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## Receiving and giving autonomy support among teammates in competitive youth football

A cross-sectional study

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## Abstract

Youth competitive sports is a salient social arena for youth athletes to develop physically, technically, psychologically, and socially in fellowship. Still, there is insufficient empirical evidence of peer motivational climates. Therefore, the purpose of the present study was to explore potential explaining factors of peer motivational climates in competitive youth football using self-determination theory. We intended to investigate receiving and giving autonomy support to teammates and their associations with satisfaction and frustration of basic psychological needs in competitive youth football. In examining autonomy support, we included psychological factors such as self-esteem, resilience, perfectionism, benevolence, and trust to explore the antecedents of autonomy-supportive behaviour. Hence, a classification and regression tree (CRT) using the CHAID algorithm to investigate significant explaining factors for autonomy received and given. Accordingly, two trees were produced. Football players ( $N = 232$ ,  $M = 17.5$ ,  $SD = 1.15$ ) in teams (U16-U19) from various Norwegian regions were recruited. The results indicated the intricate nature of autonomy support with essential differences in players' experience of autonomy support received and reasons for giving autonomy support to teammates. Players' received autonomy support from teammates was explained by their experience of relatedness. In contrast, players' benevolence was the main factor explaining autonomy support given to teammates. Results indicated a more complex interplay concerning autonomy support given to teammates, with multiple factors contributing to the supporting behaviours towards teammates in competitive youth football.

## Sammendrag

Konkurransedrett for ungdom er en fremtredende sosial arena for ungdomsidrettsutøveres utvikling av fysiske, tekniske, psykologiske og sosiale ferdigheter i fellesskap. Likevel er det utilstrekkelig empirisk bevis på motiverende klimaer mellom lagkamerater i nåværende forskning. Hensikten med denne studien var å utforske mulige forklarende faktorer for å få og gi støtte i et motiverende klima i kompetitiv ungdomsfotball ved å bruke selvbestemmelsesteorien. Vi hadde til hensikt å undersøke å motta og gi autonomistøtte til lagkamerater og deres forening med tilfredsstillelse og frustrasjon av grunnleggende psykologiske behov i fotball. I undersøkelsen av autonomistøtte, inkluderte vi psykologiske faktorer som selvtillit, motstandskraft, perfeksjonisme, velvilje og tillit for å utforske forløperne til den støttende atferden. Derfor benyttet vi et klassifiserings- og regresjons tre (CRT) gjennom CHAID-algoritmen for å undersøke signifikante forklarende faktorer for autonomistøtte mottatt og gitt. Det ble, i den hensikt, produsert to trær. Fotballspillere ( $N = 232$ ,  $M = 17.5$ ,  $SD = 1.15$ ) i lag (U16-U19) fra ulike norske kretser ble rekruttert. Resultatene indikerte den intrikate naturen av å få og gi autonomistøtte med spillernes opplevelse av autonomistøtte mottatt og grunner for å gi autonomistøtte til lagkamerater. Spillernes autonomistøtte mottatt av lagkamerater ble forklart av deres opplevelse av tilhørighet. På den andre siden var spillernes velvilje den viktigste faktoren for å påvirke autonomistøtte gitt til lagkamerater. Resultatene indikerte et mer komplekst samspill angående autonomistøtte gitt til lagkamerater, med flere faktorer som bidro til støtteatferden overfor lagkamerater i konkurrerende ungdomsfotball.

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# 1. Theory

## 1.1 *Youth sports environments*

Organised sports (hereby referred to as sports) provide the opportunity to investigate a salient social context in which youths interact, socialise, and develop (Holt et al., 2008; Weiss & Stuntz, 2004). In some countries, especially with deep sports roots, sports are considered an appropriate tool to promote youths' social and personal development (Duda & Treasure, 2015). Participation in sport is associated with well-being and health, albeit injuries, burnout, and negative affect also occur (Balish et al., 2014; Bergeron et al., 2015; Holt, 2008). Moreover, through sport, children and youths learn several skills in their encounters with the sports environment. Representing the life skills literature, Johnston et al. (2013) underlined sports' role in the potential development of various life skills, such as teamwork, goal setting, time management, emotional skills, interpersonal communication, social skills, leadership, problem-solving, and decision making. Furthermore, these skills were supported and highlighted in a subsequent study of physical education students regarding their relevance to youth self-esteem, positive affect, and satisfaction with life (Cronin et al., 2018). A significant facilitator of this development seems to be the sporting climate, as it can assist or hinder youth development of essential life skills (Fraser-Thomas & Côté, 2009). Hence, the quality of the environment is a crucial determinant for young athletes' motivation and well-being (Mageau & Vallerand, 2003).

Considering the positive youth development literature (PYD), Holt et al. (2017) formed a model to further understand the concept in sport. Respectively, social agents, such as coaches, parents, and peers, were significant in creating the climate from which essential skills and outcomes could develop. However, a youth sports environment provides more than the potential to yield improved well-being. Hence, whilst life skills facilitated through PYD could be the end goal (Camiré et al., 2011), it may additionally be how these skills influence performance and talent transition (MacNamara et al., 2010). Thus, this necessitates a balanced focus on development and outcomes for both instances, developing qualities related to performance improvement (Johnston et al., 2013). Bergeron et al. (2015) emphasised that the goal of youth sports is to create healthy, resilient, and capable athletes while maintaining inclusive, sustainable, and joy-

based participation with the opportunity for individual mastery and success for athletes at various levels.

The environment surrounding athletes has caught researchers' eyes for a long time. Thus, a wide range of social and environmental studies have enlarged our knowledge of social mechanisms, social agents, and favourable climates for athlete development, specifically in football (Gledhill et al., 2017; Gledhill & Harwood, 2019; Larsen et al., 2012; Mills et al., 2012, 2014). It has been suggested that for athletes to develop, they need to be part of an environment that complies with their needs (Williams & Reilly, 2000). Effective development of athletes should, thus, consider the complex interaction between the whole person, the task, and the environment to provide a holistic experience (Baker et al., 2018; Bergeron et al., 2015; Gledhill & Harwood, 2015; Zuber & Conzelmann, 2019). A holistic development that considers the whole person, not only the athlete, could result in improved well-being (Ivarsson et al., 2015). Moreover, the increasing difficulty of reaching a professional level in football (Haugaasen & Jordet, 2012) could make this knowledge and scientific considerations even more essential. Regardless of intentions, ambitions and levels, enhancing environments seem appropriate for players in facilitating of both long-lasting careers and participation (Spink et al., 2018).

On one end of the participation spectrum, examinations providing insights from talent development environments in football have increased significantly in recent years (Gledhill & Harwood, 2019; Ivarsson et al., 2015; Larsen et al., 2012; Larsen et al., 2013; Mills et al., 2012, 2014; Taylor & Bruner, 2012). Larsen et al. (2013) investigated successful football talent development environments in Denmark. They stated that the climate was characterised by a strong, open, and cohesive organisational structure that considers the players holistically. These characteristics were later confirmed in another study conducted in England on coaches' perceptions of the qualities of talent development environments (Mills et al., 2014). Indeed, coaches reported strong organisational core, adaptability, prioritising player welfare, key stakeholder relationships, involvement, and achievement orientation as qualities of an optimal environment. Thus, the convergence of the individual and the environment may be vital for optimal talent development and general athlete development in sports.



Sharing the definition of Gledhill et al. (2017) on psychosocial factors in sport, it is described as the “interrelation of individual psychological characteristics with social influences and to the way these may shape or guide behaviours” (pp. 93-94). Thus, the interaction between social agents and individuals carries consequences for youth in their sporting endeavours. Two comprehensive meta-analyses conducted in football are Gledhill et al. (2017) and Ivarsson et al. (2020). Both studies identified numerous external social factors, combined with psychological ones, as pivotal for player development in football. Moreover, critical social influences were emphasised. Peer players were found to be among the essential social contributors to players’ development, functioning and motivation besides parents and coaches. There is established evidence that the behaviour of these agents is crucial through their influence on motivational processes (Jõesaar et al., 2011; Ntoumanis et al., 2006; Sarrazin et al., 2002).

## **1.2 Peer relationships and climates in youth sports**

The empirical weight of research regarding social agents in sports has been predominantly placed on parents and coaches, as these are notable influencers. There is established evidence that the behaviour of these agents is crucial for athletes’ experiences through their influence on motivational processes (Sarrazin et al., 2002). However, Smith (2019) argued that we should not undervalue young people themselves as social agents due to their nature as essential resources for learning and well-being. The literature on peers is still in its infancy but growing (e.g., Smith, 2019). As noted by Ommundsen et al. (2005) regarding peers in sport, unexpectedly limited research exists on the factors that might facilitate or hinder peer acceptance and friendship in young athletes. Although more studies have been conducted thereafter, the broad contextual field of peer relationships in sports has received less scientific attention by researchers than other relevant social agents (Holt et al., 2008; Jõesaar et al., 2012; McLaren et al., 2017; Price & Weiss, 2011, 2013).

### **1.2.1 Relationships and friendships**

Participation in youth sport could be described as an interactive and emotional environment that facilitates the possibility to solve conflicts prosaically, cooperate, partake in teams, develop relationships, establish goals, manage challenges, and cultivate leadership (Fraser-Thomas et al., 2005; Fraser-Thomas & Côté, 2009). Peers

progressively become a critical social agent for identity development, psychosocial growth, and attitudes and behaviours towards sports (Smith et al., 2006). Notably, the age of adolescence seems to carry heightened influence, making peers a significant social agent (Laursen, 1996; Sawyer et al., 2018; Sullivan, 1953). According to the theoretical proposal of Weiss and Stuntz (2004), a peer is a source of perceived competence, a reason for participation, and a source of motivation through close friendships in peer dyads. Thus, sports provide an arena for youths to establish connections, relationships with peers, and subsequently, friendships. Athletes' ability to build enhancing relations with social agents (e.g., peers) in sport is essential for developing healthy beliefs about themselves, social competencies, and a sense of belonging (Baumeister & Leary, 1995). Furthermore, Smith and McDonough (2008) assembled the different dimensions in which peer relationships are constructed. Reportedly, peers interact in a broad social context (social norms), groups (teams), and in specific relations (friendships). Accordingly, this spectre refers to the array of potential investigations by researchers, given the range of peer relationships and the diverse roles they hold.

Peer relationships are formed and occur in various arenas. Hence, these relationships have significant variabilities (Rubin et al., 1998). Previous research has investigated and identified two salient aspects of peer relations in sports: peer acceptance and peer friendships (Smith, 2003; Weiss & Stuntz, 2004). Peer acceptance, manifested through popularity, is based on how a larger group views an individual. Greater levels of peer acceptance can be associated with physical self-worth (Schacter et al., 2016). Moreover, athletic ability seems to be an essential facet of group acceptance. Weiss and Duncan (1992) reported that children perceived to be good in athletics by themselves and their teachers possessed higher values of peer acceptance than children perceived to be less good in athletics.

On the other hand, peer friendships are more specific and derive from a group setting to form a more intimate relationship. The concept embraces the presence of friends, who they are, and friendship quality (Smith, 1999). When peer relationships are positive, intimate and sustained, they hold the potential to develop into friendships (Schacter et al., 2016). One aspect of establishing an intimate relationship is sharing emotions and discussing mental states. Intimate relations, among other factors, facilitate the

discussion of emotional states, which helps youth develop an improved awareness or understanding of others' emotional and mental stress (Hughes & Dunn, 1998). Intimacy, self-esteem enhancement, and supportiveness are qualities of youth sports friendships (Carr & Fitzpatrick, 2011; Weiss & Smith, 1999). The presence of a friend in a sports environment can increase opportunities, motivation, and behavioural intensity (Barkley et al., 2014; Smith et al., 2015). The emergence of peers as an essential social agent occurs as youth learn to navigate their social context and form perceptions of self-esteem and self-acceptance (Moran & Weiss, 2006; Smith, 2003). In investigations of youths' perceptions of peer relationships in sport, Weiss et al. (1996) revealed several dimensions essential to conceptions of friendships. Among the dimensions highlighted were companionship, self-esteem enhancement, help and guidance, prosocial behaviour, intimacy, loyalty, emotional support, and conflict resolution. Moran and Weiss (2006) found that youths with less quality in their relationship with their peers seem to experience less cognitive, emotional, and social growth, whilst the ones engaging in quality relationships experience the opposite through closeness, loyalty, and equality.

Thus, increased levels of enhancing features are expected to be more sustainable, thereby more motivationally prominent (Weiss & Stuntz, 2004). In short, diverse motivational and well-being outcomes such as sports participation, commitment, happiness, self-perceptions, and self-determined motivation have been discovered in intimate relations in sport (Kipp & Weiss, 2013; Smith et al., 2006; Ullrich-French & Smith, 2006; Weiss & Smith, 2002). Indeed, Smith et al. (2019) argued, "Peers hold a unique social position that enables them to contribute to performance, motivation and well-being of athletes, exercisers and movers" (p. 133).

### **1.2.2 Motivational climate**

Peer influences on sports motivation through relationships and friendships cover a small and intricate aspect of sports participation. A wider or broader perspective of sports participation includes diverse motivational climates. Specifically, motivational climate is described as the overall impact of the social environment on motivational patterns of athletes (Duda, 2001). Most peer-related motivational climate research in sports has been investigated through the lens of achievement goal theory (AGT; Ames, 1992; Nicholls, 1989). Keegan et al. (Keegan et al., 2010; Keegan et al., 2009, 2014)

conducted several investigations of social agents' initiations of motivational climates. Parents were critical in supporting and learning, whereas coaches were salient in instruction and educational considerations. However, the peer-initiated climate seems to impact motivation through competitive and collaborative behaviours, evaluative communication, and social interaction. Compared to the other motivational climates, peer-initiated climates appear to be inadequately examined (e.g., Jõesaar et al., 2012). In a reciprocal study of peer-initiated climate and group cohesion in competitive youth sport, McLaren et al. (2017) made points as to whether peer-initiated motivational climate could be an antecedent and a descendant of social cohesion. This indicates that peers' perceptions of teammate behaviours and togetherness or social harmony in their group could be determining their behaviours.

Peers are a reinforcing factor in a task-involving climate (Ntoumanis et al., 2006; Ntoumanis & Vazou, 2005; Vazou et al., 2005). Accordingly, task-involving behaviour could be effort enhancement, supplying feedback, relatedness support, and improvement. Thus, adaptive motivational outcomes are expected. Studies have shown that increased levels of task-involving climate were linked to increased team cohesion (García-Calvo et al., 2014; McLaren et al., 2017), empathy (Ettetal et al., 2016), prosocial or moral behaviours (Ntoumanis et al., 2012), besides lower levels of anxiety and burnout (Ntoumanis et al., 2012; Vazou et al., 2006). Interestingly, a peer motivational climate is reported to be essential to sports satisfaction, perhaps above the coach-initiated climate (Vazou et al., 2006). On the contrary, an ego-involving climate enhances competition, social comparisons and conflict in demonstrating superior ability and outperforming others (Nicholls, 1989). Thus, causing teammates to manifest negative and unsupportive behaviours (Ntoumanis et al., 2007; Smith et al., 2018) as well as acting antisocial (Ntoumanis et al., 2012) through maladaptive motivational influences.

Another fundamental theoretical standpoint to investigate motivational processes in sports is from self-determination theory (SDT; Deci & Ryan, 1985, 2000, 2012; Ryan & Deci, 2017). SDT is a macro theory of motivation wherein motivation is based on an individual's satisfaction of basic needs that may impact achievement. Motivation exists in a continuum based on the locus of causality, ranging from extrinsic to intrinsic (Deci & Ryan, 2000). Intrinsic motivation (autonomous) is related to the enjoyment of

performing an activity, whereas extrinsic motivation (controlled) is related to the anticipated consequences of an activity (e.g., materialistic or mental rewards). Preceding research has underlined the influence of a peer-created motivational climate on autonomous motivation (Carr et al., 2000; Carr & Weigand, 2001; Jõesaar et al., 2012; Ntoumanis et al., 2012; Ntoumanis & Vazou, 2005). From the SDT perspective, ego-involvement is perceived as internal pressures based on self-worth, which are outcome contingent. In the motivational continuum postulated by SDT, ego-involvement can be clarified as introjected regulation (Ryan & Deci, 2017) which implies partial internalisation of regulation. Demonstrating competence and preserving self-esteem are considered essential driving motivations for this behaviour (Deci & Ryan, 1985). Higher levels of ego-involvement or introjected regulation has shown to increase the incident of burnout in athletes (Lonsdale et al., 2009), declined participation via reduced autonomy from coaches (Sarrazin et al., 2002) and less intrinsic motivation (Duda et al., 1995; Hein & Jõesaar, 2015; Jõesaar et al., 2012).

Social agents hold the potential to be facilitators of a peer-motivational climates (Carr et al., 2000; Carr & Weigand, 2001; Hein & Jõesaar, 2015; Jõesaar et al., 2012; Newton et al., 2000). Jõesaar et al. (2012) investigated the effect of perceived autonomy support from the coach in enhancement of task-involving climate and intrinsic motivation. Autonomy-support in the study was described acknowledgeable of other' feelings and choices. Hence, believed to enhance teammate collaboration, improvement, and effort. As expected, autonomy-supportive behaviours from coaches facilitated a task-involving peer-climate and predicted athletes' intrinsic motivation over a year. In a later study on parents, Hein and Jõesaar (2015) found that autonomy support from parents was a stronger predictor of self-determined motivation via peer motivational climate. Similarly, Hodge and Lonsdale (2011) found that coaches' autonomy-supportive practices were associated with teammate prosocial behaviours.

Adaptive or maladaptive outcomes are expected from the peer-motivational climate by an authoritative social agent. However, based on the necessity to initially investigate peer-climate influences (as opposed to parent and coach) on motivation, it is surprising that the central tenets of SDT (such as autonomy support) have not been investigated more thoroughly, or to our knowledge barely in sports environments with regards to peer interactions. Indeed, most of the studies within motivational climates in studies of

antecedents and descendants of direct peer interactions have been conducted through AGT (task and ego), whilst studies with an alternative theoretical composition (e.g., SDT) have been indirectly associated and studied through other social agents' consequences on teammate climate (e.g., Hein & Jõesaar, 2015; Jõesaar et al., 2012).

### **1.2.3 Competitive sports and teammates**

Direct and indirect, besides informal and controlling aspects of competition, have been elaborated by Ross and Van den Haag (1957, in Deci & Ryan, 1985). Whereby direct competition refers to the interplay with other contenders, whereas indirect competition is merely self-referred. An informal competitive environment consists of optimal challenges and competence feedback, whilst a controlling competitive environment comprises the need for success (Ryan & Deci, 2017). Controlling pressures to perform can come from social agents or be based on ego-involvement (Standage & Ryan, 2012). In terms of motivational processes in competition, a study of Reeve and Deci (1996) investigated winning in a competition with and without pressures to succeed. The study indicated that winning in direct competition could lead to enhanced motivational consequences if the pressure to win was restrained.

Possible predictors of suboptimal outcomes in youth sports are early specialisation, competitiveness, and professionalisation, with a high volume of intensified training and competition, perhaps beyond healthy thresholds mentally and physically for young athletes (Baker et al., 2018; Bergeron et al., 2015). The elite sport shares a mutual dependence with competitiveness in contemporary practices and is perceived as an inevitable necessity for player development. However, this may unintentionally impact youth sports participants when the same hallmarks are used for young athletes in their personal athletic development (Ryan & Deci, 2017). Therefore, competitiveness in sports may, indeed, serve as a hindrance to establishing optimal youth development. That is, through a social context that promotes competition over collaboration and personal improvement, suboptimal behaviours may be strengthened (Smith, 2019; Ullrich-French et al., 2012). Thus, in a climate striving for high performance in competitive sports, the prevalence of pressure is increased. Competitiveness has been linked to suboptimal antecedents such as anxiety (e.g., Payne et al., 2019), a subjective evaluation of one's self-esteem in the face of a situation.

The forming of youth sports environments by impactful facilitators (social agents) affects the experience's quality (Coatsworth & Conroy, 2009). Therefore, the social context could be vulnerable to personal preferences. When competitiveness and performance are an underlined demand, athletes may transmit behaviours coherent with their coaches' anticipations in internal competition for places and status (Cushion & Jones, 2006; Vazou et al., 2006). Consequently, this may lead competitive athletes to undermine their peers or teammates in their endeavours for success, forming a highly perfectionistic, individualistic, and superficial social context (Kelly & Waddington, 2006; Ommundsen et al., 2005; Roderick, 2006). Recently, Adams and Carr (2019) interviewed adolescent boys from a professional English football academy, an environment characterised by competition for their places in the team. Their findings indicated a lack of profoundness in the players' relationship with their peers, caused by the absence or devoid of trust and intimacy. Specifically, striving for individual accomplishments could affect the capability to disclose vulnerability, which ultimately obstructs connections and relationships with others (Zarbatany et al., 2000).

