

# Motives, Motivation, and Motivational Climate of Young Norwegian Swimmers, and their Parents' Belief

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## Abstract

Motivation is important for enjoyment, skill development, and persistence in swimming. The quality and direction of motivation is influenced by a swimmer's perceived motivational climate, which is created by coaches and parents. The theoretical framework combines self-determination theory and achievement goal theory, to analyse the motives and motivation of swimmers and the influence of social climate on their motivation. Parents greatly impact young children's participation motives and motivation, but few studies ask parents about their beliefs about their child's motives and motivation. Online questionnaires were distributed to 11-13-year-old swimmers and their parents. The children responded to five questionnaires measuring sport participation motives, self-determined motivation, goal orientation, coach-initiated motivational climate, and parent-initiated motivational climate. Parents responded to the first two indicating their belief in their child's motives and self-determined motivation. Results showed that swimmers are predominantly intrinsically motivated, task oriented, and perceive a mastery climate from coaches and parents. Parent's belief of their child's motives and self-determined motivation matched the swimmers' self-reported motives and self-determined motivation. Coaches are shown to impact self-determined motivation and goal orientations to a greater extent than parents. In conclusion, coaches and parents should aim to maintain their current focus on mastery and enjoyment. This can ensure longer participation in and greater enjoyment of the sport, which would lead to further development and improved performance.

*Keywords:* swimming motives, self-determined motivation, achievement-goal orientation, coach motivational climate, parent motivational climate

## Introduction

The combination of children's motives and motivation with their parents' perception could provide important knowledge about their influence or understanding of their children. While motivation among swimmers, in general, is well researched with elite swimmers in several countries (Edelbrock et al., 2016; Monteiro et al., 2020; Monteiro et al., 2018; Teixeira et al., 2020), including motivational climate (Barcza-Renner et al., 2016; Rocchi et al., 2020; Williams et al., 2020), studies on the motivation of young swimmers are few. There are no such studies including Norwegian swimmers, and within the Norwegian sports context regulated by the "Children's Rights in Sports" (Norwegian Olympic and Paralympic Committee and Confederation of Sports, n.d.) it would be important to explore and understand young swimmers' motives and motivation for competitive swimming and the environmental influence from coaches and parents (climate). By including parents' belief in their child's motives and motivation in the research, it could shed light on cultural or national aspects of the parents-child relationship in swimming.

In swimming, enjoyment is the most important factor for persistence (Teixeira et al., 2020), while extrinsic motivation and lack of motivation are important factors causing dropout compared to for example early specialisation (Larson et al., 2019). Swimmers participate from around age six and join extensive training at age nine (Baxter-Jones & Maffulli, 2003), at which age children's motivational processes are influenced by coaches and parents (Ullrich-French & Smith, 2009). Most athletes are introduced to swimming by their parents, but they are encouraged into intensive systematic training by their coaches (Baxter-Jones & Maffulli, 2003). This shows the importance of understanding both parents' and coaches' influence on young swimmers' motives and motivation for participation. Particularly, parents' perception of motives and motivation could indicate a level of influence or understanding of their children.

## Theoretical Framework

A motive can be defined as classes of reasons for an action (Madsen, 1968). It is often separated into primary and secondary motives, of which the first consider basic needs of the body such as water, food, and sleep (Madsen, 1968). Motives towards competitive swimming have been extensively

studied, including male and female swimmers of all ages, and show that swimmers' motives are related to secondary motives such as social engagement, growth, and performance (e.g. Brodtkin & Weiss, 1990; Salguero et al., 2004). While motives are understood as the specific reasons for engaging in an activity, motivation is the inner force which arouses, regulates, directs, and maintains behaviour (Madsen, 1968; Roberts et al., 2018). Theories of motivation seek to describe and explain the underlying psychological mechanisms and processes that lead to actions, such as swimming development and performance. The two most popular theories of motivation in sports are the Self-Determination Theory (Deci & Ryan, 1985) and the Achievement-Goal Theory (Nicholls, 1989). The compatibility of these two theories is questioned due to their conceptual differences (Roberts et al., 2018). However, it can be argued for the use of both theories in research involving motivation in sports (Ntoumanis, 2001).

