvaltningsloven. (2009). *Lov om behandlingsmåten i forvaltningssaker (forvaltningsloven).*

Retrieved from: http://lovdata.no/dokument/NL/lov/1967-02-10

Frieze, I. H., McHugh, Maureen., Duquin, Mary. (1976). Causal Attributions for women and men and sports participation. Retrieved from http://files.eric.ed.gov/fulltext/ED162209.pdf

Garland, P. (2011). Question Order Matters. *SurveyMonkey*. Retrieved from https://www.surveymonkey.com/blog/2011/03/02/question-order-matters/

Gernigon, C., & Delloye, J.-B. (2003). Self-efficacy, causal attribution, and track athletic performance following unexpected success or failure among elite sprinters. *The Sport Psychologist, 17*(1), 55-76.

Hanrahan, S., & Biddle, S. (2002). Measurement of achievement orientations: Psychometric measures, gender, and sport differences. *European Journal of Sport Science, 2*(5), 1-12.

Hanrahan, S. J., & Cerin, E. (2009). Gender, level of participation, and type of sport: Differences in achievement goal orientation and attributional style. *Journal of Science and Medicine in Sport, 12*(4), 508-512.

Hanrahan, S. J., & Gross, J. B. (2007). Attributions and goal orientations in master athletes: performance versus outcome. *Revista de Psicología del Deporte, 14*(1).

Hanrahan, S. J., & Grove, J. (1990). A short form of the Sport Attributional Style Scale. *The Australian Journal of Science and Medicine in Sport, 22*(4), 97-101.

Hanrahan, S. J., Grove, J. R., & Hattie, J. A. (1989). Development of a questionnaire measure of sport-related attributional style. *International Journal of Sport Psychology*.

Hendy, H. M., & Boyer, B. J. (1993). Gender differences in attributions for triathlon performance. *Sex roles, 29*(7-8), 527-543.

Howitt, D., & Cramer, D. (2011). *Introduction to research methods in psychology* (3rd ed.). Harlow, Essex: Pearson Education International

Kent, R. C., & Martinko, M. J. (1995). Measurement of attributions in organizational research. In M. Martinko (Red), *Attribution theory: An organizational perspective* (p. 21-31). CRC Press. Retrived from https://books.google.no/books?id=_J1rdq_lKH8C&pg=PA21&lpg=PA21&dq=five+underlying+causal+dimensions&source=bl&ots=DYSDt68t1t&sig=jboCixI7fkjsFY1uELTErHv1A14&hl=no&sa=X&ved=0ahUKEwj_6rne5rTTAhWGhiwKHVMYB0AQ6AEIJzAA#v=onepage&q=five%20underlying%20causal%20dimensions&f=false

Kolnes, L.-J. (1994). *Kvinner og toppidrett – om kjønn, kropp, seksualitet og relasjoner I toppidretten* (Doctoral dissertation). Institutt for samfunnsfag, Norges Idrettshøgskole, Oslo.

McLeod, S. (2012). Attribution Theory. *Simply Psychology.* Retrieved from https://www.simplypsychology.org/attribution-theory.html

Ommundsen, Y., Roberts, G. C., & Kavussanu, M. (1998). Perceived motivational climate and cognitive and affective correlates among Norwegian athletes. *Journal of sports sciences, 16*(2), 153-164.

Skinner, B. (1992). F.[1957]: Verbal Behavior. *New York: Appleton-Century-Crofts*.

Svartdal, F. (2010). Forskningsmetoder. I: S. Eikeseth & F. Svartdal (Red.), *Anvendt atferdsanalyse: teori og praksis* (2.utg.) (s. 159-181). Oslo: Gyldendal akademisk.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological review, 92*(4), 548.

Appendix

The Norwegian version of Sport Attributional Style Scale

Information sheet for participants

A research investigating how Norwegian elite athletes explain their performances.

Introduction
I would like to invite you to participate in this project, which is concerned with how you explain your performances and why you behave as you do in different sport situations.

Why am I doing this research?
The research is a part of my final year at the college university at Oslo and Akershus. This research will hopefully give a better understanding in how trainers, athletes and people around them should communicate with each other and why they explain events in life as they do.

What will you have to do if you agree to take part?
1. This is a one-time questionnaire.
2. The questions are mandatory therefore it is not possible to skip any of them. It is expected that the survey will take about 15 to 20 minutes.
3. When I have completed the master thesis I will write a summary of the results that I will be more than happy to send to you if you are interested.

Will your participation in the research remain confidential?
If you agree to take part, your name will not be recorded, only gender and age. Your responses to the questionnaire will be used for the purpose of this research, but it may be public published. You can be assured that if you take part in this research you will remain anonymous.

What are the advantages of taking part?
If you agree to participate in this study you will get an analyses of how you think in different sports situations and why you explain these situations as you do.

Do you have to take part in the study?
No, your participation in this study is entirely voluntary. I do not need a reason from you if you don't want to participate. You don't have to say anything, you just ignore this e-mail and you will not be contacted again.

What happens now?
Please answer the questionnaire below and sign the sheet at the end of this questionnaire if you agree to take part in this study.

If you have any questions regarding this study, you can contact Charlotte Krohn on e-mail charlotte_k91@hotmail.com or phone 41620805.