Consequences of an increased or heightened emphasis on competition and superior performance could be less enhancing teammate relationships. When controlling motivation is nurtured, the social context could become detrimental (Hodge & Lonsdale, 2011). Athletes with controlled motivation are anticipated to be less focused on the process of improvement and learning but rather concentrated on the outcome for ego-enhancing reasons to foster their contingent self-esteem (Deci & Ryan, 2000). High pressures to win are expected to reduce intrinsic motivation (Ryan & Deci, 2017), yielding more controlled motivation associated with lower quality in teammate relations and immoral behaviours (Vansteenkiste et al., 2010). With reduced relationship quality with teammates, conflicts and victimisation could occur, irrespective of level and establishment (Evans et al., 2016; Partridge & Knapp, 2016). Evidence has disclosed provocation and anger to be more prevalent during a competition (Stanger et al., 2016). Hence in circumstances where performance is perceived essential, teammate interactions may be trialled (Al-Yaaribi & Kavussanu, 2018; Benson & Bruner, 2018; Hodge & Gucciardi, 2015).

Being overly obsessed with winning could increase the exhibition of antisocial behaviours toward teammates (Bolter & Kipp, 2018). Antisocial tendencies would be to

swear, blame and express frustration to a teammate in the face of underperforming when pressures are high, consequently increasing the negative affect for the recipient (Kavussanu & Al-Yaaribi, 2019). Interestingly, antisocial behaviours received from a teammate could subsequently influence self-reported destructive behaviours towards teammates (Benson & Bruner, 2018). Furthermore, studies have suggested that seeing other teammates demonstrating antisocial behaviour towards other teammates could increase their self-reported antisocial behaviour (Benson et al., 2017; Bruner et al., 2018). For the purpose of winning and succeeding, it has been noted in a study of adolescent football players that some aspects of antisocial behaviours (i.e., calling each other out on responsibilities and turning frustration into motivation) could increase performance (Al-Yaaribi & Kavussanu, 2018). However, it is believed to be highly temporary and less optimal for healthy development, performance, and a sustainable career (Kavussanu & Al-Yaaribi, 2019).

A competitive environment could also be informal. That is, through a competitive sports environment emphasising task involvement, intrinsic motivation may be enhanced (Ryan & Deci, 2017). Autonomously motivated athletes are anticipated to report higher prosocial behaviour (Gagné, 2003; Ntoumanis et al., 2012; Ntoumanis & Standage, 2009). Prosocial behaviour in sport would be to encourage a teammate generally or after mistakes are made. In a study of prosocial behaviour in sport, Al-Yaaribi and Kavussanu (2018) found that adolescent players provided teammates with encouragement, support, constructive feedback, and performance praise. This, in turn, led to playing enjoyment, effort improvement, and higher commitment to their teams. Higher degrees of constructive behaviours from teammates are moreover associated with heightened social identity (Benson et al., 2017; Benson & Bruner, 2018). Although operating with the potential decomposed consequences of a competitive context, being a part of a team, a collective, and a unity is reportedly one of the most stated initial motivations for participation in sport (e.g., Allender et al., 2006). Thus, how teammates within a team may prompt their thriving, affiliation, and enjoyment in sport. Considering the sport-specific tasks they face, intense collaboration with mutual dependence is a prerequisite for an individual (Duch et al., 2010) partaking in the game. As Jung et al. (2016) simplified, "...in soccer, one of the most common team sports, victory depends on cohesion and cooperation between the 11 players in a limited time and space" (p. 989).



In other examinations of when teammate-enhancing behaviours are important, the work of Carr and colleagues (Carr, 2009; Carr & Fitzpatrick, 2011) specified that peer friendships (inside and outside sport) could be of added importance in times of threat or emotional need, due to the emotional care and security they provide. A particularly critical period in which football players experience uncertainty is transitioning from junior to senior in adolescence (Morris et al., 2015; Richardson et al., 2013). Morris et al. (2017) indicated that family, coaches, friends, and teammates submitted emotional, technical, and tangible support throughout the transition. Furthermore, Carr (2012) argued that close bonds within the sport might be salient for developing relationships outside the sport. Correspondingly, Gledhill and Harwood's (2014) study of elite female players found friends inside and outside football to assist players' lifestyle discipline. Peer supportive behaviours between teammates have been studied through various theoretical filters. Teammate support availability, understood through social cognitive theory, is reported as an important facilitator for autonomous motivation and reduced burnout (DeFreese & Smith, 2013). Other examples are peer motivational climate in AGT and the indirect effect of authorities' behaviour (e.g., task-involving).

### **1.3 Self-Determination Theory**

SDT is concerned with the different social conditions that facilitate or hinder human prospering. "The theory examines how biological, social, and cultural conditions either enhance or undermine the inherent human capacities for psychological growth, engagement, and wellness, both in general and in specific domains..." (p. 3). SDT is concerned about the degree (from amotivation to autonomous motivation) to which motivation is autonomous and revolve around the impact of the social environment on motivation (Ryan & Deci, 2002). In SDT, basic psychological needs are proposed to be psychological nutrients essential for growth, integrity, and well-being (Ryan & Deci, 2017). The basic psychological needs consist of autonomy, competence, and relatedness. Autonomy refers to being self-endorsing and self-regulating over actions, competence involves understanding how to achieve various internal and external outcomes, and belongingness involves satisfying relationships in the environment (Deci et al., 1991; Deci & Ryan, 1985; Ryan & Deci, 2000). It is believed that all these needs can be supported or unsupported in various environments in life (Ryan & Deci, 2017; Sheldon & Niemiec, 2006), termed satisfaction or frustration of basic psychological

needs. The nature of the support or lack of support in the environment would determine which of them is more prominent.

### **1.3.1 Autonomy support**

Autonomy support is defined as “one relational partner acknowledging the other’s perspective, providing choice, encouraging self-initiation, and being responsive to the other” (Deci et al., 2006, p.313). Autonomy support can be demonstrated in various actions such as allowing initiative, acknowledging feelings and offering meaningful choices (Mageau & Vallerand, 2003; Ryan & Solky, 1996). Providers of autonomy support behave in such ways that there is place for the recipient to behave in relation to their perceived true self (e.g., Conroy & Coatsworth, 2007). Receiving such support from important social agents could provide fewer constraints and provide perceptions of a more self-endorsed origin of behaviour (Deci & Ryan, 1987). The link between autonomy support received and satisfaction of basic psychological needs in sport has been thoroughly underlined by the research literature (e.g., Balaguer et al., 2012; Bartholomew et al., 2011; Calvo et al., 2010; Mossman et al., 2022; Quested et al., 2013; Raabe et al., 2020; Vansteenkiste & Ryan, 2013). A plethora of research has studied the various descendants of autonomy support from coaches and parents. Results of these studies have identified numerous consequences of autonomy-supportive behaviour from coaches and parents, including self-determined motivation (Conroy & Douglas Coatsworth, 2007; Fenton et al., 2014; Gagné, 2003; Gaudreau et al., 2016; Halvari et al., 2009; Hein & Jöesaar, 2015), flow and performance (Bakker et al., 2011; Gillet et al., 2010; Sheldon et al., 2013), prosocial behaviour and cohesion (García-Calvo et al., 2014; Heuzé et al., 2006; Hodge & Lonsdale, 2011), player satisfaction and engagement (Curran et al., 2014; García-Calvo et al., 2014), achievement and task-involvement (Cheon et al., 2015; Gaudreau et al., 2016; Jöesaar et al., 2012), and self-esteem (Lynch et al., 2009).

In a recent study of youth football players, Gjesdal et al. (2019) investigated the potential influence of coach autonomy support on the occurrence of additional activity. Their findings showed that those players who reported higher levels of autonomy support at the start of the season later reported increased additional activity at the end of the season. García-Calvo et al. (2010) found, in a study of adolescent football players in Spain, that players high in perceived autonomy support were more likely to persist

longer in the sport through higher intrinsic motivation because of the estimated satisfaction of the three basic psychological needs. Fenton et al. (2014) revealed that autonomy-supportive coaching positively predicts adolescent football players' autonomous motivation. García-Calvo et al. (2014) also found that coaches' autonomy supportive behaviours predicted team cohesion and player satisfaction among the players.

Furthermore, autonomy support in closer relationships with less authoritative influence and more mutually established relationships has not been examined thoroughly. In one study, Deci et al. (2006) reported that receiving autonomy support from a close friend predicted psychological health. That is, through receiving autonomy support in friendship dyads, the recipient experienced relationship quality and well-being. Regarding teammates as suppliers of autonomy support, the literature seems scant. As a potentially important source of autonomy support, there is insufficient research regarding the extent to which teammates demonstrate supportive autonomy behaviours towards one another. That would be a player acknowledging or encouraging teammates to state their opinions and provide choices when it is in their position to do so. To our knowledge, only Hodge and Gucciardi (2015) examined autonomy-support received from teammates in sport. Their study investigated both coach and teammate influence on prosocial and antisocial behaviour among competitive athletes. Interestingly, they reported that peer autonomy-supportive climate shared the same hypothesised associations as in investigations of coach autonomy-supportive climate. Providing autonomy support to a teammate influenced the recipients' basic need satisfaction and was correlated with prosocial behaviour. Hence, the experience of receiving autonomy support may facilitate the inclination to act favourably towards the environment. However, there is less empirical evidence and consensus for the underlying reasons to be supportive.

The preceding literature has observed consequences of autonomy support received, which are anticipated to lead to favourable outcomes. Although a proposed theoretical framework to explain the potential drives of supportive behaviour is investigated through prosocial behaviour (e.g., Al-Yaaribi & Kavussanu, 2018; Benson & Bruner, 2018; Kavussanu & Al-Yaaribi, 2019), there is a growing tendency to conduct studies aimed to understand the antecedents of autonomy support using SDT (Cheon et al.,

2015; González et al., 2019; Matosic et al., 2017; Solstad et al., 2015, 2018). Solstad et al. (2015) examined whether giving autonomy support to athletes would impact coaches' basic needs satisfaction. Coaches' autonomous motivation for coaching was associated with basic need satisfaction through the provided autonomy-supportive coaching. The result pointed to the potential essence of intrinsic value to provide autonomy support to athletes, particularly their own well-being and satisfaction. Still, antecedents of autonomy-supportive behaviour given to teammates is a question unanswered.

In their study of peer friendships, Deci et al. (2006) found that there were inherent reasons for providing autonomy-supportive behaviour to a friend above the effects of receiving autonomy support. Thus, giving autonomy support to a friend could contribute to basic need satisfaction, psychological health, and general well-being. Inspired by research showing that both receiving and giving autonomy support could lead to need satisfaction, we found it appropriate to investigate both receiving and giving autonomy support between teammates in football. Hence, it has been recommended that forthcoming research (e.g., Gjesdal et al., 2019; Gucciardi & Jackson, 2015; Harwood et al., 2015) further investigate the influences of teammates or peers in sports on basic psychological needs satisfaction. It has also been called for studies measuring both satisfaction and frustration levels (e.g., Hodge & Gucciardi, 2015).

### **1.3.2 Basic needs satisfaction and frustration**

Basic psychological needs theory (BPNT; Ryan & Deci, 2000, 2002, 2017) is a sub-theory of SDT that is used to understand two sides of human functioning (Deci & Ryan, 2000). The three nurturing components (satisfaction of competence, autonomy, and relatedness) are thought to be salient in facilitating experiences in a social environment. They may vary in importance based on personal goals individually (Ryan & Deci, 2017). The three needs are separate, but in the influences of a human being in a social environment, they are quite compound (Sheldon & Niemiec, 2006). For example, competence and relatedness are influenced by the encounter of autonomy because the satisfaction of competence is enhanced when people engage in activities willingly, and autonomy is collaterally satisfied. Similarly, people experience relatedness and intimacy when the interaction is characterised by self-initiation. Nonautonomous initiations of connection may not satisfy the need for relatedness (Ryan & Deci, 2017). On the

contrary, when frustration of basic needs occurs, this may lead to more controlled motivation (Deci & Ryan, 2000; Ryan & Deci, 2017). The importance of the three needs seems to persist across a lifespan, as they are essential from a young age, through adolescent years and into adulthood. Chen et al. (2015) measured basic need satisfaction and frustration across multiple cultures to investigate potential differences in contribution to the participants' well-being and ill-being. The results supported the universality of the three basic needs, although differences in value, satisfaction, and recognition could exist within and across cultures.

Studies in sport have linked basic need satisfaction to several favourable factors perceived to contribute to cognition, behaviour, and motivation among athletes (Adie et al., 2012; Álvarez et al., 2009; Balaguer et al., 2012; Felton & Jowett, 2013; McDavid et al., 2014; Quested et al., 2013; Reinboth et al., 2004; Stenling et al., 2015). These studies have been based on the significance of coaches and parents. However, researchers have found associations between quality of relations to peers and satisfaction of autonomy, competence and relatedness (e.g., Blanchard et al., 2009). Moreover, satisfaction of basic needs could facilitate enhancing behaviours toward teammates (Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011).

There have been scientific efforts to investigate peer influences on basic need satisfaction (Hodge & Gucciardi, 2015; Jõesaar et al., 2011; Kipp & Weiss, 2013; Raabe & Zakrajsek, 2017; Trbojević & Petrovic, 2020). For instance, Raabe and Zakrajsek (2017) found that teammates played an essential role in satisfying the need for autonomy, competence, and relatedness, besides coach-expected values. Accordingly, the athletes reported greater satisfaction from teammates on all basic needs compared to coaches. However, it was reported that coaches' needs supportive behaviour predicted perceptions of and satisfaction with performance. Furthermore, Jõesaar et al. (2011) showed that a task-involving peer motivational climate impacted youth sports team athletes' intrinsic motivation through satisfaction of the three basic needs. Moreover, the authors found that this could contribute to sports persistence for young athletes. Similarly, Moreno et al. (2008) reported that a peer motivational climate characterised by peer support and cooperation yielded positive responses on basic need satisfaction. Finally, Hodge and Gucciardi (2015) showed that teammates providing autonomy-supportive behaviour to their peers predicted basic need satisfaction. These

studies point to the inclination of need satisfaction, facilitated by teammates, to be an important contributor to enhancing social behaviour.

Contrary, the frustration of basic needs may hinder the occurrence of optimal functioning (Ryan & Deci, 2000, 2017). Social environments can frustrate the three basic needs, increasing defensive or compensatory strategies (Ryan & Deci, 2017). BPNT (Ryan & Deci, 2000) postulates that when need for autonomy, competence, and relatedness are frustrated, athletes could experience psychological maladjustment. Such behaviours are burnout, illness, anxiety, reduced self-esteem and less intrinsic motivation (Balaguer et al., 2012; Bartholomew et al., 2011; Li et al., 2013; Vansteenkiste & Ryan, 2013). In their football study, García-Calvo et al. (2010) found that lower satisfaction levels of relatedness and autonomy explained sport dropout. Similar results were confirmed in another study (Quested et al., 2013). However, an important point made by Bartholomew et al. (2011) was that lower scores on basic need satisfaction do not directly indicate that needs are frustrated. The dissatisfaction of needs could merely mean that needs are not adequately met. Controlled motivation, often facilitated by a coach, has been associated with destructive teammate behaviour that could lead to need frustration (Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011).

Peers' role in potentially basic needs frustrating sports environments has been less evident in the preceding research literature, and it has been highlighted a lack of research regarding need frustration between peers in sports (Orr et al., 2018). In the environment of youth sports competition, athletes' self-regulatory abilities may, through need frustration, be obstructed to consequently elicit their antisocial behaviour (Vansteenkiste & Ryan, 2013). Chu and Zhang (2019) examined the respective roles of social agents in basic psychological needs satisfaction and frustration for youth athletes in their review. Their finding reported that all social agents, diversely affected needs both positively (satisfaction) and negatively (frustration). Other studies conducted in diverse domains have found peers to be an influencing social agent for basic need frustration. (Ladd et al., 1997; Orr et al., 2018).

The particular and separate salience of different psychological needs has been underlined through various studies (e.g., Sheldon & Niemiec, 2006). To illustrate, Kipp

and Weiss (2013) stated that perceived competence and teammate relatedness was essential to a task-involving climate provided by teammates. Individuals are more prone to feel relatedness by support and acceptance from their teammates. Additionally, receiving positive feedback and appreciation of efforts could satisfy the need for competence (Vazou et al., 2006). Pacewicz et al. (2020) recently examined the effect of task and social cohesion on relatedness in adolescent female football players. By studying relatedness satisfaction exclusively, they found strong links between cohesion and relatedness on autonomous motivation due to need satisfaction. Conversely, the satisfaction of autonomy seems more salient in activities where self-interest relies solely on engagement, such as additional football activity (Gjesdal et al., 2019). Thus, the need to feel competent in sports may be salience based on how it corresponds with personal goals. In closing, Chu and Zhang (2019) confirmed in their mixed-studies review the strong links between the satisfaction of the individual needs and the social agents providing satisfaction. Consequently, individual differences exist in what is provided, and additionally, individuals may differ in the types of basic needs that are essential to them.

To sum up, the importance of teammate behaviour in social functioning is evident. The primary literature has provided evidence for social agents' significance on basic psychological needs and optimal or suboptimal outcomes. Different well-being or ill-being outcomes occur grounded in the satisfaction or frustration of needs. On the other hand, less is known about the antecedents of teammate autonomy-supportive behaviours. In SDT, antecedents of basic psychological needs are provided in the social environment and the individual structuration of internal resources to meet the environmental demands (Ryan et al., 2012). Individuals' psychological dispositions might influence the inclination to give autonomy support to teammates. Understanding their position in affecting the individual could hence be critical. Based on previous findings, recommendations and tendencies (e.g., Cheon et al., 2015; González et al., 2019; Matosic et al., 2017; Solstad et al., 2015, 2018), we aimed to explore factors that may explain autonomy-support given to teammates. Thus, we included factors perceived to be essential in sports, some previously identified and others yet to be investigated in this setting.

### **1.3.3 Psychological factors**

Self-esteem in sports is formed through comparisons and observations of other people in their surrounding environment (Smith, 2019). A longitudinal investigation by Daniels and Leaper (2006) reported peer acceptance to be partially mediating the relationship between sports participation and self-esteem. Hence, the relevance of the self in youth sport is made salient, given the presence of fundamental features (e.g. self-awareness, comparison and feedback) that define and shape the self (Sabiston et al., 2014). Self-esteem is the advantageous or disadvantageous attitude towards oneself (Rosenberg, 1965) and refers to the evaluative proportion of self-concept (Mann, 2004). It comprises what individuals think, believe, and feels about themselves and their abilities. In SDT, enhanced self-esteem is identified as a potential outcome of a need satisfaction-oriented climate (Deci & Ryan, 1995; Ryan & Deci, 2000).

However, the degree of self-esteem experienced by an individual might be decisive for interactions with others. Lower levels of self-esteem have previously been associated with reduced mental health, problematic behaviours and depression (see Baumeister et al., 2003), despite discussions on the severity of lower self-esteem due to another confounding factor that could interfere in this association. Nevertheless, individuals with lower self-esteem may suffer when needs are frustrated (Ryan & Deci, 2017), such as in a destructive competitive environment. Individuals with lower self-esteem tend to respond poorer to stress (Tennen & Affleck, 1993), which they frequently encounter in sports, directly in competition and in their teams. Based on personal uncertainties, people in groups may not feel the same attachment to their peers (Bowling et al., 2010; Pierce et al., 1989), causing them to disconnect. In a sports study, Kaplánová (2019) examined the associations between self-esteem, anxiety and coping with stress. The findings highlighted that athletes with lower self-esteem were less effective in coping with the stress they faced in their sport. Smith and Smoll (1990) reported that children low in self-esteem were particularly responsive to supportiveness from leaders (e.g., coach or teammate leaders), due to their vigorous need for positive feedback.

Higher levels of self-esteem have been associated as an indicator of psychological health (Taylor & Brown, 1988). In social adaptability investigations, self-esteem was considered essential for personal social behaviour (Huang, 2010). Thus, it indicates that individuals' ability to adapt to situations in a shifting environment is influenced by their



self-esteem. Jung et al. (2016) examined the mediating role of team commitment in the relationship between self-esteem and team climate in a study of Korean youth football players. They underlined that those individual propensities or degrees of self-esteem might facilitate the team climate based on their investment in the team. A study of cross-country skiers (Gustafsson et al., 2007) found that higher self-esteem prevented burnout. Hence, higher self-esteem in the face of adversities could be hypothesised to facilitate more adaptive behaviour and potentially higher supporting behaviour to a teammate.

Considering the environment in which youth athletes operate, coping with adversity within competitive sport could be important for their continuation and quality of involvement (Galli & Gonzalez, 2014; González et al., 2019). Resilience consists of unique qualities that enable one to succeed even though and perhaps, especially when met by adversity (Connor & Davidson, 2003). It is believed to contribute to the development of social and emotional adaptation (Fletcher & Sarkar, 2012). In early resilience research in sports, Galli and Vealey (2008) identified four critical sources of adversity athletes face: injury, performance slump, illness, and career transition. These are ever protracting challenges athletes faces in competitive youth sports (Fletcher & Sarkar, 2012; Sarkar & Fletcher, 2014). Fletcher and Sarkar (2012) theorised resilience by developing a grounded theory of psychological resilience and optimal sports performance. The model consists of specific stressors that initiate challenge appraisals and meta-cognitions, influencing numerous psychological factors (positive personality, motivation, focus, perceived social support, confidence). Consequently, these culminate into facilitative responses leading to potential optimal or suboptimal sports performance.