### *Self-Determination Theory*

Self-Determination Theory (SDT) is an organismic theory inspired by humanistic psychology, highlighting psychological growth and integration as important aspects of motivation (e.g. mastery, learning, development) (Ryan & Deci, 2017). It claims that healthy development requires the support of three basic psychological needs (autonomy, relatedness, and competence), which fosters intrinsic motivation (Ryan & Deci, 2020a). If these needs are not satisfied, one acquires an extrinsic form of motivation. Intrinsically motivated people are engaged in an activity for the sake of the activity itself, while extrinsic motivation comes from other external reasons than the enjoyment of the activity (Deci & Ryan, 2000). Within the framework of SDT, there are four specified types of extrinsic motivation, positioned along a continuum. Integrated and identified regulation are autonomous forms of extrinsic motivation and are considered the most self-determined forms of extrinsic motivation. Compared to introjected and extrinsic regulation which are controlled forms of extrinsic motivation. Amotivation can be considered the lowest form of extrinsic motivation or treated as a separate construct (Roberts et al., 2018; Ryan & Deci, 2020a). A high level of satisfaction with the three basic psychological needs is considered essential for maintaining intrinsic motivation, or autonomous forms of motivation, which increases performance, adherence, and enjoyment in swimming (Monteiro et al., 2020).

## *Achievement-Goal Theory*

Achievement-Goal Theory (AGT) is a social cognitive theory of motivation originally developed for educational settings and later applied in performance situations for sports (Nicholls, 1989; Roberts et al., 2018). This theory explains the motivational forces of actions through cognitive schemas of achievement goals. A cognitive schema can be considered a different program for goals, situations, and activities. It is influenced by a person's perception of success and the differentiation between effort and ability, resulting in either a *task orientation* or an *ego orientation* (Roberts et al., 2018). A task-oriented person has a less differentiated conception of ability and perceives competence as self-referenced (Roberts et al., 2018). They aim to improve skills or learn, as they believe success comes from hard work, knowledge, and collaboration (Duda & Nicholls, 1992). Ego-oriented people believe that success is other-referenced, e.g., demonstrating superior ability, and they try to avoid situations or activities which could result in displaying incompetence (Duda & Nicholls, 1992). Higher task orientation leads to more adaptive motivational responses such as enjoyment, satisfaction, and perceived ability, which in turn increase intrinsic motivation (Smith et al., 2006a).

Until around the age of 11, most children do not differentiate between effort and ability (Ntoumanis, 2001; Roberts et al., 2018). Around this age, most children reach a level of cognitive maturity enabling them to differentiate the concepts of ability and effort (Horn, 2008), potentially adapting a normative evaluation of competence; i.e. ego-involved/oriented. While children maintaining an undifferentiated concept of ability will be considered task oriented. The two orientations are considered orthogonal which creates profiles of high and/or low levels of both orientations. The most adaptive profiles are considered high task and high ego, or high task and low ego (Roberts et al., 2018; Roberts et al., 1996). While young children with an undifferentiated concept of ability will be considered and positively benefit from being task-oriented, elite athletes are shown to benefit from being high in both ego and task orientation (Pensgaard & Roberts, 2000). Typically, the literature supports a positive relationship between task orientation and intrinsic motivation (Ntoumanis, 2001).

How people perceive their motivational climate is influenced by the leader's conception of ability (undifferentiated or differentiated), and how individual success is evaluated by a leader (coach or parent) (Buch et al., 2017). In a mastery climate, success is defined as the enjoyment of the activity, self-improvement, and effort (Roberts et al., 2018). This type of

climate is shown to increase the satisfaction of basic psychological needs (Rodrigues et al., 2020), enjoyment, and self-determined motivation of swimmers (Monteiro et al., 2018). In this climate success is self-referenced and based on mastery of tasks, promoting task orientation and intrinsic motivation (Haugen et al., 2020). In contrast, a performance climate defines success as winning and avoidance of mistakes (Roberts et al., 2018). This climate negatively correlates with intrinsic motivation, thereby promoting ego orientation and extrinsic motivation (O'Rourke & Smith, 2013; Trenz & Zusho, 2011). A performance climate is perceived as controlling, hence lowering the level of self-determined motivation (Buch et al., 2017).