Instruksjon:

Dette spørreskjemaet beskriver flere positive og negative hendelser i idretten din. Hvis du har opplevd en slik hendelse, hvilken årsak skyldes dette? Vennligst følg instruksjonene nedenfor:

1. Les hver hendelse og forestill deg at det skjer DEG.
2. Kjenn etter og bestem den mest sannsynlige årsaken til at det skjer DEG.
3. Skriv ned denne årsaken i den blanke boksen (KUN en årsak)
4. Svar på fem spørsmål om årsaken (Spørsmål b - f).
5. Svar på to spørsmål om hendelsen (Spørsmål g og h).
6. Gå videre til neste hendelse

Dette skjemaet kan virke omfattende, men for å få et kvalitetsikret forskningsresultat så må samtlige spørsmål besvares.

På forhånd, takk!

Best regards,
Charlotte Krohn

*Må fylles ut

1. Kjønn *

Merk av for alt som passer

- ☐ Mann
- ☐ Kvinne 2.

Alder *

_____

1. Dine lagkamerater påstår at DU er en veldig god utøver.

a. Skriv ned den mest sannsynlige årsaken til dette: *

(KUN en årsak):

b. Er årsaken til dine lagkameraters påstand noe angående deg, angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Handler kun om meg selv

c. Når dine lagkamerater snakker om dine prestasjoner i fremtiden, vil denne årsaken være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker hvordan dine lagkamerater referer til dine prestasjon i din idrett eller påvirker det også andre hendelser i livet ditt? (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? *(Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Ubevisst

2. DU blir ikke tatt ut til en viktig konkurranse.

a. Skriv ned den mest sannsynlige årsaken til dette *

(KUN en årsak):

b. Er årsaken til det å ikke bli tatt ut til en viktig konkurranse noe angående deg, noe angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun om meg

c. Når uttak til viktige konkurranser gjøres i fremtiden, kommer denne årsaken til å være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker denne hendelsen om ikke å bli tatt ut til å konkurrere eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelsene i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

3. DU presterer veldig bra i en konkurranse.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til at du presterer veldig bra i en konkurranse noe angående deg, eller noe angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun om meg

c. Når du presterer bra i konkurranser i fremtiden, kommer denne årsaken til å være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker denne hendelsen om at du presterer veldig bra i en konkurranse eller påvirker det andre hendelseri livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelsene i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Unkontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

4. DU har store problemer med gjennomføre en krevende treningsøkt.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er åsaken til at gjennomføringen av denne krevende treningsøkten er vanskelig noe angående deg, eller noe angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun om meg selv

c. Når du i fremtiden skal gjennomføre en krevende treningsøkt, vil denne årsaken til å være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker hvor vanskelig det er å gjennomføre en krevende treningsøkt eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

5. Treneren kritiserer DIN prestasjon.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til at treneren din kritiserer deg noe angående deg eller noe angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun om meg selv

c. Når treneren din kritiserer deg i fremtiden, vil denne årsaken være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker din treners kommentar eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbar	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbar

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

6. Lagkameratene dine mener at DU ikke presterer bra.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til at lagkameratene dine påstår at du ikke presterer bra noe angående deg, eller noe angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun om meg selv

c. Når lagkameratene dine snakker om dine prestasjoner i fremtiden, vil denne årsaken være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker hvordan dine lagkamerater referer til dine prestasjoner i din idrett, eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

7. DU blir tatt ut til å starte i en veldig viktig konkurranse.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til at du blir tatt ut til den viktige konkurransen noe angående deg, eller angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun meg selv

c. Når uttak blir gjort i fremtiden, vil denne årsaken til å være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker om du blir tatt ut til å konkurrere, eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

8. DU presterer veldig dårlig i en konkurranse.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til din svake prestasjon noe angående deg, eller angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun om meg selv

c. Når du skal konkurrere i fremtiden, vil denne årsaken være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker deg i konkurranser eller påvirker det også andre hendelser i livet? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

9. Treneren skryter av DIN prestasjon.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til at treneren din skryter av dine prestasjoner noe angående deg, eller angående andre personer eller omgivelsene? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun meg selv

c. Når treneren din skryter av deg i fremtiden, vil denne årsaken være tilstede igjen? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som kun påvirker din treners kommentar eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

10. DU mestrer en svært krevende treningsøkt.

a. Skriv ned den mest sannsynlige årsaken til dette. *

(KUN en årsak):

b. Er årsaken til det å klare å gjennomføre en krevende treningsøkt noe angående deg selv, eller angående andre personer eller omgivelser? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Handler kun om andre personer eller omgivelsene	◯	◯	◯	◯	◯	◯	◯	Handler kun kom meg selv

c. Når du i fremtiden skal gjennomføre en krevende treningsøkt, vil denne årsaken være tilstede igjen? * (Kryss av kun ettt all) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Vil aldri være tilstede igjen	◯	◯	◯	◯	◯	◯	◯	Vil alltid være tilstede igjen

d. Er denne årsaken noe som påvirker hvor lett det er for deg å gjennomføre en krevende treningsøkt eller påvirker det også andre hendelser i livet ditt? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Påvirker kun denne bestemte hendelsen	◯	◯	◯	◯	◯	◯	◯	Påvirker alle hendelser i livet mitt

e. Er denne årsaken noe som er kontrollerbart av deg eller andre, eller er det ukontrollerbart? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Kontrollerbart	◯	◯	◯	◯	◯	◯	◯	Ukontrollerbart

f. Er denne årsaken noe som er bevisst eller er det ubevisst? * (Kryss av kun ett tall) *Markér bare én oval.*

	1	2	3	4	5	6	7	
Bevisst	◯	◯	◯	◯	◯	◯	◯	Ubevisst

Consent to participation

Consent to participation *

I have read this information and answered all questions. I have received answers to any questions I may have in addition to the written information. I have read the information about this study and agree to take part. The results can be used in the researchers master thesis about attribution.

☐ I agree