Resilience research in sports has identified associations with positive perceptions (Galli & Gonzalez, 2014), reduced levels of burnout (Vitali et al., 2015; Wagstaff et al., 2018) and self-beliefs (Gucciardi & Jones, 2012). Athletes with lower levels of resilience have been associated with reduced coping skills, avoidance, and destructive habits (Wechsler et al., 1997). Athletes' adaptive abilities are trialled with demanding pressures experienced in competitive sports, such as competitive failure and underperforming (Bernstein et al., 2011; Southwick et al., 2014). In a competitive environment where ego-involvement is present by a controlling climate, maladaptive adjustment outcomes

are related to need frustration (Balaguer et al., 2012; Bartholomew et al., 2011). Mummery et al. (2004) suggested that athletes with lower resilience were more dependent on social support in a competitive environment, indicating that the degree of the dispositional trait of resilience in a competitive environment could be decisive, and the dependence on an enhancing social climate to function optimally.

On the other hand, athletes with higher resilience, with a competitive environment taken into consideration, seem more efficient and function better when demands are high, and diversities occur. The occurrence of burnout in competitive sports may reduce the experience of well-being and need satisfaction in sports due to heightened stress, and research has shown resilience to be an essential protective factor (Vitali et al., 2015). In environments such as sports competition, adequate resilience resources could help facilitate adaptive behaviours and potentially increase performance (Fletcher & Sarkar, 2012; Sarkar & Fletcher, 2014). Higher resilience scoring athletes can cope with the destructive nature of injuries more positively, in addition to profit from social support by social agents provided during injury (Clement & Shannon, 2011; Jones & Jetten, 2011). González et al. (2019) found that resilience could be vital in amplifying and shielding need for satisfaction and frustration, respectively. Reportedly, football and basketball players with higher values of resilience could minimise the consequences of a hampering environment that could trial their competence, autonomy, and relatedness. Hence, players' abilities to cope with demanding contextual constraints, such as competitive sport, may be essential to their social and interactive appearance.

In the contextual setting of competitive sports, the necessity of perfection in performance might undermine potential athletic growth and development. Flett and Hewitt (2002) portrayed perfectionists as individuals who experience trouble separating realistic and idealised standards. Perfectionism is a multidimensional characteristic of personality which underlines the need to perfect the self (Hewitt et al., 2017) and contains two higher-order dimensions, namely perfectionistic strivings and concerns (Hill, 2016). In sport, Stoeber (2011, 2012) has proposed meaningful explanations of strivings as “those aspects of perfectionism associated with striving for perfection and setting exceedingly high standards of performance” (p.129), whereas concerns are through to be “captures those aspects associated with concerns over making mistakes, fear of negative evaluation by others, feelings of discrepancy between one's

expectations and performance, and negative reactions to imperfection“ (p.129). The two routes, striving and concern, foster adaptive and maladaptive cognitions and behaviours. The motivational effect of high goals guides some enhancing attitudes and the overly critical destructive patterns, respectively. The duality seems more intricate, however. It may be essential to reduce the presence of perfectionistic concerns, as it could still be labelled maladaptive if both are prevalent simultaneously (Stoeber, 2011; Stoeber & Otto, 2006). High on both dimensions may, therefore, still be maladaptive. Maladaptive perfectionism has been allied to controlled motivation, which in SDT is related to introjection and hence needs frustration (e.g., Boone et al., 2014).

Perfectionism in sports has been thoroughly studied with diverse intentions and purposes (e.g., Jowett et al., 2016; Lizmore et al., 2017; Ommundsen et al., 2005; Sapieja et al., 2011; Stoeber, 2011). In competitive settings, higher reported perfectionistic concerns are related to increased anger, disappointment, fear of failure, burnout and reduced engagement (Jowett et al., 2016; Sagar & Stoeber, 2009). Increased concerns and strivings are anticipated to trigger confidence after competition failure (Lizmore et al., 2016), indicating that they are still maladaptive. In a study of youth athletes, Mallinson and Hill (2011) related the two dimensions to need frustration, where results showed a positive association between need frustration and perfectionistic concerns. Hence, the impact of perfectionistic location could be vital to athletes' optimal social functioning, as SDT theorise (Deci & Ryan, 2000; Ryan & Deci, 2017). Lastly, Ommundsen et al. (2005) found that players with higher maladaptive perfectionism reported enhancing relations with their peers in football. Consequently, the presence of perfectionistic concerns could obstruct social relationships and foster destructive communication with teammates (Habke & Flynn, 2002).

Perfectionistic strivings are often termed “healthy”, although merely healthy when perfectionistic concerns are low (Stoeber & Otto, 2006). The presence of perfectionistic strivings is proposed to lead to more adaptive behavioural responses (Crocker et al., 2014; Jowett et al., 2016; Lizmore et al., 2016). Team climates characterised as task-involving are believed to nurture favourable attitudes and behaviours towards teammates (Ommundsen et al., 2005). Donachie et al. (2018) studied youth footballers' perfectionism and pre-game emotions in the UK. Results found empirical support for adaptive forms of perfectionism and its facilitation of excitement before a competition.

Lizmore et al. (2016) found in investigations of intercollegiate athletes that perfectionistic strivings were positively associated with self-compassion and optimism. In accordance with the preceding literature on behavioural regulations and outcomes, it would be presumptive to investigate whether perfectionistic tendencies and positioning could be vital for one's social influence on others.

Dispositional factors could play a central role in positioning the individual (player), closer or further away from both experiencing strengthen social bonds and contribute to these bonds with their teammates. Based on the associated and anticipated personal regulations, it is plausible to suggest that these factors could influence the inclination to act autonomy-supportive towards teammates. Additionally, there might be other reasons to engage in autonomy-supportive behaviours. However, antecedents for teammates' provision of autonomy support are less known. Recently in research on coaches providing autonomy support to athletes, it has been highlighted that providing autonomy support to someone is related to an increased sense of well-being within the provider (Cheon et al., 2015; Solstad et al., 2015, 2018). Such findings draw attention to one's well-being through basic needs satisfaction in giving to others (Martela & Ryan, 2016; Weinstein & Ryan, 2010). Autonomy-support might be an expression of helping or prosocial behaviour, and through such benevolent acts, people are prone to feel connected, self-valued and effective (Deci et al., 2006; Legate et al., 2015).

Sometimes people help and support others for selfless reasons. Contrary to the popular view of human nature as self-centred and selfish, SDT proposes that evolutionary and cultural factors have declined humans to create relations, assimilate norms and obey rules (Ryan & Deci, 2017). Furthermore, being benevolent toward others is thought to be an intrinsically motivated act or by profoundly internalised social values. More precisely, caring actions for others come when these values are willingly enacted. As a result, the satisfaction of basic needs becomes more robust within the person (Ryan & Hawley, 2016). Weinstein and Ryan (2010) examined individuals' experience of inherent satisfaction in helping others, even when there is no primary connection. On the other hand, the effects of helping or contributing from a more extrinsic motivation have shown not to yield the same satisfaction of the basic needs (Weinstein & Ryan, 2010). Contrary, under need frustration conditions, individuals are expected to exhibit

more selfishness and act less prosocial (Biglan et al., 2012; Ryan et al., 2006) and ultimately less benevolent.

Schiemann et al. (2019) recently examined, in a series of studies, how the components of trustworthiness (in terms of ability, integrity and benevolence) were established by the coach in the coach-athlete relationship. The results revealed that coaches' perceived autonomy fostered more benevolence. In turn, the authors suggested that communicating or exhibiting benevolence was essential in providing autonomy support. Van Lange et al. (2018) investigated the potential helping behaviour in football during competition. The results indicated that the propensity to help and support teammates was elevated in situations within competition termed low stakes. The result of a game and whether it was settled seemed to influence teammate attitudes. Thus, situational components in the environment such as competition and within-competition occurrences can potentially monitor prosocial behaviour or benevolent acts within a team. In accordance with the evidence from other domains and theories, a line of reasoning would be that when players possess high values of benevolence, their propensity to provide autonomy support to teammates as prosocial acts increases.

Trust is widely considered an essential foundation for social relationships (Henriques et al., 2019) and is argued to be one of the most for developing and maintaining happy, well-functioning relationships' (see Simpson, 2007). Mayer et al. (1995) defined trust as:

*“The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (p. 712).*

Trust encompasses the belief that people will fulfil commitments to a relationship. There has been debate and diverse theoretical frameworks to understand trust, whether to be understood as a disposition or situational. One of the advocates of the dispositional component of trust is Rotter (1967). The component of propensity to trust has emerged as an interesting descendant. Propensity to trust is defined as a general desire to trust others (Mayer et al., 1995) and are built upon the summation of past experiences. Within this conceptualisation, it is considered a relatively stable trait, whereby trust is

not directly influenced by context but might change after subsequent experiences are made (Colquitt et al., 2007). Simpson (2007) proposed a complex model consisting of a set of dispositions within a dyad (e.g., attachment orientations, self-esteem, propensity to trust). Summarised, the model presents how individual dispositions could affect the initiation of a trusting relationship. Despite its influence and seemingly importance, propensity to trust has remained an underdeveloped field of investigation (Colquitt et al., 2007), especially in sports.

Considering the lack of empirical foundation of propensities within an individual to trust others in sports, it is justifiable to examine the potential associations between trust and the inclination to provide autonomy support. The research literature on trust appears to be primarily based on domains such as workplace (e.g., Wu et al., 2009), society (e.g., Cadenhead & Richman, 1996), organisations (e.g., Rogers & Ashforth, 2017), and close relationships (e.g., Simpson, 2007). Research in sports has mainly been centred around coach-athlete relationships (e.g., Dirks, 2000; Kao et al., 2017), where trust is thought to be a facilitator of close and constructive relationships with coaches, as well as a facilitator of trust shared between teammates (Bandura & Kavussanu, 2018). Bandura and Kavussanu (2019) found trust to mediate authentic coach leadership and task cohesion. Trust and team sacrifice influenced the group's ability to be unified. Thus, it is reasonable to contemplate that the trusting relationships between teammates could share the same patterns. That is, perceptions of others in the social environment could yield favourable consequences.

#### **1.4 Purpose of the present study**

Anchored in the reviewed literature, the purpose of the present study was to explore potential explaining factors of peer motivational climates in competitive youth football using self-determination theory. We intended to investigate receiving and giving autonomy support to teammates and their associations with satisfaction and frustration of basic psychological needs in competitive youth football. In examining autonomy support, we included psychological factors such as self-esteem, resilience, perfectionism, benevolence, and trust to explore the antecedents of the autonomy-supportive behaviour.

## **2. Method**

### **2.1 Paradigmatic position**

A paradigm is “the basic beliefs that guide action” (Guba, 1990, p. 17). Furthermore, a paradigm implies certain premises underlying scientific approaches to guide inquiry within various research disciplines (Guba & Lincoln, 1994; Loland & Mcnamee, 2017). Guba and Lincoln (1994) clarified that a paradigm is inherent in any scientific inquiry through underlying ontological, epistemological and methodological assumptions. The present study is, by its nature, positioned within a positivist research paradigm, in which research is traditionally systematic, logical, empirical, reductive and deterministic (Tuckman, 1978). This paradigm is typified by ontological realism (Crotty, 1998; Guba & Lincoln, 1994; Lincoln & Guba, 2000) and epistemological objectivism (Crotty, 1998; Guba & Lincoln, 1994; Hughes, 2006; Krauss, 2015).

Ontology relates to the nature of convictions or beliefs about reality (Richards, 2003). That is, how we explicitly and implicitly hold assumptions of truth in what exists, what can be known, and how to obtain this (Patton, 2002). Ontological realism asserts that a single apprehensible reality can be observed and measured by using systematic scientific methodologies (Cohen et al., 2000). Therefore, the tangible truth is approached with logical deductive reasoning, guided by taking apart a phenomenon rooted in theory to examine its assorted parts empirically (Neuman, 2003). “Knowledge of the “way things are” is conventionally summarised in the form of time- and context-free generalisations, some of which take the form of cause-effect laws” (Guba & Lincoln, 1994, p. 113). Researchers are, principally, separate and independent from the world studied, leading to converging evidence regardless of time and place (Gall et al., 2003).

Epistemology refers to the nature of knowledge (Gall et al., 2003; Hamlyn, 1995). It applies to knowledge through forms, acquisition and dissemination (Cohen et al., 2000). Maynard (1994) elaborated that: “epistemology is concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate” (p. 10). Epistemological objectivism holds that reality exists apart from consciousness. Hence, insights and values are objectified in the phenomenon studied, and a verifiable and objective truth

can be found through appropriate procedures. Consequently, if a verifiable truth is a premise, then investigations should be guided by objective separation to discover reality (Crotty, 1998; Guba & Lincoln, 1994).

Methodology is a research strategy that converts ontological and epistemological standards into instructions for research conduction (Sarantakos, 2005).

Methodologically, research in a positivist paradigm is primarily satisfied through quantitative methods. When studying human behaviours and attitudes, researchers adopt procedures from conventional natural science, formerly referred to as traditional natural science (Kuhn, 1970), modified to human behaviours and phenomena (Johannessen et al., 2016). Such methods are suitable for generating quantifiable data, referred to as "hard data", in examinations of a rather indistinct or vague reality (Bryman, 1988; Loland & Mcnamee, 2017; Neuman, 2003). Further, the "hard data" can be confirmed or disconfirmed (falsified) through the application of hypotheses (Gall et al., 2003; Healy & Perry, 2000; Hughes, 2006; Krauss, 2015). Hence, statistics are preferred, consistently contingent on reliability, internal/external validity, and objectivity (Crotty, 1998; Guba & Lincoln, 1994). Statistics implies measuring variables and testing hypotheses through sophisticated and intricate procedures, frequently to connect the investigations to general causal explanations (Marczyk et al., 2005; Sarantakos, 2005). However, the present thesis cannot sightlessly make such claims given that critical preconditions (e.g., manipulating variables) are not fulfilled. On the contrary, this thesis is non-experimental in investigating relationships between selected variables of interest without interference.

## **2.2 Methodology**

Non-experimental research methodology is preferred in the present study. Non-experimental research differs from experimental research because it generates empirical evidence by observing what naturally occurs or exists without interference (Bordens & Abbott, 2017; Livingstone & Manstead, 2020; Price et al., 2017). Introductory studies, such as this, are often conducted to point in a direction for future research. Thus, the consequences are cautiously interpretation and pattern detection.



### **2.2.1 Study design**

A cross-sectional survey design was selected for the present study to examine relationships and correlation descriptively using an online self-completion questionnaire to gather quantitative information. Such designs are often described as “snapshots” of reality, generating a temporal and static picture of the truth to identify evidence. However, cross-sectional designs are considered beneficial for studies including human attitudes, behaviours, emotions, and perceptions (Babbie, 2017; Spector, 2013; Thomas et al., 2015), given the possibility of measuring numerous variables simultaneously. Spector (2013) elaborated that the design is convenient for measurements and examinations with multiple constructs from which we can make assumptions regarding the strength and direction of relationships. Frequently, researchers adopt statistical analysis that enables them to investigate more than just associations between variables, despite a cross-sectional method (Groves et al., 2009). In reviewing frequent and common designs in sports psychology, Hagger and Smith (2018) clarified that researchers routinely adopt a cross-sectional correlational design when interested in constructs rooted in a social context. Thus, the design methodologically holds strong associations with social psychology research (Groves et al., 2009; P. C. Price et al., 2017). Correspondingly, the present study concerns patterns of association between aspects of autonomy, basic psychological needs (satisfaction/frustration), and potential antecedents.

Furthermore, regarding the underlying premises of the study, a cross-sectional survey submits feasibility in registering and examining a wide range of information from an extensive number of participants at one point in time. Thus, cross-sectional survey designs often acquire a higher level of external validity based on the capability to generalise conclusions confidently. Bordens and Abbott (2017) clarified that “a study has external validity to the degree that its results can be extended [...] beyond the limited research setting and sample in which they are obtained” (p.119). A prerequisite for such assessments is sufficient empirical weight and a representative sample to substantiate the transferability to other populations, contexts, and situations. Subsequently, further elaborations will be presented regarding the study’s strength, significance, and confidence.

The present study is concerned with detecting and describing relationships. Survey research is suitable for understanding relationships structures but not processes over time (Biddle et al., 2007; Halvorsen, 2008). Hence, researchers using this method are advised to exhibit caution when interpreting and drawing conclusions about development (Gollob & Reichardt, 1987; Johannessen et al., 2016). Moreover, claims of causal relationships in survey research are problematic since causality detection presupposes deliberate manipulation of conditions in a controlled environment (Aldrich, 1995; Bordens & Abbott, 2017; Field, 2017; Kirk-Smith, 1998; O'Donoghue, 2013). Thus, the internal validity is of constant concern in the present study. Campbell and Stanley (1963) defined internal validity as the ability to test the suggested hypothesis appropriately. Hence the lack of control of other explanations or interferences in the associations of interest yields lower levels of overall internal validity. In closing, the magnitude of the insights provided in this study depends on the totality of methodical rigour in the favoured method and designs (Spector, 2013). We will discuss and consider our efforts to diminish various threats to the present study.

### **2.2.2 Participants**

Based on the prevailing gender imbalance in competitive sports motivational and developmental research (see Clancy et al., 2016; Johnston et al., 2018), both male and female youth football players were included. The regional representatives from the Norwegian Football Federation (NFF) established contact with the participants through team representatives or coaches using e-mails anchored or registered in their organisational database, thereby distributing the questionnaires to those available to the organisation. Thus, these distributors were continuously responsible for communication and interactions with players. Convenience sampling within the inclusion criteria was conducted, whereby players voluntarily decided to participate (Babbie, 2017; Judd et al., 1991). Responses with comprehensive insufficiencies were excluded if less than 50% were completed.

Participants only gained access to the questionnaire if they met the inclusion criteria, which specified youth football players aged 16-19 participating in competitive football teams across Norway, from 2. division youth-determined to 2. elite senior division football. The sample counted 232 youth participants ( $M = 17.51$ ,  $SD = 1.15$ ) and consisted of 123 male (53%) and 109 (47%) female players from Oslo ( $n = 120$ , 52%),

Nordmøre og Romsdal ( $n = 52$ , 22%), Hordaland ( $n = 28$ , 12%), Trøndelag ( $n = 28$ , 12%), and Nordland ( $n = 4$ , 2%). These players had attended organised team deliberate practice for several years ( $M = 10.37$ ,  $SD = 2.60$ ) and spent a considerable number of hours (practice or competition) accompanied by their team each week ( $M = 8.05$ ,  $SD = 3.63$ ). Lastly, 18 % of the players attended talent development programs prearranged by NFF ( $n = 44$ ). However, these were instructed to only respond in accordance with their presence and attendance at their respective clubs. 86 players confirmed their participation but departed from the questionnaire.

### **2.2.3 Procedure**

Initially, the Norwegian Centre for Research Data and The Ethical Committee of The Norwegian School of Sport Sciences granted permission to perform the study. Subsequently, a meeting with regional leaders of youth development departments within The Norwegian Football Federation (NFF) was arranged to enlighten the representatives about the intended research project. Representatives then agreed to distribute the survey by e-mail to coaches or team leaders of the players' respective teams. Additionally, they were informed of their possibilities to inquire about access to and transparency of the thesis and its findings. A short pilot study was conducted with participants equivalent to inclusion criteria to ensure the questionnaire had acceptable format, instruction, wording, logic, and length levels. Since we applied formerly validated and established survey scales, the pilot study was merely used for clarification and sample-specific trials. Such preliminary studies are advised to proactively find potential inadequacies related to the questionnaire (Bordens & Abbott, 2017; Johannessen et al., 2016; Thomas et al., 2015).

Ultimately, the full-scale questionnaire was distributed to the participants electronically with embedded information and a consent form they had to accept as a prerequisite for participation. The questionnaire was open for participation during spring 2021 during and between the respective players' end of pre-season and beginning of the season. More precisely, the collection was carried out from April throughout June. Noteworthy, in the temporal completion phase, some of the clubs or teams were still inactive due to COVID-19 reasons. Consequently, some clubs may have experienced challenges in adequately distributing the questionnaire to their players due to this or were unable to allocate it thoroughly. Completion of the questionnaire required approximately 15-20

minutes. When using online self-completion questionnaires, follow-up mail strategies are professed essential (e.g., Babbie, 2017; Bordens & Abbott, 2017; Creswell, 2009; Thomas et al., 2015), mainly to deal with response rates (Dillman, 2000). Thus, a follow-up strategy was decided among the authors and then transmitted with guidelines to the NFF regional representatives communicating with the players and their superiors. The representatives were instructed to involve the authors in the mail distribution and correspondence with teams or players concerning follow-up in case of unclarities or uncertainties.

#### **2.2.4 Measurements**

We applied a questionnaire (see appendix 5) composite of formerly contextualised, piloted, and validated questionnaires to examine the constructs of the study. However, we had to adjust and translate the respective scales further for it to suit sports and Norwegian youth football players. Throughout the study, various Likert scales were applied. Likert scales are a multiple-item measure in which respondents rate their perceptions of a particular topic or theme on a continuum (Bryman, 2012). Multiple-item examinations are often favoured for their raised reliability and the totality of coverage and range regarding a construct (Spector, 2013). Frequently, respondents are inquired about their agreement, but they may conversely or additionally be asked about evaluation or frequency. The applied scales wherein respondents judged their level of agreement/disagreement or frequency in our study are presented consecutively.