### *Compatibility of SDT and AGT*

An important factor in both theories is competence, which is believed to ensure longer-lasting motivation and involvement in sports (Roberts et al., 1981). AGT highlights the demonstration of competence as a goal of behaviour, and SDT underlines the importance of competence as a need for maintaining motivation and thereby engagement (Nicholls, 1989; Ryan & Deci, 2020b). If one experiences success while mastering a task or demonstrating superiority, it can be argued that both goal orientations can enhance both learning and development. Thus, activities in which one experiences success support the need for competence, which will enhance self-determined motivation (e.g. Duda & Nicholls, 1992; Salguero et al., 2004). Particularly task orientation can satisfy both the need for autonomy and competence (Ntoumanis, 2001). Ryan and Deci (2020a) highlight the significance of performance and mastery goals (AGT) for their theory (SDT). They pair mastery goals with intrinsic motivation and autonomous forms of extrinsic regulation, and performance goals with controlled forms of extrinsic regulation. The inclusion of both theories (AGT and SDT) will be further discussed after the results.

### *Social Climate of Young Swimmers*

Both coaches and parents have existential relationships with young athletes (Storm et al., 2014), which influence effort, enjoyment, and competence, and in turn results in higher self-determined motivation and continued participation (Chan et al., 2012). Coaches seem to have a larger influence on competence, while parental involvement and behaviour have a greater impact on effort and enjoyment (Chan et al., 2012; Rocchi et al.,

2020). Coaches affect the motivational climate as they provide the competence an athlete acquires, which in turn satisfies basic psychological needs (e.g. Haugen et al., 2020). Their behaviour can, for example, result negatively in drop-out (Rocchi et al., 2020; Trenz & Zusho, 2011), and burn-out (Barcza-Renner et al., 2016), or positively in enjoyment (Teixeira et al., 2020) and increased group cohesion (Eys et al., 2013). Throughout a season, coaches are essential for persistence and motivation by providing autonomy and relatedness support, thereby ensuring development and performance (Rocchi et al., 2020).

At the age of 11-12, parents are still the main caregivers and therefore play an important role in young athletes' lives as they provide both support and opportunities for participation in training and competition (O'Rourke et al., 2014). A parent-initiated mastery climate is shown to increase intrinsic motivation, enjoyment of the activity, and effort of young swimmers aged nine to fourteen (O'Rourke & Smith, 2013). In general, mothers show a stronger predictive influence on intrinsic motivation (Woolger & Power, 2000), participation (Ullrich-French & Smith, 2009), competence, effort, and enjoyment (Chan et al., 2012) than fathers.

## Objectives

As the liaison of AGT and SDT is deemed advantageous it can enhance the understanding of young swimmers' motives and motivation. The two theoretical perspectives will provide a holistic context for researching the quality and direction of young Norwegian swimmers' motives, self-determined motivation, and goal orientations. The purpose of the current study was first, to understand the motives, self-determined motivation, and goal orientation of young Norwegian swimmers, and their perceived motivational climate (performance or mastery) created by coaches, mothers, and fathers. The influence of motivational climate on goal orientation and intrinsic motivation was also tested. Second, the young Norwegian swimmers' motives and self-determined motivation was compared with what parents believed were the children's motives and self-determined motivation.

## Method

### *Research Approach*

To approach the psychological phenomena of motives and motivation, a position between realism and relativism was adopted, with a constructionist epistemology. A structural realist will accept one true reality and that the nature of that reality can change, while relativists assume that e.g., emotions, culture, and experience interact with an individual's understanding of reality and truth (Moon & Blackman, 2014). This cross-sectional research was conducted using an online survey design, prepared in SurveyXact by Ramboll.