Autonomy support was assessed using the Sports Climate Questionnaire (SCQ) short version adapted from the Health-Care Climate Questionnaire (Williams et al., 1996). The short version comprises 6 items, hence items 1, 2, 4, 7, 10 and 14 were extracted from the extended version. The SCQ questionnaire is developed to examine athletes' experiences of the autonomy-supportive tendencies of coaches or other equivalent sporting supervisors on a 1 (strongly disagree) to 7 (strongly agree) scale (e.g., I feel that my coach provides me with choices and options). The scale has yielded adequate internal consistency and validity when applied in Norway, including studies by the third author (see Halvari et al., 2009). We directed the scale to experiences of autonomy support from the players' peers (e.g., My teammates listen to how I like to do things) and reversely, the extent to which the players themselves exhibited autonomy support to their peer players (e.g., I listen to how my teammates like to do things). Furthermore,

we made slight adaptations or additions to the questionnaire to correspond with the authenticity of a football player before it was applied. Good internal consistency is reported in an athletic context (e.g., Bartholomew et al., 2011).

Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015) measured the satisfaction and frustration of the basic psychological needs. The respondents replied on a scale of 1 (completely disagree) to 7 (completely agree). The scale comprises 24 items within each of the components of SDT. Autonomy is assessed in 8 items of the possibility to choose and assume the choice freely (e.g., I feel I have the freedom and possibility to choose things I assume), competence is measured with 8 items concerning the ability to develop success (e.g., I feel I can do things right). Lastly, 8 items compose relatedness reflecting a social aspect (e.g., I feel that people, who matter to me, care about me). We intentionally implemented both satisfaction and frustration, which means that the respective items were applied repeatedly to investigate the degree of frustration besides the satisfaction of the basic psychological needs. BPNSFS initially yielded favourable internal consistency across multiple cultures (Chen et al., 2015), in addition to evidence of a valid translated Norwegian version (Olafsen et al., 2021).

Propensity to trust was assessed through a propensity to trust scale (Frazier et al., 2013), wherein respondents answered on a Likert scale of 1 (strongly disagree) to 5 (strongly agree) on 4 items regarding their tendencies to trust others (e.g. I usually trust people until they give me a reason not to trust them). In this scale, respondents were inquired about their dispositional traits regarding the decision to trust others. The items were slightly translated and adjusted prior to application by specifying teammates as the reference individuals from which they judge their trusting dispositions. The scale has been validated through a multi-study validation process and showed an acceptable internal consistency ( $\alpha = .88$ ) and favourable item loadings to undermine a good construct validity.

Perfectionism was measured through a short version of the Frost Multidimensional Perfectionism Scale-Brief (F-MPS-Brief; Burgess et al., 2016). Drawing on the initial scale of Frost et al. (1990), a shorter but psychometrically robust version has been validated. The scale consists of two dimensions or subscales, namely evaluative concern

and strivings measured on a 1 (strongly disagree) to 5 (strongly agree) Likert scale. Evaluative concerns (EC 4 items) encompass self-criticism and negative performance evaluation, whilst striving (S, 4 items) addresses high goal setting and striving for achievement (e.g., I set higher goal for myself than most people). The two-factor F-MPS-brief has reported high internal consistency on the two subscales EC ( $\alpha = .85$  and  $.83$ ) and S ( $\alpha = .85$  and  $.81$ ), as well as a robust construct validity in two dissimilar samples (Burgess et al., 2016).

Benevolence was assessed using the items developed by Mayer and Davis (1999) and subsequently validated by other researchers (e.g., Frazier et al., 2013). The scale has 5 items that should be answered on a 1 (strongly disagree) to 5 (strongly agree) point Likert scale. The essence is to measure respondents' perceptions of others' benevolent or pro-social behaviours (e.g., My needs and desires are very important to top management). The scale's internal consistency has repeatedly yielded acceptable values ( $\alpha = .89$ ; Mayer & Davis, 1999 and  $\alpha = .95$ ; Frazier et al., 2013). However, to modify to a sports environment and serve the present study's purpose, we replaced top management with teammates. Furthermore, to explore the potential significance of one's own benevolent actions and tendencies, we changed the perspective of the scale to a self-referring one (e.g., My teammates' needs and desires are important to me). Thus, the respondents reported their propensities to act benevolently towards their teammates.

The Brief Resilience Scale (BRS; Smith et al., 2008) measured resilience with 6 items. The scale ranges from 1 (strongly disagree) to 7 (strongly agree), whereby 3 of the 6 items are reversed. The substance examines the respondents' perceptions of their ability to bounce back from difficult times (e.g., I tend to bounce back quickly after hard times). In validation, Smith et al. (2008) developed and trialled the scale across 4 samples based on the conviction that the previous measures lacked the true essence of the embodied definition. Thus, estimates from the 4 samples demonstrated favourable internal consistency ( $\alpha = 0.80$ - $.90$ ). Recently, other researchers have provided evidence for the internal consistency in the sporting domain (e.g., Blanco-García et al., 2021; Martin et al., 2021).

Self-esteem was evaluated through a short version of the Self-Description Questionnaire II (SDQII; Marsh et al., 2005). This scale has multiple subscales wherein respondents

replied on a 1 (*false*) to 6 (*true*) on various dimensions of their self-esteem. However, we chose the dimensions we saw as appropriate and purposeful for the present study. Hence, the subscales general self-esteem and emotional stability were included. General self-esteem comprises 5 items (e.g., Most things I do, I do well), and emotional stability has 6 items (e.g., I worry more than I need to). Notably, we reversed the emotional stability scale to ensure that low scores on the items reflected the high emotional stability and not high emotional instability. The extended version, as well as the short version of this estimate of self-esteem, has previously yielded solid internal consistencies ( $\alpha = .80-.89$ ).

### **2.2.5 Analytical strategy**

Data were analysed using SPSS (SPSS for Windows, v. 25) and JASP (v. 0.16.2), whereas Microsoft Excel developed figures and tables. Significance thresholds were kept constant throughout the study ( $p < .05$ ). Data screening included response rate calculations, distribution assumptions, and missing data examinations. Initially, data were overviewed and structured to prepare the subsequent analysis adequately. Respondents who completed less than 50% of the entire questionnaire were excluded. Missing data were few and diverse. When missing data inevitably occurs, their patterns are considered more concerning than the amount (Tabachnick & Fidell, 2007). Thus, examination of whether missing data on one variable are related to other variables is imperative (Baraldi & Enders, 2013). The missing data were handled using Little's MCAR (1988) proved to be a solid and robust method to reduce the significance of missing data, which assumes that no data are more likely to be missing than others. Next, the sum scores with mean values were computed when the dataset was complete. The mean for each respondent represented the total score of the construct measured with multi-item scales.

The first step to clarify and guide further analytic procedures in a dataset is the distribution of the raw data. Data distribution assumptions are the foundation or source to guide statistical tests in parametric or non-parametric directions. The objective is to investigate the locations of frequencies, whereby normally distributed data is uncovered when data occurrence near the mean is more frequent than distant ones. Visually, a "bell-curved" structure is observed as data observations lie between mean  $\pm 1$  SD (68.2%), mean  $\pm 2$  SD (95.4%), and mean  $\pm 3$  SD (99.7%). Gradually reduced

occurrence of data is evident (see Campbell et al., 2007; Field, 2017; O'Donoghue, 2013; Tabachnick & Fidell, 2007; Thomas et al., 2015). Various methods are advocated to examine the distribution of a dataset both numerically and graphically (e.g., Q-Q plots/histograms, skewness and kurtosis, Shapiro-Wilk/Kolmogorov-Smirnov etc.). In some cases, such as efforts to estimate the parameters at hand, the importance and definite threshold of normality assumption might be less decisive in moderate to large sample sizes (Field, 2017). Tabachnick and Fidell (2007) argued that the impact of skewness in a dataset is gradually diminished when the sample size reaches 200 cases due to the centralisation in more extensive samples (central limit theorem; Lumley et al., 2002) unless participants share unique qualities based on a preferred parameter in population distribution (Field, 2017). Assumptions of distribution should not be avoided irrespectively. Thus, our investigations of distribution estimates were reviewed by measures of skewness and kurtosis values besides pairwise scatterplots and histograms before proceeding with further analysis.

The measurement tool upon which the fundamental data collection is built must be both trustworthy and accurate for researchers to actualise their scientific endeavours. Psychometrics is a term used to measure psychological constructs (Stroessner, 2020). Psychometric properties consist of validity and reliability (e.g., Ostrov & Hart, 2013), a bilateral concept mutually essential for a robust and solid research process. Validity refers to whether an indicator or instrument can measure what it is intended to measure (Bryman, 2012; Field, 2017; Hagger & Smith, 2018; Thomas et al., 2015). Furthermore, numerous validity variants exist (logical, construct, content, criterion), and various statistical methods are advised to examine them. Factor analysis is conducted to provide validity in questionnaires containing two major types of analysis. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are both aimed to reproduce the observed relationships among a group of indicators relating to a latent construct. EFA is applied in early stages of scale development to test construct validity (Brown, 2013) and is advocated when significantly modified or new scales are utilised (Gerbing & Hamilton, 1996; Hurley et al., 1997). CFA is merely used for validation purposes of prior empirical and theoretically established scales (Brown, 2013). In the present study, an EFA was conducted to investigate our multiple-scale questionnaire (see article appendix), which is prevalent and common in psychological research (Goretzko et al., 2021). Interpretations of the factor loadings' correlations with each other, the total



coverage of the latent construct, and the location of item loading were guided by Fabrigar et al. (1999). Thus, factor loadings above the 0,40 threshold and without undesired cross-loading were presented in the study.

Another psychometric property is reliability, which pertains to the consistency or reproducibility in the reflection of a construct (Field, 2017; Thomas et al., 2015). Test-retest, interrater, and internal consistency are some of the reliability spectra. Internal consistency measures are concerned with whether items are correlated in their shared measurement of the same construct. A common and widely utilised tool to estimate consistency is Cronbach's alpha ( $\alpha$ ; Cronbach, 1942), frequently used in estimates of psychological scales (Schmitt, 1996). Cronbach's alpha is well suited in examinations of Likert scales, as they often contain multiple-item measures (Bordens & Abbott, 2017; Bryman, 2012). Criticism and arguments of Cronbach's alpha have occurred, however, one of them being that increasing item in a scale could yield higher  $\alpha$  values and another being unable to measure unidimensionality (e.g., Cortina, 1993). Improvements to the procedure is put forward, which include examining both the coefficients and inter-item correlations (Field, 2017; Ostrov & Hart, 2013; Spector, 2013). Cronbach's alpha was applied to each scale also subscales as advised (Field, 2017), and interpretations of values were guided by (Kline, 1999), although the definite thresholds have been questioned (see Schmitt, 1996).

Pearson's correlations were conducted as distribution assumptions allowed for parametric tests. A Classification and Regression Tree methodology was applied for more complex calculations of the observed relationships. Classification and regression tree (CRT; Breiman, 1984) is a sophisticated algorithmic and repetitive analysis used to examine relationships and significant structures of a dependent variable and any independent variables through segmentation. The analysis has been applied in domains such as biology (e.g., Vayssières et al., 2000) and sports-related biomechanics (Mendonça et al., 2018; Tranaeus et al., 2022) and psychology (e.g., Machuca et al., 2017; Rosenfeld & Lewis, 2005). In short, the aim is to detect the most significant predictors for the dependent variable (Machuca et al., 2017) through an automatic variable selection process. CRT produces and selects the independent variables that rightfully and rigorously describe the dependent one. Next, the significant variables repeatedly are categorised in nodes and split to create new subgroups or leaves in the

tree based on specific criteria. The algorithm leaves out the non-significant variables of the initially collected data from a tree, from which only the most robust and most valid associations to the dependent variable are highlighted. Initial nodes generating new nodes are termed parent nodes, whereas the succeeding nodes are called child nodes (Lemon et al., 2003).

CRT is highly applicable as it neither presumes linearity nor demands normality (Önder & Uyar, 2017), placing it under the umbrella of non-parametric tests (Strobl, 2013). In addition, numeric and categorical variables could be included and serve as both dependent and independent variables, as preferred. Due to methodical feasibility, using CRT compared to logistic regression is desirable, as the requirements of observations prerequisite for logistic regression is not fulfilled (Tabachnick & Fidell, 2007). That is, the requirement of independency in observations is not wanted nor practicable in the present study. CRT has three various algorithms, namely CHAID (Chi-squared Automatic Interaction Detection), CART (Classification and Regression Trees), and QUEST (Quick, Unbiased, Efficient Statistical Tree). In the present study, we relied on CHAID based on the sample size and the practicality or intentions of interpreting rather than the sole purpose of predicting. The CHAID algorithm is compatible with interpreting aims in medium to large sample sizes (Momo, 2013).

Through CHAID, the variables are pre-pruned, which implies that splitting (and creating new nodes) only occurs if the criterion of significance is met, thus reducing the threat of overfitting in the tree (Momo, 2013). Machuca et al. (Machuca et al. 2017) advised researchers to carefully consider the thresholds of cases in both parent and child nodes for stopping rules based on the total sample size. Thus, we applied a threshold following this counsel: a) the number of cases in parent nodes was 10% of the total sample, and b) the number of cases in child nodes was 5% of the total sample. Moreover, the possibility of including numerical variables (e.g., psychological) reflecting different constructs and demographic (e.g., sex, age, region) factors to provide context is advantageous. Hence, this facilitates the investigations of all variables collected to decide which one, by evidence, is more substantial than the others in the association. The analysis was conducted separately on both autonomy support received from teammates and autonomy support given to teammates. Altogether, the procedure

was perceived appropriate and adaptable to investigate autonomy-supportive behaviour among teammates.

### **2.3 Methodical considerations**

In survey research, performed using questionnaires, implicit methodological and conceptualised threats hold the potential to yield unsought interference and inaccurate estimates. Various stages of the research process, ranging from the construction of the questionnaire to the response and completion, possess the possibility to influence the magnitude and significance of later conclusions. Different biases can inadvertently transpire due to extraneous variables, regardless of the respondents' best effort to respond sincerely (Spector, 2013). Babbie (2017) phrased that the questionnaire format can influence the quality of our gathered data. This section includes reflections and considerations regarding methodological challenges and biases essential to contemplate and a description of our efforts to manage these threats. Inspired by Dillman et al. (2014), we adopted the philosophy of placing oneself in the respondents' position, as an accustomed discrepancy is what the researchers appraise perfect and what respondents perceive. Prominent categories considering the present thesis, such as sampling bias, construct bias, questionnaire design, development bias, and response bias, are explained. A brief discussion of central psychometrics will be presented, but the results of the psychometric analysis in relation to the instruments utilised for measurements in this study will be presented in the "analysis" section of the article.

The distribution of gender in the present study was satisfying, favourably so, as there are important reasons to investigate both genders and separately females due to the previous skewed distribution of research. Furthermore, the sample size was adequate for the present study to conduct preliminary investigations for future research. Although most of the players required were from Oslo, we reached a satisfying distribution range and subsequent participants from various regions across Norway. However, we were careful not to generalise to samples of competitive youth football players. We did not satisfy the demands of probability sampling. Hence non-probability sampling was conducted, as we did not ensure random selection. Thus, we had less control over the recruitment process than distributing it to players with the preferred qualities inside the inclusion criteria.

Initially, having clarity in definitions and operationalisations of the applicable constructs is argued to be requisite (Moser & Kalton, 2017). Constraining the amount of items is vital to ensure the feasibility of the studies and accurately measure the specific concepts of interest, thus accounting for response burden and questionnaire fatigue in the respondents (Chan et al., 2015). Conversely, equally fundamental, including enough construct-related items to test the purposed hypothesis appropriately is advocated (Bordens & Abbott, 2017). Accordingly, from a response rate and completion perspective, the amount of constructs and items included in the present study is situated on the threshold regarding length and extent. The authors participated in meets to determine and discuss essential constructs rooted in previous and contemporary science to formulate an accessible but adequate and practical purpose.

Further, the questionnaire was developed and prepared using SurveyXact (reference), a digital web-based survey tool, whereby a preregistered institute template from the Norwegian School of Sport Sciences could be applied. Notably, care is advised in designing visually appealing surveys as this procedure could easily cause disturbances (Fink, 2009). Further, construction reflections led to the following adjustments in the electronic survey during the development phase. The items attached to the constructs of interest were grouped in matrixes, as advised beneficial when multiple items sharing similar response categories are present (e.g., Babbie, 2017; Bryman, 2012; Creswell, 2009; Spector, 2013). This reduced pages in the survey (Gall et al., 2003), thus making the response time somewhat shorter and Likert scale answers horizontally displayed. This format could enhance the comparability of responses as it provides an overview of items mirroring the same concept (Babbie, 2017). That is, respondents are permitted to adjust and correct their answers to reflect the nuances accurately in their attitudes or behaviours subsequent to their first answers and according to their previous ones (e.g., modifying from “agree” to “strongly agree”). Although benefits are questioned, the template had an embedded progress indicator to confront questionnaire fatigue (Dillman, 2000; Vicente & Reis, 2010). Lastly, an alert appeared if inadequacies were detected and respondents could not progress further before these were accounted for during the completion.

Another source of bias is related to wording. The items' wording or language could be biased merely through the required translation of the prevalidated and tested

questionnaires (Creswell, 2009). Conventionally, questionnaire items are selected and validated with caution, predominantly rooted in a precise and authentic language that is understandable for the participants to examine. If questions become too vague and complex, the reliability is contested due to confusion and misinterpretation. Hence, the questionnaire could be biased by its inconsistent data production (Bordens & Abbott, 2017). Thus, the second author assisted in translating items, whereby the items were thoroughly evaluated and rephrased for simplification. Then, we conducted a pilot study with players equivalent to the subsequent sample to examine the questionnaires' precision and clarity. Eventually, necessary adjustments were made to revise the questionnaire in accordance with question insufficiencies in wording and complexity while maintaining the essence.

Construct order refers to the purposeful structuration of constructs and the respective order of representing items. How researchers meaningfully construct the order of questions bears consequences for its logical totality and ensures continuity, as ratings and experiences on one construct could affect the following (Hagger & Smith, 2018). Relating items are conventionally grouped to retain the participants' attention to the current constructs without interference from another (Bordens & Abbott, 2017). However, initial responses could subsequently affect the following ones (Hagger & Smith, 2018) due to reflection and cognitive processes in completion, regularly called increased cognitive accessibility. That is, when respondents are inquired to reflect on certain constructs, other relevant or related thoughts that may affect successive replies could interfere (Kirk-Smith, 1998). Patten (2016) suggested that purposeful rearranging of constructs and items could force respondents to read more carefully and make item-by-item decisions. Hence, we cautiously balanced the questionnaire with favourably and unfavourably directed constructs and items, to ensure participants were less affected by the previous matrix of items. Additionally, we had to arrange the familiar constructs consciously to reduce the experience of responding to the same construct multiple times, as some of the items (e.g., autonomy-support) were reused reversely. Such concerns introduce a supplementary form of biases related to participants' encounters with the questionnaire. Namely, the ones related to response and completion.

Systematic response errors could cause misguided inference and data distortions. The diverse sources of response bias in the study were modified accordingly, both with the

use of deliberate initiatives and through methodical preferences and priorities. Initially, non-response bias concerns latent differences between those participants returning their answers to those who do not, some of which may be significant (Rogelberg & Luong, 1998). Results may be biased because those willing, available, and interested in participation share multiple homogenous behaviours and attitudes dissimilar to those less interested or less accessible (Fowler, 2013). If the respondents are less accessible or initially refused to participate, it is problematic to calculate the significance of the potential difference. These could be called non-contracts due to lack of accessibility (Groves et al., 2009) and could cause a less representative sample by leaving a more uniform sample with an underrepresentation of desired demographics. Electronic survey research designs are especially vulnerable to this type of bias merely due to the distance and distribution range, although intended to be a methodical advantage (Babbie, 2017; Bordens & Abbott, 2017; Bryman, 2012; Fowler, 2013; Groves et al., 2009; Thomas et al., 2015).

To address the issue of non-response, we developed a follow-up strategy and provided our distributors with the needed information and guidelines to effectively enhance the players' willingness to participate. In the follow-up mail distributed, participants were informed about the potential implications of the study, anonymity, the possibility of withdrawing if desired, and our appreciation of their willingness to reply. This information was also briefed in the initial invite e-mail and the electronic consent form prior to participation in Survey Exact. Our distribution range was limited to NFFs registered e-mail lists. Ultimately, this might imply that those accountable for the teams with insufficient registration could not disseminate the questionnaire further, potentially excluding essential insights. Internet-based surveys distributed through a link may present a problem, namely, those with access to and internet users might differ from non-users (Couper, 2000). Conversely, the online survey is perceived as sensible when the population addressed suits the design (Yun & Trumbo, 2000). Moreover, our "alliance" with the players' club superiors facilitated the registration and completion by making the link accessible for their teams on their preferred platform.

Undesirable tendencies in responding are also an inevitable threat to the trustworthiness and quality of questionnaire studies. One of those tendencies is termed respond acquiescence. Acquiescence is the respondents' tendency to respond disproportionately

affirmative regardless of the content (Krosnick, 1999). This bias may be caused by ambiguous items and item length (Babbie, 2017). Thus, researchers' efforts to adjust and adapt the formal design puts an imprint on the stimulus of the respondents.

Alternatively, acquiescence may be embedded in the respondent. Acquiescence is prevalent because of respondents' propensities to consider the content of the questions insufficiently, thereby, their actual attitudes and behaviours might not be portrayed rightfully. It has been argued that this bias is induced by tendencies to respond in an agreeable matter, to prevent the researchers' disapproval (Knowles & Nathan, 1997), or conversely to conserve cognitive energy (Krosnick, 1999) by responding seemingly “good enough” instead of honestly and truly. Furthermore, Krosnick (1999) proposed an explanation for person-centred reasons for acquiescence called satisficing response tendencies. He argued that it occurs when respondents consistently consider or reason how statements are factual without considering if the opposite is more accurate, thus fostering response acquiescence.

Adjustments and priorities were made to reduce the magnitude of acquiescence bias. Initially, the validated and tested scales comprised positive and negative worded items. In addition, the initiatives formerly mentioned about the arrangement of favourable and unfavourable constructs could also contribute to the reduction. Such initiatives are advised to establish a balanced measurement set in which respondents are compelled to examine the items consciously and deliberately (Billiet & Davidov, 2008; Knowles & Nathan, 1997; Podsakoff et al., 2003). Hence, the effects of response acquiescence are minimised when balanced scales are applied since including items on either side of the spectrum helps correct those with overly consistent answers. Moreover, instructions were provided to the respondents on each consecutive page to ensure adequate information about the current concept and items (Babbie, 2017; Bryman, 2012). Concretely, it was provided through a short sentence on top of the page, clarifying the present construct and indicating how to respond. Hence, sufficient instructions and understandable questions may facilitate avoiding this bias and reduce both response acquiescence and extreme responses.

Survey responses may be fragile to human tendencies to respond in ways demonstrating social conformity. Social desirability mirrors the propensity to respond socially acceptable and favourable way (Bryman, 2012). Respondents answer according to their

perceptions of desirable social attributes rather than relying on their own experiences and perceptions, typically by underreporting undesirable attributes and overreporting desirable ones. Moreover, the magnitude of this bias might vary due to specific demographical norms in which the research is conducted (Nederhof, 1985). Researchers may find it problematic to determine whether the significance, effects, or correlations are prevalent by individual differences or conformity to social norms. The construct to which the respondents are requested to answer may be prominent, as the magnitude of desirability is especially prevalent in topics with a controversial reputation (Furnham, 1986). In studies with greater diversities of cultural or social distance, reproduction of various society contingent attributes may arise uninvited research interference. Favourably, electronic or web-based self-completion questionnaire methods regularly generate less social desirability effects than do other methods conditioned to the researchers' attendance (Groves et al., 2009). However, it is still pivotal to lessen these effects to draw more valid inferences from scientific investigations (Furnham, 1986).

In the present thesis, we depended on advised priorities and adjustments to reduce social desirability effects. Firstly, an inherent advantage of the self-completion questionnaire is response privacy and distance due to the simple reason of the absence of researchers. This is an advantage due to the reduction of the researchers as a confounding factor in responding. A respondent may be able to identify the intentions, expectations, or standpoint of a researcher, producing scores that align with those and obscure or interfere with the conclusions. We maintained the distance between the respondents by relying on trustworthy and benevolent team leaders or coaches as distributors of the questionnaire. The incorporated informed consent and mail correspondence availability were the primary information or communication channels. Any efforts to seek the approval of the researchers or to deliberately control others' perceptions of themselves could be prevented.

Illustrated on the front page (in Survey Xact), braided in the informed consent (see appendix 4), was a clarification of our intentions, practicality, and value of the study (e.g., Dillman, 2000). Here, respondents were informed of their anonymity, data storage, and accessibility, with the respective authors' responsibilities for this assurance. Explicitly, we declared for the respondents that parents, coaches, or other sport-related superiors would neither have access to the players' replies nor would they be able to



request this separately. It was specified that their data promptly would assure complete anonymity and that trailing to identify individuals was unattainable. During completion, to avoid the allurements of answering in any other way than sincerely, we believed it wise to inform and remind the respondents of this. Hence, in the instruction and description of the consecutive constructs, we repeatedly instructed the participants to answer honestly and truly on each page, constantly reminding them that their accurate perceptions and reflections are essential and appreciated. Further adjustment was the technical ability to overview answers as desired during the questionnaire completion. In a meta-analysis of social desirability distortion in electronic questionnaire surveys, Richman et al. (1999) revealed that providing respondents with backtrack alternatives to change their previous replies would lower social desirability effects. Hence, we ensured that this possibility was available in Survey Xact across the entire completion phase.

The beforementioned adjustments concerning the construction and response of the electronic questionnaire may counteract other related response threats. Extreme response bias is an example whereby respondents demonstrate a disposition to choose the extreme alternatives on a scale, irrespective of the content (Greenleaf, 1992). Consequently, it becomes problematic to apprehend the nuances in behaviours and attitudes on a Likert rating scale. Equally demanding, central tendency bias concerns respondents' tendency to avoid selecting extreme answers to prevent abnormal representation. Thus, respondents present themselves as proprietors of beneficial qualities and traits by evading the extreme replies when unfavourable propensities are current. We attempted to decrease extreme and central tendency bias through purposeful and careful wording and sufficient frequency of clarifying information (Furnham, 1986). Altogether, we depended on multiple adaptations to reduce the diverse sources of response bias and ensured that these were given adequate thought across the study.

### **2.3.1 Ethical considerations**

Science is socially responsible, as research can significantly affect society (Tranøy, 1986). "Science helps shape our perception of reality and the society in which we live" (Bondevik & Rustad, 2006, 77). As social research becomes more widely used and of greater importance in society, ethical considerations and assessments will be given greater importance (Halvorsen, 2008). Significant research should be thoroughly methodological and consider the ethical aspect of research. Researchers are usually

passionate about their research projects, but full academic freedom is constrained by internal and external ethical principles to safeguard those who partake (Halvorsen, 2008). In addition to several guidelines, there are moral research expectations. In this sense, morality is defined as the behaviour pursued based on thoughts such as right and wrong (Halvorsen, 2008).

Existing moral beliefs are, therefore, the basis for discussing research ethics related to assessments or dilemmas. Research ethics includes requirements related to the researchers' social responsibility (National Research Ethics Committees, 2015). Research ethics deals with values and norms that constitute and regulate scientific activities (National Research Ethics Committees, 2015). Established research ethical norms are divided into categories; research practice, social responsibility and regulation of individuals and groups concerned with the research. Internal norms also say that knowledge is public ownership, knowledge is driven independently of politics and ideological interests, and research results should be subjected to critical testing (The National Research Ethics Committees, 2015). All the aforementioned considerations are essential for the research to be ethical and reputable.

Norwegian Centre for Research Data (Norwegian: NSD) and The Ethical Committee of The Norwegian School of Sport Sciences granted permission to perform the study. The regional representatives from NFF were informed of their possibilities to inquire about access to and transparency of the thesis. Still, we declared for the respondents that parents, coaches, or other sport-related superiors would neither have access to the players' replies nor would they be able to request this separately. It was specified that their data promptly would assure complete anonymity and that trailing to identify individuals was unattainable. The full-scale questionnaire was distributed to the participants electronically with an embedded link to the online questionnaire. Illustrated on the front page (in Survey Xact) was a clarification of our intentions, practicality, and study value. Respondents were informed of their anonymity, data storage, and accessibility, with the respective authors' responsibilities for this assurance. Thus, they had to agree to the consent form as a prerequisite for participation. Participants were informed about their possibilities of withdrawing without any negative consequences. An example of the content form distributed electronically can be found in appendix 4.

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## **Presentation of article**

The following article is to be submitted to “International Journal of Sport and exercise psychology” and is presented with the journal’s preferred guidelines.<sup>1</sup>

<sup>1</sup>

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## **Receiving and giving autonomy support among teammates in competitive youth football: A cross-sectional study**

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Youth competitive sports is a salient social arena for youth athletes to develop physically, technically, psychologically, and socially in fellowship. Still, there is insufficient empirical evidence of peer motivational climates. Therefore, the purpose of the present study was to explore potential explaining factors of peer motivational climates in competitive youth football using self-determination theory. We intended to investigate receiving and giving autonomy support to teammates and their associations with satisfaction and frustration of basic psychological needs in competitive youth football. In examining autonomy support, we included psychological factors such as self-esteem, resilience, perfectionism, benevolence, and trust to explore the antecedents of autonomy-supportive behaviour. Football players ( $n = 232$ ,  $M = 17.5$ ,  $SD = 1.15$ ) in teams (U16-U19) from various Norwegian regions were recruited. The results indicated the intricate nature of autonomy support with essential differences in players' experience of autonomy support received and reasons for giving autonomy support to teammates. Players' received autonomy support from teammates was explained by their experience of relatedness. In contrast, players' benevolence was the main factor explaining autonomy support given to teammates. Results indicated a more complex interplay concerning autonomy support given to teammates, with multiple factors contributing to the supporting behaviours towards teammates in competitive youth football.

**Keywords:** teammates; autonomy support; self-determination theory; classification and regression tree; youth sport; football

## **Introduction**

### ***Peer relationships and climates in competitive youth sport***

Peer relationships are formed and occur on various arenas (Rubin et al., 1998). Sports provide the opportunity to investigate a salient social environment in which peers interact, socialise, and develop (Holt et al., 2008; Weiss & Stuntz, 2004). Peers significantly influence each other, especially in the years following childhood (Laursen, 1996; Smith et al., 2006; Sullivan, 1953). Researchers investigating peer relationships and interaction in youth sports have highlighted that positive and enhancing relations with peers are associated with adaptive achievement goal orientations (Ommundsen et al., 2005), perceived physical competence (Ullrich-French & Smith, 2006), sport enjoyment (Ullrich-French & Smith, 2006; Weiss & Smith, 2002), success perceptions (Weiss & Duncan, 1992), resilience development (Hwang et al., 2017) and, autonomous motivation (Smith et al., 2006; Ullrich-French & Smith, 2006).

A growing body of empirical work has identified peers as a salient motivational social agent for motivation (Jõesaar et al., 2011; Keegan et al., 2010; Keegan et al., 2009, 2014; McLaren et al., 2017). Through a task-involving climate, increased team cohesion (García-Calvo et al., 2014; McLaren et al., 2017), empathy (Ettetal et al., 2016), prosocial or moral behaviours (Ntoumanis et al., 2012), besides lower levels of anxiety and burnout (Ntoumanis et al., 2012; Vazou et al., 2006) is expected outcomes. On the contrary, a peer climate that facilitates ego-involvement may increase the manifestation of negative, unsupportive, and antisocial behaviours (Ntoumanis et al., 2007, 2012; Smith et al., 2018) through maladaptive motivational outcomes. Preceding research has underlined the impact of a peer-created motivational climate on autonomous motivation (Carr et al., 2000; Carr & Weigand, 2001; Jõesaar et al., 2012; Ntoumanis et al., 2012; Ntoumanis &

Vazou, 2005). Consequences of an increased or heightened emphasis on competition and superior performance could be less enhancing teammate relationships.

### *Competitive sports and teammates*

Possible predictors of suboptimal outcomes in youth sports are early specialisation, competitiveness, and professionalisation (Baker et al., 2018; Bergeron et al., 2015). When competitiveness and performance is an underlined demand, athletes may transmit behaviours coherent with their coaches' anticipations in internal competition for playing positions and status (Cushion & Jones, 2006; Vazou et al., 2006). Suboptimal behaviours may be strengthened through a social environment that promotes competition over collaboration and personal improvement (Smith, 2019; Ullrich-French et al., 2012). Thus, the social environment could cause athletes to undermine their peers or teammates in their endeavours for success by forming a highly perfectionistic, individualistic, and superficial environment (Adams & Carr, 2019; Kelly & Waddington, 2006; Ommundsen et al., 2005; Roderick, 2006).

An overly heightened emphasis on winning and succeeding may transmit an increased tendency to act destructive and antisocial towards teammates (Al-Yaaribi & Kavussanu, 2018; Bolter & Kipp, 2018; Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011; Kavussanu & Al-Yaaribi, 2019). Due to the increased controlled motivation of individuals, relationships with teammates may yield lower quality and cause immoral behaviours, conflicts, and victimisation (Evans et al., 2016; Partridge & Knapp, 2016; Vansteenkiste et al., 2010). Regarding reciprocal behaviour, destructive or antisocial behaviours received from a teammate could subsequently influence self-reported destructive behaviours towards teammates (Benson & Bruner, 2018). Furthermore,

studies have suggested that simply seeing other teammates demonstrating antisocial behaviour towards other teammates could increase their reported antisocial behaviour (Benson et al., 2017; Bruner et al., 2018).

Conversely, although several environment-specific threats exist to teammate relationships and interactions in competitive youth sports, athletes still exhibit helping and supporting behaviours. Athletes in climates that foster autonomous motivation are anticipated to report higher degrees of prosocial behaviour (Gagné, 2003; Ntoumanis et al., 2012; Ntoumanis & Standage, 2009). There have been efforts to examine if gender differences exist in inclinations to provide prosocial behaviour in sport (Holt, 2008; Kavussanu et al., 2009; Van Lange et al., 2018; Weiss & Smith, 2002). Findings from these studies indicated a potential difference in empathic, benevolent, and helping behaviours, with females reporting higher supportiveness, intimacy, and loyalty. Tendencies to act prosocially in sports might be rooted in the solid social ties formed and the degree to which athletes perceive other teammates to be supportive (Al-Yaaribi & Kavussanu, 2018; Kavussanu & Al-Yaaribi, 2019). However, there is insufficient empirical evidence of the antecedents of such supportive behaviour.

### ***Self-Determination theory***

Self-determination theory (SDT; Deci & Ryan, 1985, 2000, 2012; Ryan & Deci, 2017) is a motivational macro theory on how diverse social environments influence human behaviour and growth. In SDT, there are psychological nutrients termed basic psychological needs proposed to be essential for growth, integrity, and well-being (Ryan & Deci, 2017), including autonomy, competence, and relatedness. Autonomy refers to self-endorsed and self-regulated actions, competence involves understanding how to achieve various internal and external outcomes, and

relatedness involves satisfying relationships in the environment (Deci et al., 1991; Deci & Ryan, 1985; Ryan & Deci, 2000). Autonomy support is believed to be a facilitator for need satisfaction, and studies have disclosed the different descendants of autonomy support from coaches and parents in sports.

Autonomy support has been associated with autonomous motivation (Conroy & Douglas Coatsworth, 2007; Fenton et al., 2014; Gagné, 2003; Gaudreau et al., 2016; Halvari et al., 2009; Hein & Jõesaar, 2015), prosocial behaviour (García-Calvo et al., 2014; Heuzé et al., 2006; Hodge & Lonsdale, 2011), player satisfaction and engagement (Curran et al., 2014; García-Calvo et al., 2014) and self-esteem (Lynch et al., 2009) as outcomes. However, less is known about peers' and teammates' provision of autonomy support. To our knowledge, only Hodge and Gucciardi (2015) have examined autonomy support received from teammates in sport. Their study examined competitive athletes and revealed that teammate autonomy-supportive climates were directly associated with basic needs satisfaction and prosocial behaviour.

Moreover, there is growing evidence from studies aimed at understanding the antecedents of autonomy support provision (Cheon et al., 2015; González et al., 2019; Matosic et al., 2017; Solstad et al., 2015, 2018). For instance, Deci et al. (2006) found that there was an inherent need satisfying reasons for individuals to provide autonomy-supportive behaviour to a friend in close relationships, irrespective of the impacts of receiving. Additionally, Solstad et al. (2015) found that giving autonomy support to athletes was associated with need satisfaction in a group of young football players. To our knowledge, no research has been conducted on teammates in sports or football regarding the self-referred benefits of providing autonomy support and potential antecedents for this provision.

When autonomy support is provided to athletes, need satisfaction is anticipated for both the recipient and the provider (Cheon et al., 2015; Solstad et al., 2015, 2018). Studies in sport have linked need satisfaction to several favourable factors perceived to contribute to cognition, behaviour, and motivation among athletes (Adie et al., 2012; Álvarez et al., 2009; Balaguer et al., 2012; Felton & Jowett, 2013; McDavid et al., 2014; Quested et al., 2013; Reinboth et al., 2004; Stenling et al., 2015). Moreover, satisfying needs could facilitate enhancing behaviours toward teammates (Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011). On the contrary, the social environment can be need frustrating and trigger defensive compensatory behaviours (Ryan & Deci, 2017). Controlled motivation has been associated with destructive teammate behaviour that could lead to need frustration (Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011). In line with SDT, research has shown that when the need for autonomy, competence and relatedness are frustrated, athletes exhibit psychological maladjustments such as burnout, illness, anxiety, reduced self-esteem and less intrinsic motivation (Balaguer et al., 2012; Bartholomew et al., 2011; Legate et al., 2015; Li et al., 2013; Vansteenkiste & Ryan, 2013).

When athletes experience frustration of needs through the environment, some personal resources such as self-esteem, resilience and perfectionism could influence their coping and social functioning. In the events of adversities such as need frustration, individuals with lower self-esteem may suffer (Ryan & Deci, 2017) and be unable to cope with the environmental stress (Kaplánová, 2019; Tennen & Affleck, 1993). Generally, self-esteem is considered a protective factor for resilience in adolescent research (Dumont & Provost, 1999; Pargas et al., 2010). Individuals with lower levels of resilience have been linked to reduced coping skills, avoidance, and destructive habits (Bernstein et al., 2011; Mummery et al., 2004; Southwick et al., 2014; Wechsler et al., 1997). Individuals'

perfectionistic concerns could be influential to the experience of need frustration as it is related to increased anger, disappointment, fear of failure, burnout, and reduced engagement (Jowett et al., 2016; Sagar & Stoeber, 2009). Conversely, individuals with higher self-esteem and resilience are more protected against burnout (Gustafsson et al., 2007; Vitali et al., 2015) and injuries (Clement & Shannon, 2011; Jones & Jetten, 2011). Individuals with perfectionistic strivings exhibit more adaptive behavioural responses (Crocker et al., 2014; Jowett et al., 2016; Lizmore et al., 2016) and demonstrate more favourable attitudes towards teammates (Ommundsen et al., 2005). Thus, we propose that self-esteem, resilience, and perfectionism would be influential in providing autonomy support to a teammate.

Helping another teammate or providing autonomy support might be an expression of prosocial behaviour, and through such benevolent acts, people are prone to feel connected, self-valued, and effective (Deci et al., 2006; Legate et al., 2015). Contemporary research has intended to investigate the reasons for prosocial behaviour from various standpoints (Al-Yaaribi & Kavussanu, 2018; Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011; Kavussanu & Al-Yaaribi, 2019; Van Lange et al., 2018). However, in SDT, individuals experience need satisfaction when a benevolent act originates from an autonomously motivated position (Martela & Ryan, 2016; Ryan & Hawley, 2016; Weinstein & Ryan, 2010). Benevolence is considered an essential tenet of trust, which is the belief that commitments in a relationship will be fulfilled (Mayer et al., 1995). Propensity to trust is as a general desire to trust others based on the summation of previous experiences and have been less investigated in sports. Thus, we suggest that players' benevolence and propensity to trust affects autonomy support shared among teammates and aimed to extend contemporary research of benevolence and trust to a sport environment and implies that the two factor could be impactful.



### ***The present study***

Anchored in the reviewed literature, the purpose of the present study was to explore potential explaining factors of peer motivational climates in competitive youth football using self-determination theory. We intended to investigate receiving and giving autonomy support to teammates and their associations with satisfaction and frustration of basic psychological needs in competitive youth football. In examining autonomy support, we included psychological factors such as self-esteem, resilience, perfectionism, benevolence, and trust to explore the antecedents of autonomy-supportive behaviour.

### **Method**

#### ***Participants***

A gender imbalance in prior motivational and competitive sports research is scientifically and empirically identified (Clancy et al., 2016; Johnston et al., 2018). Hence, we identified and invited female and male youth players to partake in the present survey. Aimed sample characteristics were youth male and female football players aged 16-19 years participating in competitive football teams across Norway, from 2. division youth-determined to 2. division elite senior division football (see Table 1). The sample counted 232 youth participants ( $M = 17.51$ ,  $SD = 1.15$ ) and consisted of 123 male (53%) and 109 (47%) female players from Oslo ( $n = 120$ , 52%), Nordmøre og Romsdal ( $n = 52$ , 22%), Hordaland ( $n = 28$ , 12%), Trøndelag ( $n = 28$ , 12%), and Nordland ( $n = 4$ , 2%). These players had attended organised team deliberate practice for several years ( $M = 10.37$ ,  $SD = 2.60$ ) and spent a considerable number of hours (practice or competition) accompanied by their team each week ( $M = 8.05$ ,  $SD = 3.63$ ). Lastly, 18 % of the players attended talent development programs prearranged by NFF ( $n = 44$ ).

[Table 1 near here]

### ***Procedure***

Initially, the Norwegian Centre for Research Data and The Ethical Committee of The Norwegian School of Sport Sciences granted permission to perform the study. Subsequently, a meeting with regional leaders of youth development departments within The Norwegian Football Federation was arranged to enlighten the representatives about the intended research project. Representatives then agreed to distribute the survey by e-mail to coaches or team leaders of the players' respective teams. Additionally, they were informed of their possibilities to inquire about access to and transparency of the study. Next, a short pilot study was conducted with participants equivalent to those described in the inclusion criteria to ensure the questionnaire had acceptable format, instruction, wording, logic, and length. Since we relied on formerly validated and established survey scales, the pilot study was merely used for clarification and sample-specific trials. The full-scale questionnaire was distributed to the participants electronically with an embedded link to the online questionnaire, information about the study, and a consent form they had to agree to as a prerequisite for participation. Completion of the questionnaire required approximately 15-20 minutes. Questionnaire gathering and completion were made during spring 2021, between the respective players' end of pre-season and the beginning of the season (April – June).