### *Participants*

Sample 1: The first participant group consisted of young swimmers aged 11 to 13 ( $M_{\text{age}} = 12.2 \pm 0.7$ ). They were recruited from a study on performance and health determining factors in swimming. Out of 81 swimmers, 49 girls and 16 boys completed the questionnaire (response rate 80.3%). Three never replied to the questionnaire, nine only provided age and gender, and four completed the survey twice (full or parts of it). They were recruited the year they turned 11 and are currently from swimming clubs in the eastern, western, and southern parts of Norway. Inclusion criteria were: able to swim 50 m in all four competitive strokes (front crawl, backstroke, breaststroke, and butterfly) and train swimming for a minimum of three sessions per week.

Sample 2: The second group was 55 mothers and 33 fathers of the swimmers.

### *Procedures*

The research was approved by the local ethical committee (Ref# 215 – 47) and the National Data Protection Agency for research (Ref# 58608) and conducted in accordance with the Helsinki Declaration. A pilot test of the online survey was completed with five athletes below the age of 13. They reported no mentionable difficulties with the questions and used an average of 15 minutes to complete the survey. Before participation, the legal guardian provided written informed consent for their own and their child's participation. The parents were e-mailed two hyperlinks to the online survey, one for the swimmer and one for the parents. As informed

consent was not collected from the children, all items were made optional and additional consent questions were added to the online survey.

### *Instruments*

The children responded to five questionnaires, while their parents only to two, reporting their beliefs about their child's motives and motivation. The participants spent between 10-30 min and 5-15 min to complete it, respectively.

The *Participation Motivation Questionnaire* (PMQ) and *Parent-Initiated Motivational Climate in Individual Sport Competition Questionnaire* (MC-ISCQ-Parent) were translated into Norwegian using the translation and back-translation method (Behr, 2017). Two master students in sport psychology (one native English speaker, one C2 proficiency), one certified translator (Norwegian-English), and a Canadian researcher (Norwegian speaker) translated the items either into Norwegian or back to English. The translations were synthesised considering the young age of the participants. Mean scores for each subscale of the five questionnaires were calculated and used in the analyses to encounter missing cases.

Motives of participation in competitive swimming were assessed using the PMQ (Gould et al., 1985). It consists of 35 items, unevenly split between seven motives. The internal consistency of the original subscales showed varying reliability ( $\alpha = .53 - .95$ ) (Brodkin & Weiss, 1990). Eleven items were removed to limit the extensiveness of the survey for the young participants (some were translated into the same and some were deemed redundant). Items are scored on a 5-point Likert Scale from 1 (not important) to 5 (very important). For the parents' questionnaire, the stem was changed to "My child swims because ... (he or she...)", as previously done by Marsh et al. (2015).

The *Behavioural Regulation in Sport Questionnaire* (BRSQ) was utilised to measure the degree of self-determined motivation (Lonsdale et al., 2008). It is a 32-item questionnaire including three factors of intrinsic motivation and five regulations of extrinsic motivation. The present study utilised a short 23-item version used in the PAPA-study (Viladrich et al., 2013), as this measures one factor of intrinsic motivation (IM general) and excludes integrated regulation due to the young age of the participants. The initial validation of the subscales showed Cronbach's alpha between .82 and .92 for all subscales (Lonsdale et al., 2008). Viladrich et al. (2013) added three items in the PAPA-study specifically targeting extrinsic motivation such



as rewards. These items measured external regulation rewards (EXrew), and the original items measuring external regulation, which focused more on external pressure, were still included (EXpres). Each item follows the stem “*I swim...*” and participants were asked to rate their agreement using a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. Parents responded to this questionnaire on their belief/experience of their child’s motivation, i.e. “*My child swims...*”.

The Norwegian version of the *Perception of Success Questionnaire* (POSQ) was used to measure individual goal orientations (Roberts & Ommundsen, 1996). It is a 12-item questionnaire, with six items for ego and task orientation ( $\alpha = .89$  and  $\alpha = .95$ , respectively). Questions were answered on a 5-point Likert-scale ranging from (1) strongly disagree to (5) strongly agree. In this study, the stem was adjusted to “*When swimming, I feel most successful when...*”.