### ***Measurements***

We applied a questionnaire composite of formerly contextualised, piloted, and validated questionnaires to examine the constructs embedded in this study.

However, the scales needed adjustments and adaptations for interpretation and specificity purposes. Consequently, the scales were validated and examined to assure acceptable and reliable data collection, using Cronbach's Alpha ( $\alpha$ ) procedure of investigating internal consistency. Thus, interpretations of alpha coefficients were guided accordingly. We applied an exploratory factor analysis (EFA) to inspect the factor structure of the respective scales (see Appendix 5).

#### *Autonomy support*

Autonomy support was assessed using the Sports Climate Questionnaire (SCQ) short version adapted from the Health-Care Climate Questionnaire (Williams et al., 1996). The short version comprises 6 items: 1, 2, 4, 7, 10 and 14 extracted from the extended version. The SCQ questionnaire examines athletes' experiences of the autonomy-supportive tendencies of coaches or other equivalent sporting supervisors on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale (e.g., My teammates listen to how I like to do things). Good internal consistency of the scale has been submitted in an athletic context (e.g., Bartholomew et al., 2011). Adaptively, we directed the scale to experiences of autonomy-support received from the players' peers (e.g., My teammates listen to how I like to do things) and reversely the extent to which the players themselves exhibited or gave autonomy support to their peer players (e.g., I listen to how my teammates like to do things). Cronbach's alpha values in the present study revealed high internal consistency for both receiving ( $\alpha = .90$ ) and giving ( $\alpha = .85$ ) scales.

#### *Basic psychological needs satisfaction and frustration*

Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015) measured the satisfaction and frustration of the basic psychological needs. The

respondents answered on a scale of 1 (completely disagree) to 7 (completely agree). The scale comprised 24 items within each of the components of SDT. Autonomy had 8 items regarding the possibility to choose and assume the choice freely (e.g., I feel I have the freedom and possibility to choose things I assume), competence was measured with 8 items concerning the ability to develop success (e.g., I feel I can do things right), and 8 items assessed relatedness reflecting a social aspect (e.g., I feel that people, who matter to me, care about me). We intentionally implemented both satisfaction and frustration, whereby respective items were applied repeatedly to investigate the degree of frustration besides the satisfaction of the basic psychological needs. We based the translation and wording on forgoing research, providing scale translations in Norwegian (Olafsen et al., 2021). The scale produced high values of internal consistency for satisfaction (autonomy  $\alpha = .86$ ; relatedness  $\alpha = .88$ ; and competence  $\alpha = .92$ ) and frustration (autonomy  $\alpha = .88$ ; relatedness  $\alpha = .87$ ; and competence  $\alpha = .90$ ).

#### *Propensity to trust*

Propensity to trust was assessed through a propensity to trust scale (Frazier et al., 2013), wherein respondents answered on a Likert scale of 1 (*strongly disagree*) to 5 (*strongly agree*) on 4 items regarding their tendencies to trust others (e.g., I usually trust people until they give me a reason not to trust them). In this scale, respondents were inquired about their dispositional traits regarding the decision to trust others. The items were translated and adjusted prior to application by specifying teammates as the reference individuals from which they judge their trusting dispositions. The recorded internal consistency was adequate ( $\alpha = .88$ ).

### *Perfectionism*

Perfectionism was measured through a short version of the Frost Multidimensional Perfectionism Scale-Brief (F-MPS-Brief; Burgess et al., 2016). The scale consists of two dimensions or subscales, namely evaluative concern and strivings measured on a 1 (strongly disagree) to 5 (strongly agree) Likert scale. Evaluative concerns (EC 4 items) encompass self-criticism and negative performance evaluation, whilst striving (S, 4 items) addresses high goal setting and striving for achievement (e.g., I set higher goals for myself than most people). The scale yielded favourable internal consistency values for both subscales (EC  $\alpha = .77$ ; S  $\alpha = .83$ ).

### *Resilience*

The Brief Resilience Scale (BRS; Smith et al., 2008) assessed resilience with 6 items. The scale ranges from 1 (*strongly disagree*) to 7 (*strongly agree*), whereby 3 of the 6 items are reversed. The substance examines the respondents' perceptions of their ability to bounce back from adversity (e.g., I tend to bounce back quickly after hard times). Preliminary internal consistency estimates from various samples (Smith et al., 2008) demonstrated favourable internal consistency ( $\alpha = 0.80-.90$ ). Recent research has provided evidence for the scale's reliability in sports (e.g., Blanco-García et al., 2021; Martin et al., 2021). Correspondingly, the BRS-scale yielded a good internal consistency in the present study ( $\alpha = .80$ ).

### *Self-esteem*

Self-esteem was evaluated through a short version of the Self-Description Questionnaire II (SDQII; Marsh et al., 2005). This scale has multiple subscales wherein respondents replied on a 1 (*false*) to 6 (*true*) on various dimensions of their self-esteem. However, we

chose the dimensions we saw as appropriate and purposeful for the present study. Hence, general self-esteem (GSE) and emotional stability (ES) subscales were included. General self-esteem comprises 5 items (e.g., Most things I do, I do well), and emotional stability has 6 items (e.g., I worry more than I need to). Notably, we reversed the emotional stability scale to ensure that low scores on the items reflected the high emotional stability and not high emotional instability. Internal consistency revealed robust evidence for the subscales (GSE  $\alpha = .86$ ; ES  $\alpha = .86$ ).

### *Benevolence*

Benevolence was assessed using the items developed by Mayer and Davis (1999) and subsequently validated by other researchers (e.g., Frazier et al., 2013). The scale has 5 items that should be answered on a 1 (strongly disagree) to 5 (strongly agree) point Likert scale. The essence is to measure respondents' perceptions of others' benevolent or prosocial behaviours (e.g., My needs and desires are very important to top management). High values of reliability measures has been disclosed ( $\alpha = .89$ ; Mayer & Davis, 1999,  $\alpha = .95$ ; Frazier et al., 2013). For the present study, we replaced top management with teammates for it to echo a sports environment and serve the present examination purpose. In addition, we modified the perspective of the scale to be self-referring contrary to the original scale (e.g., My teammates' needs and desires are important to me). Cronbach's alpha showed acceptable internal consistency ( $\alpha = .82$ ).

### *Statistical analysis*

Data were analysed using SPSS (SPSS for Windows, v. 25) and JASP (v 16.1), whereas Microsoft Excel constructed Figures and Tables. Descriptive demographic characteristics are provided in Table 1, whereas the Pearson correlations matrix with associated

Cronbach's alpha reliability values are illustrated in Table 2. Cohen's estimates of small ( $r = 0.10-0.29$ ), medium ( $r = 0.30-0.49$ ), and large effects ( $r = > 0.50$ ) were used for interpretations (Cohen et al., 2003) . For validity estimates of the scales, exploratory factor analysis (EFA) examined the factor loadings of the items, as advocated when significantly modified or new scales are utilised (Gerbing & Hamilton, 1996; Hurley et al., 1997).

A classification and regression tree (CRT) was applied to investigate the intricate relationships of the variables. CRT produces and selects the independent variables that rightfully and rigorously describe the chosen dependent variable, which is used successfully in psychology to detect the predictive and prominent factors of attitudes and behaviours (e.g., Machuca et al., 2017; Rosenfeld & Lewis, 2005). Two trees were conducted, investigating autonomy support received from peers and autonomy support given to peers. Based on our interpreting purposes, we applied the CHAID algorithm, whereby pre-pruning is used to split nodes when the significance criterion is met (Momo, 2013) and unwanted overfitting in the data is prevented (Ying, 2019). We applied the stopping rule in accordance with the advice of Machuca et al. (2017), with the number of cases in the parent and child nodes at a minimum of 10% and 5%, respectively.

## **Results**

### ***Preliminary analysis***

Normality assumptions were made prior to the analytic procedures. Besides pairwise scatterplots, the estimates of skewness and kurtosis values revealed neither violations of the assumptions nor values that exceeded normality distribution (Byrne, 2013). Response rate estimates showed a methodological anticipated but acceptable rate (74%). 86 players confirmed their participation but departed from the questionnaire. No outliers were

detected, and few cases of missing data were addressed using Little's MCAR (Little, 1988), whereby the values were found desirably non-significant. The EFA showed that all items loaded exclusively and consistently with respectable values on all constructs, apart from item 38 (perfectionism strivings), which cross-loaded on one other factor. However, as values were low (0.332), sole and adequate for its expected factor, the item was maintained. Bivariate correlations are shown in Table 2. In short, the preliminary analysis found anticipated relationships among the variables included. Autonomy support showed strong positive correlations with satisfaction of the three basic needs ( $r = 0.43 - 0.55$ ) and moderately negative correlations with need frustration ( $r = -0.29 - -0.44$ ). Conversely, autonomy support given to teammates shared moderately positive correlations with need satisfaction ( $r = 0.31 - 0.40$ ) and a low negative correlation with need frustration ( $r = -0.11 - -0.24$ ). Autonomy support received from teammates and autonomy support given had a moderate positive correlation ( $r = 0.40$ ).

[Table 2 near here]

### ***Main analysis***

The CRT analysis with the CHAID algorithm produced two trees. Firstly, a solution with 13 nodes was presented for autonomy support received. Initially, relatedness satisfaction was the main explaining significant variable. Players with lower scores on relatedness satisfaction ( $\leq 4.750$ ) reported lower autonomy support received from their teammates than those with higher scores on relatedness satisfaction ( $> 6.750$ ) (Mean difference = 1.759, 95% CI = [1.40, 2.13]). Furthermore, benevolence was a significant explaining factor for the player with lower scores of reported relatedness satisfaction. The players with lower scores on benevolence reported



slightly lower levels of autonomy support received from teammates than high-scoring players (Mean difference = 0.360, 95% CI = [0.02, 1.60]).

As for the high reporting counterparts of relatedness satisfaction, relatedness frustration appeared to be the main explaining factor for autonomy support received. Players with low scores of relatedness frustration ( $\leq 1.250$ ) registered higher values of autonomy support than those with higher relatedness frustration (Mean difference = 0.557, 95% CI = [0.09, 1.03]). For the two middle scoring nodes, autonomy support given to teammates was significant for the lower middle node (4.750, 6.250). Further, those players who noted more autonomy support given to teammates ( $> 5.833$ ) received more autonomy support than those who gave less (Mean difference = 0.555, 95% CI = [0.26, 0.85]). For the higher middle node (6.250, 6.750), competence frustration was revealed to be the significant explaining factor. Players with lower values of competence frustrations ( $\leq 2.250$ ) had higher levels of autonomy support received than their higher reporting peers ( $> 2.250$ ) with a mean difference of 0.950 (95% CI = [0.46, 1.44]).

[ Figure 1 near here ]

As for the second CRT, the dependent variable was autonomy support given to teammates. The tree structure produced benevolence was the main significant factor in explaining autonomy support given to teammates. Players with decreased values of benevolence ( $\leq 4.000$ ) reported lower autonomy support given towards their teammates than those with higher reported benevolence (Mean difference = 0.978, 95% CI = [0.77, 1.19]). Propensity to trust was demonstrated as the following variable of significance for the lower benevolence value group. Players with higher levels of propensity to trust had

higher reported autonomy support given to teammates. The groups formed by splitting on propensity to trust produced new child nodes.

For the lower subgroup, general self-esteem was the following significant factor. Players with higher levels of self-esteem ( $> 4.500$ ) counted higher autonomy support given to teammates than did players with lower levels (Mean difference = 0.614, 95% CI = [0.22, 1.01]). Whereas the higher scoring propensity to trust group, autonomy satisfaction was significant and produced additional nodes. These revealed that lower levels of autonomy satisfaction ( $\leq 5.250$ ) generated lower autonomy support given towards teammates than players who experienced higher autonomy satisfaction (Mean difference = 0.864, 95% CI = [0.50, 1.23]). To inform, for players in the middle scoring benevolence group (4.000, 4.400), satisfaction besides frustration of autonomy offered significant influence of giving autonomy support.

For players with high scores on benevolence, resilience was shown to be the next significant explaining factor of the dependent variable. Resilience scores indicated that players with higher levels ( $> 5.667$ ) reported higher autonomy support given to teammates, more so than those with lower levels ( $\leq 3.833$ ) (Mean difference = 1.001, 95% CI = [0.59, 1.41]). The middle node from resilience (3.833, 5.667) produced autonomy support received as the next explaining factor, from which two child nodes were created. Here, autonomy support given yielded higher scores among players placed in the node of higher autonomy support received ( $> 6.333$ ) compared to those identified in the lower one (Mean difference = 0.455, 95% CI = [0.17, 0.73]).

[ Figure 2 near here ]

## **Discussion**

The purpose of the present study was to explore potential explaining factors of peer motivational climates in competitive youth football using self-determination theory. We intended to investigate receiving and giving autonomy support to teammates and their associations with satisfaction and frustration of basic psychological needs in competitive youth football. The five psychological factors: self-esteem, resilience, perfectionism, benevolence, and propensity to trust, were explored as conceivable antecedents of the provision of autonomy-supportive behaviour. To our knowledge, only Hodge and Gucciardi (2015) have examined autonomy support among teammates in competitive youth sports. However, no study has solely investigated receiving and giving autonomy support in competitive youth football. Overall, this study supported the theorised associations and correlations previously found.

The players reported moderate to high mean scores on autonomy support received from teammates, indicating solid social support within their respective teams. Such a result aligns with previous sports findings (Adie et al., 2012; Hodge & Gucciardi, 2015; Kipp & Weiss, 2013). In the contextual boundaries of competitive youth football, adolescent players are particularly responsive and in need of support in encounters with career transitions, deselection for senior football, and increased discipline demands (Carr, 2009; Carr & Fitzpatrick, 2011; Morris et al., 2015; Richardson et al., 2013)

The most significant emerging factor in explaining autonomy support received was relatedness. Accordingly, players lower in reported relatedness received lower autonomy support from teammates. Indeed, there has been argued that other needs are more prominent (Deci & Ryan, 2000). However, our findings contradicted such claims and aligned with Hodge and Gucciardi (2015) on the impact of relatedness support. Smith

(2019) has suggested that this may be due to the origin of support and that it would be sensible to presume that the source of support is critical. That is, the provision of autonomy support from others might not be as valuable or directly unwelcomed if provided by a disliked player or with lower relationship quality in the respective dyad. However, relatedness is essential in tying social bonds and obtaining supportive social behaviour (La Guardia et al., 2000; Pacewicz et al., 2020).

Furthermore, benevolence seemed to be the significant factor for the players who reported low relatedness. The mean difference in autonomy support for these players was smaller but consistent with the expectations that players with lower relatedness and benevolence would report less autonomy support. Such findings align with previous research that reported higher relatedness as a promoting factor for benevolence (Pavey et al., 2011). Thus, helping and showing support to others is contingent on the experienced social environment to foster or hinder prosocial behaviours. As such, players who are disconnected from their groups may have difficulties being responsive to the benevolence exhibited by teammates. Lastly, for the higher scoring players on relatedness satisfaction, the only significant explaining factor to separate was whether the players experienced frustrations of relatedness at all (reflected with low spilt scores).

The players' mean score of autonomy given to teammates was relatively high. In accordance with previous research, it is requested essential to investigate possible antecedents of supportive behaviour or autonomy support (Cheon et al., 2015; González et al., 2019; Martela & Ryan, 2016; Matosic et al., 2017; Solstad et al., 2015, 2018), partly based on the empirical lack of coverage and partly because understanding the key tenets of prosocial tendencies is warranted. Initially, the results revealed a slightly more complex relationship of antecedents for giving autonomy support to teammates than for receiving. Our findings revealed benevolence as the main significant explaining factor for

autonomy support provision in our sample and were strongly correlated with autonomy support given, both in the preliminary and main analysis, showing emerging evidence for the relationship. Players with higher benevolence indicated more autonomy support given to their teammates than their low-scoring counterparts. Thus, it is in line with theory and previous empirical findings on benevolence and other antecedents for prosocial behaviour (Deci et al., 2006; Hodge & Lonsdale, 2011; Legate et al., 2015; Martela & Ryan, 2016; Weinstein & Ryan, 2010). Researchers have also questioned whether benevolent behaviour comes from autonomous motivation or an external pressure based on expected social standards (Weinstein & Ryan, 2010). Under the influence of coaches in teams, players may be prone to do what the coach instructs (Cushion & Jones, 2006; Vazou et al., 2006). SDT argues that nonautonomous connection initiations may not satisfy the need for relatedness (Ryan & Deci, 2017), indicating that players may exhibit such behaviours with reduced psychological benefits. However, this may influence the authenticity of exhibiting benevolence to teammates in competitive youth football, and more forthcoming studies are required for further investigations.

Further, resilience was an explaining factor for the players that reported higher benevolence. Those players with higher resilience reported a stronger propensity to give autonomy support to teammates. Hence, a line of reasoning could be that the players' disposition of abilities to cope with adversity in competitive youth football make them more inclined or capable of providing autonomy-support to teammates. In accordance with previous findings, our study indicated that players with more resilient resources could sustain environmental threats, such as competitiveness (Clement & Shannon, 2011; Galli & Gonzalez, 2014; González et al., 2019; Jones & Jetten, 2011; Vitali et al., 2015; Wagstaff et al., 2018). Consequently, our results suggest that resilience could be an

essential factor for providing autonomy support in competitive youth football through higher reported benevolence towards their peers.

The previously disclosed gender differences in helping behaviours could not be found in the current study (Carlo et al., 2005; Holt, 2008; Kavussanu et al., 2009; Van Lange et al., 2018; Weiss & Smith, 2002), as gender was found significant in neither receiving nor giving autonomy support to teammates. Indeed, no other categorical variables significantly explained received or given autonomy support to teammates. Interestingly, autonomy support received shared moderate positive correlations with autonomy support given. Individuals who experience autonomy support may be more inclined to see others and undertake more prosocial behaviour (Gagné, 2003). On the contrary, when the social environment is less supportive and antisocial, the same behaviour may be echoed (Al-Yaaribi & Kavussanu, 2018; Kavussanu & Al-Yaaribi, 2019).

### **Limitations and future directions**

A limitation of the current study is the relatively small sample size. Given the cross-sectional design of the present study, all variables were measured at one point in time. More longitudinal designs and mixed methods may be warranted along with larger samples to optimise the possibility to generalise. Thus, we deliberately avoided generalising to a larger sample of youth football players beyond the present sample. Furthermore, the possible intervening effect of gathering responses during COVID-19 may be a weakness as some teams and clubs may not have restored the normal team and club activity levels. Consequently, this could interfere with the authenticity of players' replies if some teams were less active than others and the potential mental repercussions of a global pandemic in their responses. Based on the lack of empirical evidence of autonomy support among teammates in sports,

future research should use various methods for emerging evidence to investigate associations of autonomy-supportive teammate behaviour.

### **Conclusion**

The present study explored potential explaining factors of peer motivational climates in competitive youth football. Using SDT to investigate autonomy-supportive behaviour among teammates, the results indicated the intricate nature of autonomy support with essential differences in players' experience of autonomy support received and reasons for giving autonomy support to teammates. Players' received autonomy support from teammates was explained by their experience of relatedness. In contrast, players' benevolence was the main factor explaining autonomy support given to teammates. Results indicated a more complex interplay concerning autonomy support given to teammates, with multiple factors contributing to the supporting behaviours towards teammates in competitive youth football.

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## Appendix 1

**Table 1.** Descriptive statistics of the players' demographic variables.

Demographic Characteristics	N	%	M	SD
Gender				
Female	109	47		
Male	123	53		
Total	232			
Age			17.51	1.15
Hours per week			8.05	3.63
Region				
Oslo	120	52		
Hordaland	28	12		
Nordland	4	2		
Nordmøre og Romsdal	52	22		
Trøndelag	28	12		
Level	232			
F/M U16 1/2 div	61	26		
F/M U16 interkrets	6	3		
F/M U17	63	27		
F/M U19 1/2 div	66	28		
F/M U19 interkrets	22	9		
Toppserien	1	1		
Obosligaen	1	1		
Other senior football	12	5		
Supplementary arenas				
Only club	188	81		
Club and NFF	44	19		

*Note.* Mean (M) and Standard deviations (SD) of the continuous variables, whereas percentages (%) are provided for the categorical ones. Hours of week = Hours spent with teammates before, during, and after training, Level = weekly competitive arena with “interkrets” representing the highest regional level, Club and NFF = NFF referring to player development initiatives arranged by Norwegian Football Federation (e.g., regional/interregional teams or U-level national teams).

## Appendix 2

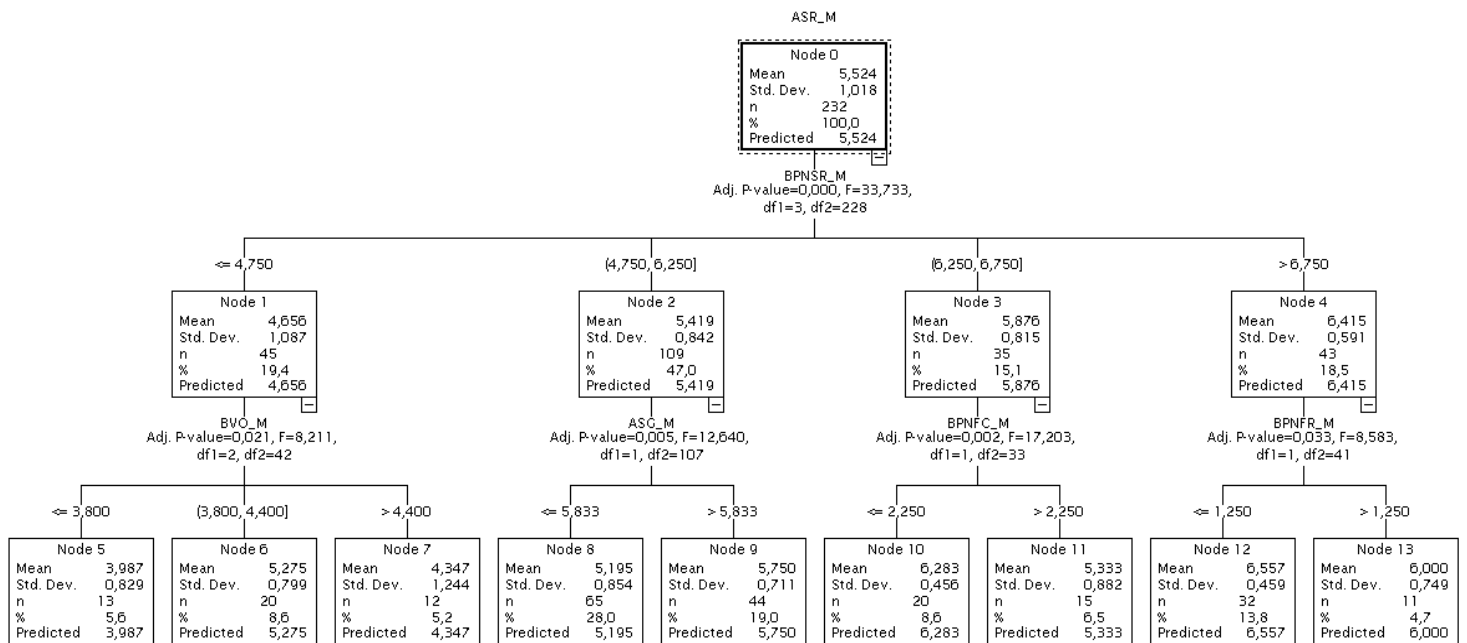
**Table 2**

Variable	$\alpha$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Autonomy support received	.90	-														
2.BPN satisfaction autonomy	.86	0,54**	-													
3.BPN satisfaction relatedness	.88	0,55**	0,57**	-												
4.BPN satisfaction competence	.92	0,43**	0,68**	0,48**	-											
5.Propensity to trust	.88	0,33**	0,21**	0,23**	0,09	-										
6.BPN frustration autonomy	.88	-0,29**	-0,45**	-0,28**	-0,39**	-0,04	-									
7.BPN frustration relatedness	.87	-0,44**	-0,37**	-0,52**	-0,31**	-0,15*	0,61**	-								
8.BPN frustration competence	.90	-0,39**	-0,47**	-0,36**	-0,64**	-0,13	0,57**	0,65**	-							
9.Perfectionism evaluative concern	.77	-0,25**	-0,12	-0,23**	-0,13	-0,24**	0,29**	0,43**	0,46**	-						
10.Perfectionism strivings	.83	-0,04	0,25**	-0,04	0,40**	-0,11	-0,07	0,14*	-0,04	0,43**	-					
11.Autonomy support given	.85	0,40**	0,34**	0,40**	0,31**	0,28**	-0,11	-0,24**	-0,15*	-0,1	0,12	-				
12.Resilience	.80	0,19**	0,25**	0,25**	0,35**	0,23**	-0,30**	-0,37**	-0,47**	-0,44**	-0,05	0,36**	-			
13.Self-esteem general	.86	0,20**	0,33**	0,23**	0,50**	0,22**	-0,34**	-0,32**	-0,53**	-0,22**	0,18**	0,34**	0,47**	-		
14.Self-esteem emotional stability	.86	0,19**	0,23**	0,18**	0,38**	0,13*	-0,31**	-0,37**	-0,48**	-0,36**	-0,05	0,17**	0,61**	0,41**	-	
15.Benevolence	.82	0,32**	0,22**	0,35**	0,10	0,30**	-0,03	-0,15*	-0,06	-0,08	-0,08	0,57**	0,14*	0,17**	-0,01	-

\*\* Correlation is significant at the 0.01 level (2-tailed).

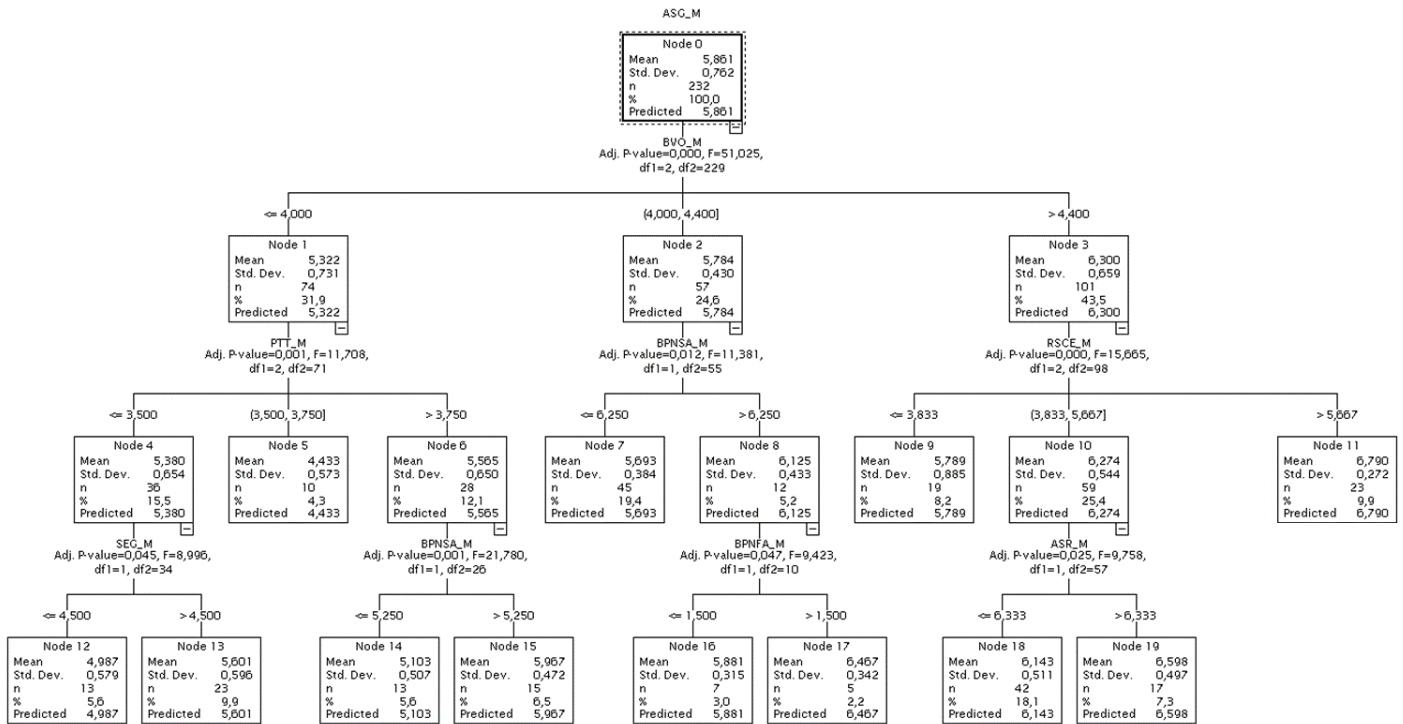
\* Correlation is significant at the 0.05 level (2-tailed).

### Appendix 3



**Figure 1.** The results of the CHAID decision-tree analysis with generated nodes. Variables included in the analysis were: basic psychological needs satisfaction and frustration (BPNS/F), autonomy support given (ASG), propensity to trust (PTT), perfectionism (EC, S), resilience (RSCE), self-esteem (SEG, ES), and benevolence (BVO). Additional descriptive variables were: Age, gender, level, region, hour with team per week, number of games, and subsidiary arenas (NFF).

## Appendix 4



**Figure 2.** The results of the CHAID decision-tree analysis with produced nodes. Variables included in the analysis were: basic psychological needs satisfaction and frustration (BPNS/F), autonomy support given (ASG), propensity to trust (PTT), perfectionism (EC, S), resilience (RSCE), self-esteem (SEG, ES), and benevolence (BVO). Additional descriptive variables were: age, gender, level, region, hour with team per week, number of games, and subsidiary arenas (NFF).

## Appendix 5

**Table 3.** Factor loadings basic needs satisfaction and frustration

	Autonomy	Relatedness	Competence
s_15 - BPN satisfaction	0.853		
s_16 - BPN satisfaction	0.944		
s_17 - BPN satisfaction	0.814		
s_18 - BPN satisfaction	0.781		
s_11 - BPN satisfaction		0.684	
s_12 - BPN satisfaction		0.989	
s_13 - BPN satisfaction		0.828	
s_14 - BPN satisfaction		0.595	
s_7 - BPN satisfaction			0.854
s_8 - BPN satisfaction			0.897
s_9 - BPN satisfaction			0.637
s_10 - BPN satisfaction			0.602
s_33 - BPN frustration	0.937		
s_34 - BPN frustration	0.865		
s_30 - BPN frustration	0.686		
s_32 - BPN frustration	0.642		
s_24 - BPN frustration		0.922	
s_25 - BPN frustration		0.840	
s_23 - BPN frustration		0.770	
s_26 - BPN frustration		0.623	
s_29 - BPN frustration			0.824
s_28 - BPN frustration			0.787
s_31 - BPN frustration			0.748
s_27 - BPN frustration			0.685



**Table 4.** Factor loadings for self-esteem, resilience and perfectionism

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Loadings across constructs		
s_57 - Self-esteem	0.902	
s_56 - Self-esteem	0.892	
s_58 - Self-esteem	0.785	
s_55 - Self-esteem	0.757	
s_59 - Self-esteem	0.727	
s_65 - Self-esteem	0.878	
s_63 - Self-esteem	0.838	
s_61 - Self-esteem	0.815	
s_62 - Self-esteem	0.798	
s_64 - Self-esteem	0.440	
s_60 - Self-esteem	0.432	
s_54 - Resilience	0.774	
s_52 - Resilience	0.770	
s_49 - Resilience	0.641	
s_50 - Resilience	0.623	
s_51 - Resilience	0.490	
s_53 - Resilience	0.440	
s_39 - Perfectionsim	0.901	
s_41 - Perfectionsim	0.871	
s_35 - Perfectionsim	0.665	
s_37 - Perfectionsim	0.586	
s_38 - Perfectionsim	0.332	0.497
s_36 - Perfectionsim		0.832
s_40 - Perfectionsim		0.795
s_42 - Perfectionsim		0.530

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**Table 5.** Factor loadings for autonomy support, benevolence, and propensity trust

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	Loadings across constructs	
s_1 - AS recieved	0.700	
s_2 - AS recieved	0.742	
s_3 - AS recieved	0.831	
s_4 - AS recieved	0.855	
s_5 - AS recieved	0.802	
s_6 - AS recieved	0.763	
s_43 - AS given		0.603
s_44 - AS given		0.700
s_45 - AS given		0.750
s_46 - AS given		0.757
s_47 - AS given		0.813
s_48 - AS given		0.590
s_19 - Propensity to trust		0.653
s_20 - Propensity to trust		0.870
s_21 - Propensity to trust		0.803
s_22 - Propensity to trust		0.870
s_67 - Benevolence		0.864
s_69 - Benevolence		0.790
s_70 - Benevolence		0.753
s_66 - Benevolence		0.583
s_68 - Benevolence		0.523
s_67 - Benevolence		0.864

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## Abbreviations

AGT	Achievement goal theory
BPNT	Basic Psychological Needs Theory
CHAID	CHi-squared Automatic Interaction Detection.
CRT	Classification and Regression Tree
CFA	Confirmatory Factor Analysis
NSD	Norsk Senter for Forskningsdata
SDT	Self-Determination Theory
PYD	Positive Youth Development
QUEST	Quick, Unbiased, Efficient Statistical Tree

# Appendices

## Appendix 1 – Notification Form for Processing Personal Data

07.06.2022, 01:58

Meldeskjema for behandling av personopplysninger



### Meldeskjema

#### Referansenummer

729113

#### Hvilke personopplysninger skal du behandle?

- Navn (også ved signatur/samtykke)
- Bakgrunnsopplysninger som vil kunne identifisere en person
- Helseopplysninger

#### Beskriv hvilke bakgrunnsopplysninger du skal behandle

Vi ønsker å vite deltakernes: Kjønn, alder, idrettslag, nåværende nivå, høyeste nivå, antall spillplattformer (klubb og landslag), antall år med deltakelse

#### Prosjektinformasjon

##### Prosjektittittel

Få og gi autonomi støtte blandt medspillere og deres sammenheng med grunnleggende psykologiske behov, tillit, perfektjonisme, velvilje, selvtillit og motstandsdyktighet - En kvantitativ studie

##### Prosjektbeskrivelse

Hensikten med denne studien er å undersøke sammenhengen mellom tilfredsstillelse og frustrasjon av grunnleggende psykologiske behov og autonomi mottatt og gitt av spillerne til spillere. Videre vil vi undersøke om tillit og perfektjonisme kan fungere som moderatorer i dette forholdet. Vi foreslår også at mulige utfall av dette samspillet kan være velvilje, selvtillit og motstandsdyktighet. Det er verdifullt å forstå det komplekse miljøet talentfulle unge spillere opererer i, for å gi et sammensatt og promoterende talentutviklings miljø. Videre er det å gi den nødvendige praksis som forbedrer talentutviklingen, den ultimate målet for trenere som jobber med talentfulle fotballspillere. Dermed kan denne oppgaven gi ny innsikt i samspillet mellom lagkamerater, og videre oppdage den potensielle effekten av tillit og perfektjonisme på å motta og gi autonomi støtte.

##### Begrunn behovet for å behandle personopplysningene

De personopplysningene er det vi finner interessant å vite noe om ved en slik studie. Vi ønsker informasjon om eventuelle forskjeller på spillere som rapporterer høyere nivå de spiller på per nå. Vi ønsker å vite kjønn basert på ønske om større likevekt av studier som har for seg både kvinner og menn. Idrettslag er interessant med tanke på geografiske forskjeller som kan bidra til interessante sammenhenger.

##### Ekstern finansiering

<https://meldeskjema.nsd.no/eksport/5f58dd62-c68a-48f9-a1d5-44cde9a25a0f>

1/5

**Type prosjekt**

Studentprosjekt, masterstudium

**Kontaktinformasjon, student**

Jimmy Andre Monge-Nilsen, jimmail97@gmail.com, tlf: 98847543

**Behandlingsansvar**

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**Behandlingsansvarlig institusjon**

Norges idrettshøgskole / Institutt for idrett og samfunnsvitenskap

**Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)**

Bård Erlend Solstad, b.e.solstad@nih.no, tlf: 90114208

**Skal behandlingsansvaret deles med andre institusjoner (felles behandlingsansvarlige)?**

Nei

**Utvalg 1**

---

**Beskriv utvalget**

Vi ønsker å undersøke spillere som spiller i klubber på høyt nasjonalt nivå. Det vil si klubber med lag i Eliteserien eller Obosligaen. Det er både jenter og gutter i alderen 16-19 år som er av interesse for denne undersøkelsen.

**Rekruttering eller trekking av utvalget**

Det skjer gjennom prosjektleder og student som systematisk kontakter klubbene.

**Alder**

16 - 19

**Inngår det voksne (18 år +) i utvalget som ikke kan samtykke selv?**

Nei

**Personopplysninger for utvalg 1**

- Navn (også ved signatur/samtykke)
- Bakgrunnsopplysninger som vil kunne identifisere en person
- Helseopplysninger

**Hvordan samler du inn data fra utvalg 1?****Elektronisk spørreskjema**

**Grunnlag for å behandle alminnelige kategorier av personopplysninger**

Samtykke (art. 6 nr. 1 bokstav a)

**Hvem samtykker for ungdom 16 og 17 år?**

Ungdom

**Grunnlag for å behandle særlige kategorier av personopplysninger**

Uttrykkelig samtykke (art. 9 nr. 2 bokstav a)

**Redegjør for valget av behandlingsgrunnlag****Informasjon for utvalg 1****Informerer du utvalget om behandlingen av opplysningene?**

Ja

**Hvordan?**

Skriftlig informasjon (papir eller elektronisk)

**Tredjepersoner**

---

**Skal du behandle personopplysninger om tredjepersoner?**

Nei

**Dokumentasjon**

---

**Hvordan dokumenteres samtykkene?**

- Manuelt (papir)
- Elektronisk (e-post, e-skjema, digital signatur)

**Hvordan kan samtykket trekkes tilbake?**

Det vil kunne gjøres ved å kontakte student eller prosjektleder ved informasjon gitt i samtykket.

**Hvordan kan de registrerte få innsyn, rettet eller slettet opplysninger om seg selv?**

Så lenge du de identifiseres i datamaterialet, har de rett til:  
- innsyn i hvilke personopplysninger som er registrert om seg  
- å få rettet personopplysninger om seg  
- å få slettet personopplysninger om seg

- å få utlevert kopi av sine personopplysninger
- å sende klage til personvernombudet eller datatilsynet om behandlingen av sine personopplysninger

Ved ønsker om dette kontaktes prosjektansvarlig eller student ved prosjektet. Vedlagt i samtykkeskrivet ligger prosjektleders og students epostadresse og tlf. I tillegg vil student ved utfylling være tilgjengelig med fysisk oppmøte for lagene, slik at de som måtte ha spørsmål skal kunne ta kontakt da.

**Totalt antall registrerte i prosjektet**

100-999

**Tillatelser**

---

**Skal du innhente følgende godkjenninger eller tillatelser for prosjektet?**

- Annen godkjenning

**Annen godkjenning**

NIHs etiske komité

**Behandling**

---

**Hvor behandles opplysningene?**

- Maskinvare tilhørende behandlingsansvarlig institusjon
- Mobile enheter tilhørende behandlingsansvarlig institusjon

**Hvem behandler/har tilgang til opplysningene?**

- Prosjektansvarlig
- Student (studentprosjekt)
- Interne medarbeidere

**Tilgjengeliggjøres opplysningene utenfor EU/EØS til en tredjestat eller internasjonal organisasjon?**

Nei

**Sikkerhet**

---

**Oppbevares personopplysningene atskilt fra øvrige data (koblingsnøkkel)?**

Ja

**Hvilke tekniske og fysiske tiltak sikrer personopplysningene?**

- Opplysningene anonymiseres fortløpende

## Varighet

---

### Prosjektperiode

01.11.2020 - 30.06.2021

### Skal data med personopplysninger oppbevares utover prosjektperioden?

Nei, data vil bli oppbevart uten personopplysninger (anonymisering)

### Hvilke anonymiseringstiltak vil bli foretatt?

- Personidentifiserbare opplysninger fjernes, omskrives eller grovkategoriseres

### Vil de registrerte kunne identifiseres (direkte eller indirekte) i oppgave/avhandling/øvrige publikasjoner fra prosjektet?

Nei

## Tilleggsopplysninger

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## Appendix 2 – NSD's Assessment of the project

07.06.2022, 02:02

Meldeskjema for behandling av personopplysninger

[Meldeskjema](#) / [Få og gi autonomi støtte blandt medspillere og deres sammenheng m...](#) / Vurdering

### Vurdering

**Referansenummer**

729113

**Prosjekttittel**

Få og gi autonomi støtte blandt medspillere og deres sammenheng med grunnleggende psykologiske behov, tillit, perfektjonisme, velvilje, selvtilit og motstandsdyktighet - En kvantitativ studie

**Behandlingsansvarlig institusjon**

Norges idrettshøgskole / Institutt for idrett og samfunnsvitenskap

**Prosjektansvarlig**

Bård Erlend Solstad

**Student**

Jimmy Andre Monge-Nilsen

**Prosjektperiode**

01.11.2020 - 30.06.2021

[Meldeskjema](#)

**Dato**

11.11.2020

**Type**

Standard

**Kommentar**

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet den 11.11.2020 med vedlegg, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

**MELD VESENTLIGE ENDRINGER**

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde: [https://nsd.no/personvernombud/meld\\_prosjekt/meld\\_endringer.html](https://nsd.no/personvernombud/meld_prosjekt/meld_endringer.html)  
Du må vente på svar fra NSD før endringen gjennomføres.

**TYPE OPPLYSNINGER OG VARIGHET**

Prosjektet vil behandle særlige kategorier av personopplysninger om helse og alminnelige kategorier av personopplysninger frem til 30.06.2021.

**LOVLIG GRUNNLAG**

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 nr. 11 og art. 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse, som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være den registrertes uttrykkelige samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a, jf. art. 9 nr. 2 bokstav a, jf. personopplysningsloven § 10, jf. § 9 (2).

**PERSONVERNPRINSIPPER**

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

**DE REGISTRERTES RETTIGHETER**

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).