The *Perceived Motivational Climate in Sport Questionnaire* (PMCSQ-short) measures the perception of the motivational climate created by a coach (Seifriz et al., 1992). The present study utilised an 11-item scale showing good internal validity for *performance climate* (six items) and *mastery climate* (five items),  $\alpha = .83$  and  $\alpha = .81$  respectively (Ommundsen et al., 2010). Following the question, “*How do you experience the social environment in your swimming group?*” participants were asked to rate items on a 5-point Likert scale ranging from (1) completely disagree to (5) completely agree.

The *MCISCQ-Parent* assess the influence of parents in competitive situations specifically for individual sports such as swimming (Harwood et al., 2019). It was utilised to measure parent-initiated motivational climate and showed good internal validity. This scale presents 10 items measuring mothers’ *ego promoting values and behaviours* (five items  $\alpha = .90$ ; mother performance climate) and *task promoting values and behaviours* (five items  $\alpha = .85$ ; mother mastery climate). The items concerning fathers are split into three subscales: *ego promoting values and behaviours* (four items,  $\alpha = .88$ ; father performance climate), *task promoting behaviours* (four items,  $\alpha = .87$ ; father mastery behaviours), and *task promoting values* (three items,  $\alpha = .81$ ; father mastery values), adding up to 11 items. Items were answered on a 7-point Likert scale ranging from (1) never occurs to (7) always occurs.

### *Statistical Analysis*

Statistical analyses were performed using Statistical Package for Social Sciences (SPSS) version 28 (IBM Corp, Armonk, NY, United States). The

mean score of subscale items was calculated to encounter missing cases. Internal consistency was assessed by examining Cronbach's alpha coefficients (Tables 1, 2, and 3). Descriptive statistics, and the sample sizes showed the distribution to be suited for parametric tests (kurtosis and skewness < 1.96) (Skovlund & Fenstad, 2001). The assumption of homogeneity of variance was determined using the Kolmogorov-Smirnov test ( $p > .05$ ) as suggested by Ntoumanis (2001). The mean difference between gender and participant group (swimmers vs parents) was compared using Independent Samples T-Tests. The level of significance was set at  $p > .05$  (O'Donoghue, 2012). For variables violating the assumption of homogeneity of variance (Levine's test < .05), the Welch Test was used (Skovlund & Fenstad, 2001). Seven separate Multiple Analyses Of Variance (MANOVAs) were conducted with gender and parental status as fixed factors and the motivational variables as dependent (O'Donoghue, 2012). Relationships between the different variables (motives, self-determined motivation, goal orientations, and perceived motivational climate) were examined using Pearson's Correlation Coefficient ( $r$ ). The threshold for small, medium and large correlations was set at .1, .3 and .5, respectively (Cohen, 2013). To examine the impact of perceived climate on achievement orientation and self-determined motivation, multiple regression analyses were computed.

## Results

The main results indicated that these children participate in competitive swimming because it's fun. They are mainly intrinsically motivated, task-oriented, and perceive a mastery-climate from coaches and both parents. The parents understand the children's motivation overall well, and the coach seems to create the most influential motivational climate. The seven MANOVAs revealed no significant differences between gender or parental status for all variables. Thus, the results are presented as two groups: children and parents.

### *Motives, Motivation, and Climate<sup>1</sup>*

The two most important motives of the swimmers were "fun" and "sport specific characteristics" (comp/train), followed by "health" (Table 1). Children scored higher on intrinsic motivation compared to extrinsic motiva-

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1 The tables referred to in this section can be found at the end of the article, pp. 174–175.

tion and amotivation (Table 2). The second highest level of self-determined motivation was identified regulation followed by external regulation rewards. In general, children scored higher on task orientation compared to ego orientation (Table 3). Children perceived a mastery climate created by coaches, mothers, and fathers to a greater extent than a performance climate. Children's ego orientation showed large correlations with external regulation rewards (Table 4).