<https://meldeskjema.nsd.no/vurdering/958dd02-c86a-48f9-a1d5-4cd6a25a0f>

1/2

NSD vurderer at informasjonen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

#### FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og eventuelt rådføre dere med behandlingsansvarlig institusjon.

#### OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Kontaktperson hos NSD: Simon Gogl

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

## **Appendix 3 – Approval from The Ethical Committee of The Norwegian school of Sport Sciences**

Bård Solstad  
Institutt for idrett og samfunnsvitenskap

OSLO 04. november 2020

### **Søknad 166 – 291020 – Gi å få autonomistøtte av medspillere blant unge talentfulle fotballspillere i Norge**

Vi viser til søknad, prosjektbeskrivelse, informasjonsskriv, spørreskjema, innsendt melding til NSD og tilleggsinformasjon mottatt 30. oktober 2020.

I henhold til retningslinjer for behandling av søknad til etisk komite for idrettsvitenskapelig forskning på mennesker, har leder av komiteen på fullmakt fra komiteen vurdert og fattet følgende vedtak:

#### **Vurdering**

Komiteen har etter ordinært møte 29. oktober mottatt ytterligere informasjon fra søker der det blant annet fremgår at deltakernes samtykke «ligger til grunn for å komme inn på det elektroniske skjemaet». Dette innebærer etter hva komiteen forstår at samtykke planlegges innhentet samtidig med at aktuelle deltakere er samlet for å fylle ut et online spørreskjema. Komiteen vil bemerke at prinsippet om frivillighet for deltagelse i forskningsprosjekter forutsetter at deltakerne blir forelagt samtykkeskriv i rimelig tid før inklusjon i studien. Dette for at deltakerne på selvstendig grunnlag gis rimelig tid til å lese gjennom samtykkeskjemaet og har mulighet til å tenke igjennom om de ønsker å delta. Komiteen viser også til at det kan være forskningsetisk utfordrende at innhenting av samtykke planlegges gjennomført samlet for hele gruppen. Også dette mener komiteen kan medføre et uheldig gruppepress som er egnet til å undergrave kravet til frivillighet. Det påhviler prosjektledelsen et særlig ansvar å sikre av frivillighet ivaretas overfor hver enkelt deltaker.

Med bakgrunn i ovennevnte anmoder komiteen om at prosjektledelsen vurderer alternative måter for rekruttering, innhenting av samtykke og eventuell gjennomføring. Dette kan gjøres ved at deltakerne sendes en lenke per epost der hver enkelt gis anledning til å lese informasjonen om studien samt besvare spørreskjema uten påvirkning. Alternativt bør det legges til rette for at den enkelte blir forelagt samtykkeskjema i rimelig tid før den planlagte felles gjennomføringen. På den måten behøver ikke noen av utvalget føle seg presset til deltagelse samtidig som studien lar seg praktisk gjennomføre iht det som er beskrevet i opprinnelig søknad/protokoll og etterfølgende redegjørelse.

#### **Vedtak**

**NIH** NORGES  
IDRETTSHØGSKOLE

Besøksadresse: Sognsveien 220, Oslo  
Postadresse: Pb 4014 Ullevål Stadion, 0806 Oslo  
Telefon: +47 23 26 20 00, postmottak@nih.no  
[www.nih.no](http://www.nih.no)

*På bakgrunn av forelagte dokumentasjon finner komiteen at prosjektet er forsvarlig, og at det kan gjennomføres innenfor rammene av anerkjente etiske forskningsetiske normer nedfelt i NIHs retningslinjer. Til vedtaket har komiteen lagt følgende forutsetning til grunn:*

- *Vilkår fra NSD følges*
- *Samtykke innhentes i god tid før deltakerne eventuelt samles for utfylling av spørreskjema dersom prosjektleder velger denne løsningen*

Komiteen forutsetter videre at prosjektet gjennomføres på en forsvarlig måte i tråd med de til enhver tid gjeldende tiltak ifbm Covid-19 pandemien.

Komiteen gjør oppmerksom på at vedtaket er avgrenset i tråd med fremlagte dokumentasjon. Dersom det gjøres vesentlige endringer i prosjektet som kan ha betydning for deltakernes helse og sikkerhet, skal dette legges fram for komiteen før eventuelle endringer kan iverksettes.

Med vennlig hilsen



Professor Sigmund Loland  
Leder, Etisk komite, Norges idrettshøgskole

## **Appendix 4 – Purpose of Study & Declaration of Consent**

### ***Vil du delta i et forskningsprosjekt om å gi og få støttende atferd av medspillere blant unge fotballspillere i Norge?***

Dette er et spørsmål til deg som å delta i et forskningsprosjekt, hvor målet er å undersøke hvordan støttende atferd mellom medspillere i alderen 16-19 fungerer, sammen med tillit og perfektjonisme og i forhold til velvilje, selvtillit og motstandsdyktighet. I dette skrevet gir vi deg informasjon om målene for prosjektet og hva deltakelse i dette vil innebære for deg.

#### **Målet med studien**

Vi ønsker gjennom dette forskningsprosjektet å undersøke hvordan støtte mellom medspillere i lag fra 16-19 fungerer. Undersøkelsen er interessert i spillernes følelse av tillit, perfektjonisme, i tillegg til velvilje, selvfølelse og motstandsdyktighet. For at trenere og andre skal kunne tilby en hensiktsmessig praksis, er det nyttig å forsøke å forstå hvordan dynamikken fra spiller til spiller fungerer. Og for at vi skal kunne forstå miljøet som spillere befinner seg i kan denne undersøkelsen bidra til økt forståelse og kjennskap til miljøet rundt talentfulle spillere.

#### **Problemstilling**

Hvilke sammenhenger er det mellom autonomistøttende atferd mottatt fra medspillere, grunnleggende behovstilfredshet, autonomistøttende atferd gitt medspillere, og a) velvilje, b) selvfølelse og c) motstandsdyktighet blant fotballspillere i alderen 16-19 år?

#### **Hvem er ansvarlig?**

Denne studien blir gjennomført som en masteroppgave ved Norges idrettshøgskole (NIH). Bård Erlend Solstad og Hallgeir Halvari er veiledere for prosjektet. Jimmy Monge-Nilsen er masterstudent ved NIH.

#### **Hvorfor får du spørsmål om å delta?**

Vi ønsker å undersøke spillere i alderen 16-19 år. Vi er interessert i hvordan spilleres forhold til hverandre i et lag fungerer med tanke på støtte, tillit og perfektjonisme. Derfor ønsker vi at du skal delta i denne undersøkelsen, som senere kan føre til ny kunnskap med betydning for andre spillere, trenere og miljøet rundt.

#### **Hva innebærer det for deg å delta?**

Du deltar i dette forskningsprosjektet ved å besvare et online spørreskjema. Spørreskjema inneholder spørsmål som omhandler spilleres forhold til lagkamerater i deltakelse i klubb. Det vil ta ca. 15-25 minutter å fylle ut skjemaet. Foreldre med interesse å se skjemaet i forkant kan kontakte masterstudent (Jimmy Monge-Nilsen) eller veileder (Bård Erlend Solstad).

#### **Det er frivillig å delta**

Det er frivillig å delta i dette prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket ditt tilbake uten å oppi noen grunn. Alle opplysninger om deg vil bli anonymisert (som vil si at ingen vil vite akkurat hva du har svart). Det vil ikke få noen konsekvenser for deg hvis du skulle velge å ikke delta eller senere velger å trekke deg.

### **Ditt personvern – hvordan vi behandler og bruker dine opplysninger**

Vi vil kun bruke opplysningene om deg til formålet beskrevet i dette informasjonsskrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket. Kun forskergruppen ved Norges idrettshøgskole (NIH) som vil ha tilgang til data. Lagringen av data vil bli lagret i trås med NIHs retningslinjer for sikker oppbevaring av data. Datafilen med alle besvarelser som skal brukes til analyser vil anonymiseres.

### **Dine rettigheter**

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg
- å få rettet personopplysninger om deg
- å få slettet personopplysninger om deg
- å få utlevert kopi av dine personopplysninger
- å sende klage til personvernombudet eller datatilsynet om behandlingen av dine personopplysninger

### **Hva gir oss rett til å behandle personopplysninger om deg?**

Vi behandler opplysninger om deg basert på ditt samtykke.

### **Hvor kan jeg finne ut mer?**

Hvis du har spørsmål til prosjektet, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Norges idrettshøgskole ved Bård Erlend Solstad, tlf: 90114208 eller epost: b.e.solstad@nih.no.
- Norges idrettshøgskole ved Jimmy Monge-Nilsen, tlf: 98847543 eller epost: jimmyandremongenilsen@gmail.com
- NSD – norsk senter for forskningsdata AS

Med vennlig hilsen Jimmy Monge-Nilsen  
(Masterstudent, NIH)

---

## **Samtykkeerklæring**

Jeg har mottatt og forstått informasjonen om forskningsprosjektet «gi og få støttende atferd av medspillere blant unge talentfulle fotballspillere i Norge». Jeg har fått anledning til å stille spørsmål og jeg samtykker til:

- å delta i en online undersøkelse

Jeg samtykker til at mine opplysninger kan behandles frem til prosjektet er avsluttet

---

(signert av prosjektdeltaker, dato)

## Appendix 5 – Questionnaire

Vil du delta i undersøkelsen?

- (1)  Ja, jeg samtykker (2)  Nei  
til deltagelse i  
undersøkelsen

Kjønn

- (1)  Gutt (2)  Jente

Alder

16 ————  ———— 19

Hvilken fotballkrets tilhører du?

- (1)  Oslo (2)  Hordaland (3)  Nordland (4)  Nordmøre og Romsdal (5)  Trøndelag

Hvilken av disse er kategoriene tilhører du? Hvilket nivå spiller du på nå?

- |                           |                           |                           |                           |                           |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| (1) <input type="radio"/> | (2) <input type="radio"/> | (3) <input type="radio"/> | (4) <input type="radio"/> | (5) <input type="radio"/> | (6) <input type="radio"/> | (7) <input type="radio"/> | (8) <input type="radio"/> | (9) <input type="radio"/> |
| J/G 16                    | J/G 16                    | J/G 17                    | J/G 19                    | J/G 19                    | Topps                     | Obosli                    | Elitese                   | Annen                     |
| 1.div/2                   | interkr                   |                           | 1.div/2                   | interkr                   | erien                     | gaen                      | rien                      | seniorf                   |
| div                       | ets                       |                           | div                       | ets                       |                           |                           |                           | otball                    |

Hva er det høyeste nivået du har spilt på?

- |                           |                           |                           |                           |                           |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| (1) <input type="radio"/> | (2) <input type="radio"/> | (3) <input type="radio"/> | (4) <input type="radio"/> | (5) <input type="radio"/> | (6) <input type="radio"/> | (7) <input type="radio"/> | (8) <input type="radio"/> | (9) <input type="radio"/> |
| J/G 16                    | J/G 16                    | J/G 17                    | J/G 19                    | J/G 19                    | Topps                     | Obosli                    | Elitese                   | Annen                     |
| 1.div/2                   | interkr                   |                           | 1.div/2                   | interkr                   | erien                     | gaen                      | rien                      | seniorf                   |
| div                       | ets                       |                           | div                       | ets                       |                           |                           |                           | otball                    |

Hvor mange arenaer for deltagelse i fotball har du?

- (1)  Kun klubb (2)  Klubb og  
landslagsregi  
(sone/kretslag/landslag  
)

Hvor mange år har du drevet med fotball?

0 ————  ———— 20

Hvor mange kamper har du spilt for ditt nåværende lag?

0 ————  ———— 100

Hvor mange timer med organisert trening og konkurranse deltar du på i løpet av en uke i din klubb? Inkludert tid før, under og etter trening.

0 ————  ———— 50

Hvis du hospiterer med eldre lag i klubben eller lag på høyere nivå, hvor mange ganger i uken gjør du det?

0 ————  ———— 7

De følgende påstandene omhandler din erfaring med dine lagkamerater. Vennligst svar på påstandene under om din opplevelse av dine lagkamerater

### AS recieved

Sterkt uenig      Uenig      Noe uenig      Verken enig eller uenig      Noe enig      Enig      Sterkt enig

Jeg føler at lagkameratene mine tilbyr meg valg og alternativer.

(1)       (2)       (3)       (4)       (5)       (6)       (7)

Jeg føler meg forstått av mine lagkamerater.

(1)       (2)       (3)       (4)       (5)       (6)       (7)

Lagkameratene mine bidrar til å gi meg tro på mine evner som spiller.

(1)       (2)       (3)       (4)       (5)       (6)       (7)

Lagkameratene mine oppfordrer meg til å komme med mine meninger.

(1)       (2)       (3)       (4)       (5)       (6)       (7)

Lagkameratene mine hører på hvordan jeg liker å gjøre ting.

(1)       (2)       (3)       (4)       (5)       (6)       (7)



Lagkameratene mine prøver å forstå hvordan jeg ser ting, før de foreslår andre måter å gjøre noe på

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Under er noen utsagn om hvordan du opplever din deltakelse i fotball. Ta stilling til hvor godt de beskriver din opplevelse av din trening- og kamphverdag

### BPN satisfaction

Helt uenig Uenig Noe uenig Verken enig eller uenig Noe enig Enig Helt enig

Jeg har en følelse av valg og frihet i de tingene jeg foretar meg i forbindelse fotball.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

I forbindelse med fotball føler jeg at mine avgjørelser gjenspeiler hva jeg virkelig vil.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Når jeg er på fotballaktiviteter føler jeg at valgene mine uttrykker den jeg virkelig er.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

I forbindelse med fotball føler jeg at jeg gjør det som virkelig interesserer meg.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler at de menneskene jeg bryr meg om i

(1)  (2)  (3)  (4)  (5)  (6)  (7)

fotball også bryr seg om meg.

Jeg føler meg knyttet til de personene som bryr seg om meg og som jeg bryr meg om i fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler meg nært knyttet til andre personer som er viktige for meg i sammenheng med fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg opplever en varm og god følelse sammen med de menneskene jeg tilbringer tid med i fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler meg sikker på at jeg kan gjøre ting bra i fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler at jeg behersker det jeg gjør i fotball (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler meg kompetent til å nå mine mål/ambisjoner innenfor fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler at jeg med godt resultat kan fullføre vanskelige oppgaver i fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Ved hjelp av skalaen nedenfor, marker hvorvidt de følgende påstandene er sanne

### Propensity to trust

	Helt uenig	Uenig	Verken enig eller uenig	Enig	Helt enig
Jeg stoler vanligvis på personer, inntil de gir meg en grunn til å ikke stole på dem.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Å stole på en annen person er ikke vanskelig for meg.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Min typiske tilnærming er å stole på nye bekjente inntil de beviser at jeg ikke bør stole på dem.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Tendensen min til å stole på andre personer er høy.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>

Under er noen utsagn om hvordan du opplever din deltakelse i fotball. Ta stilling til hvor godt de beskriver din opplevelse av din trening- og kamphverdag

### BPN frustration

	Helt uenig	Uenig	Noe uenig	Verken enig eller uenig	Noe enig	Enig	Helt enig
De fleste ting jeg gjør i forbindelse med fotballaktivitet gjør jeg fordi jeg føler at jeg må.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
I forbindelse med fotballaktivitet føler jeg meg tvunget til å gjøre mange ting jeg ikke selv ville valgt å gjøre.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>

Mange av de tingene jeg gjør i fotballaktivitet føler jeg med presset til å gjøre.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Mine daglige aktiviteter i fotball føles som en sammenhengende rekke av plikter.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

I fotballaktivitet føler jeg meg ekskludert fra den gruppen jeg ønsker å være en del av.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

I fotballaktivitet føler jeg at personer som er viktige for meg er kalde og fjerne i forhold til meg.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler de relasjonene jeg har i forbindelse med fotball kun er overfladiske.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg er i sterk tvil om jeg kan gjøre ting bra i fotball.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg har inntrykk av at personer jeg tilbringer tid med i fotball misliker meg.

(1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler meg skuffet over mange av mine prestasjoner i

(1)  (2)  (3)  (4)  (5)  (6)  (7)

forbindelse med  
fotball.

Jeg føler meg usikker på mine evner til å spille fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler meg mislykket på grunn av de feilene jeg gjør i fotball. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Marker om du er uenig eller enig i påstandene ved å bruke skalaen

### Perfectionsim

Helt uenig Uenig Verken enig eller uenig Enig Helt enig

Jeg har og setter meg ekstremt høye mål i fotball. (1)  (2)  (3)  (4)  (5)

Hvis jeg ikke gjør det bra i fotball hele tiden, så vil ikke de andre respektere meg. (1)  (2)  (3)  (4)  (5)

Andre i fotball ser ut til å akseptere lavere standarder for seg selv enn det jeg gjør. (1)  (2)  (3)  (4)  (5)

Hvis jeg mislykkes i fotball, føler jeg meg mislykket som person. (1)  (2)  (3)  (4)  (5)

Jeg forventer høyere prestasjoner på det jeg gjør i fotball enn de fleste andre. (1)  (2)  (3)  (4)  (5)

Færre antall feil jeg gjør i fotball, gjør at flere vil like meg. (1)  (2)  (3)  (4)  (5)

Jeg setter høyere mål og standarder i fotball enn de fleste andre på min alder. (1)  (2)  (3)  (4)  (5)

Hvis noen gjør en oppgave/øvelse i fotball bedre enn meg, føler jeg at jeg har mislyktes med oppgaven/øvelsen. (1)  (2)  (3)  (4)  (5)

De følgende påstandene omhandler din erfaring med dine lagkamerater. Vennligst svar på påstandene under.

### AS given

Sterkt uenig    Uenig    Noe uenig    Verken enig eller uenig    Noe enig    Enig    Sterkt enig

Jeg føler at jeg gir lagkameratene mine valg og alternativer. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg føler at jeg forstår lagkameratene mine. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg bidrar å gi lagkameratene mine tro på seg selv og sine evner som spiller. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg oppfordrer lagkameratene mine til å komme med sine meninger. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg hører på hvordan lagkameratene mine liker å gjøre ting. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg prøver å forstå hvordan lagkameratene mine ser ting, før jeg foreslår andre måter å gjøre noe på. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Ved hjelp av skalaen nedenfor, vennligst angi hvor sterkt du er enig eller uenig i følgende påstander som en indikasjon på hvordan du vanligvis tenker, føler og oppfører deg - husk at det ikke er riktige eller gale svar, så vær så ærlig som mulig.

## Resilience

Sterkt uenig    Uenig    Litt uenig    Verken enig eller uenig    Litt enig    Enig    Sterkt enig

Jeg pleier å komme raskt tilbake etter vanskelige tider. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg har vanskelig for å mestre stressende hendelser. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Det tar meg ikke lang tid å komme meg etter en stressende hendelse. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Det er vanskelig for meg å komme tilbake til det normale når noe dårlig skjer. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg kommer vanligvis gjennom vanskelige tider med lite problemer. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Jeg har en tendens til å bruke lang tid for å komme meg over tilbakeslag i livet mitt. (1)  (2)  (3)  (4)  (5)  (6)  (7)

Ved hjelp av skalaen nedenfor, vennligst ta stilling til påstandene under som omhandler hvordan du føler om deg selv. Det er ingen feil eller riktig svar, så svar så ærlig som mulig

### Self-esteem

	Usant	Ganske usant	Mer usant enn sant	Mer sant enn usant	Ganske sant	Sant
Generelt, har jeg mye å være stolt av.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
De fleste tingene jeg gjør, gjør jeg bra.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Generelt, de fleste tingene jeg gjør ender bra.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Jeg kan gjøre ting like bra som andre folk.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Hvis jeg virkelig prøver kan jeg gjøre nesten alt jeg vil.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Generelt, er jeg en fiasko.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Jeg bekymrer meg mer enn jeg trenger.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>



Jeg er en nervøs person.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Jeg føler meg ofte usikker og forvirret.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Jeg blir fort irritert.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>
Jeg bekymrer meg for mange ting.	(1) <input type="radio"/>	(2) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>	(6) <input type="radio"/>	(7) <input type="radio"/>

Vennligst svar på følgende påstander så ærlig som mulig

### Benevolence

	Sterkt uenig	Uenig	Verken enig eller uenig	Enig	Sterkt enig
Jeg bryr meg om hvordan lagkameratene mine har det.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Lagkameratene mines behov og ønsker er viktig for meg.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Jeg ville ikke bevisst gjort noe, for å gjøre lagkameratene mine noe vondt.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Jeg følger med på hva som er viktig for lagkameratene mine.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>
Jeg vil gjøre alt jeg kan for å hjelpe lagkameratene mine.	(1) <input type="radio"/>	(2) <input type="radio"/>	(3) <input type="radio"/>	(4) <input type="radio"/>	(5) <input type="radio"/>

Takk for din tid, vi er veldig glade for at du tok deg tid til å svare på undersøkelsen. Ha en fin dag videre. Har du noen spørsmål ang undersøkelsen?

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**Hvis du har noen spørsmål rettes disse til**

- Norges idrettshøgskole ved Bård Erlend Solstad, tlf: 90114208 eller epost:  
b.e.solstad@nih.no.

- Norges idrettshøgskole ved Jimmy Monge-Nilsen, tlf: 98847543 eller epost:  
jimmyandremongenilsen@gmail.com