Task orientation showed a large correlation with intrinsic motivation, as well as a medium with external rewards (Table 4). External rewards also showed a medium correlation with intrinsic motivation ( $r = .35, p < .01$ ). "Fun" showed a medium correlation with intrinsic motivation ( $r = .47, p < .01$ ), and "health" showed a medium correlation with identified regulation ( $r = .45, p < .01$ ). "Significant others" was medium correlated with external regulation pressure ( $r = .47, p < .01$ ). All performance climates showed positive correlations with each other ( $r = .40$  and  $.43, p < .01$ , coach vs mother and father respectively;  $r = .74, p < .01$ , mother vs father). A coach mastery climate showed small and medium correlations with father mastery behaviour ( $r = .28, p < .05$ ) and values ( $r = .31, p < .05$ ). A mother mastery climate only correlated with father mastery behaviours ( $r = .65, p < .01$ ), not with a coach mastery climate or father mastery values ( $p > .05$ ).

Correlations between goal orientations and perceived motivational climate were medium and large between ego orientation and all performance-initiated climates (Table 4). Task orientation showed small to large correlations with coach and mother mastery climates, as well as father mastery behaviour ( $r = .55, p < .01, r = .35, p < .01$ , and  $r = .28, p < .05$ , respectively). Intrinsic motivation showed medium and large correlations with coach and father mastery climates ( $r = .50, p < .01, r = .42, p < .01$ , and  $r = .35, p < .01$ , respectively). IM did not correlate significantly with a mother mastery climate ( $p > .05$ ). External pressure was medium correlated with coach and father performance climate ( $r = .36, p < .01$ , and  $r = .27, p < .05$ , respectively). External reward showed medium correlations with a coach- and mother-initiated performance climates, as well as a coach mastery climate ( $r = .34, p < .01, r = .29, p < .05$ , and  $r = .35, p < .01$ , respectively). Amotivation was negatively correlated with a coach mastery climate ( $r = -.32, p < .01$ ).

Multiple regression analyses showed that 35% of the variation in a child's ego orientation could be explained by a coach performance climate. When adjusting for mother and father performance climates (non-significant) (adjusted  $R^2 = .35, F(3, 57) = 11.55, p < .001$ ). Thirty-three per cent of the variance in task orientation could be explained by a coach mastery climate

(mother and father climates non-significant, adjusted  $R^2 = .33$ ,  $F(4, 56) = 8.2$ ,  $p < .001$ ). Coach and father mastery climates could explain 28% of the variance in intrinsic motivation (mother mastery climate non-significant, adjusted  $R^2 = .28$ ,  $F(4, 56) = 6.9$ ,  $p < .001$ ).

### *Parents' Belief*

The Parents believed “fun” and “health” to be less important than the children reported,  $t(151) = -3.2$ ,  $p = .002$ ,  $d = .52$  and  $t(151) = -4.9$ ,  $p < .001$ , respectively. They correctly believed “fun” to be the most important motive, while the others ranked in a different order compared to the children (Table 1). Children showed higher levels of identified regulation compared to parent’s belief,  $t(116) = -2.4$ ,  $p = .017$ ,  $d = .65$ . Parents believed that children would score higher on external regulation rewards,  $t(113) = -2.9$ ,  $p = .005$ ,  $d = 1.0$ . Parents believed their children were mainly intrinsically motivated (Table 2). Followed by identified regulation and external regulation rewards.

Parents showed a strong correlation between external pressure and amotivation ( $r = .68$ ,  $p < .01$ ). Amotivation showed strong correlations with introjected regulation ( $r = .63$ ,  $p < .01$ ), while introjected regulation showed a large correlation with external pressure ( $r = .79$ ,  $p < .01$ ). External pressure was medium correlated with “significant others” ( $r = .41$ ,  $p < .01$ ), which was positively correlated with amotivation ( $r = .29$ ,  $p < .01$ ).

## Discussion

The results on motives are in line with those of Brodtkin and Weiss (1990) and Salguero et al. (2004), underlining the similarity of this sample with international swimmers of similar age. The inconsistent pattern of correlations between motives and goal orientation shows that these children have/had various motives for participating in competitive swimming. In terms of self-determined motivation, there are some interesting correlations. The correlations between “fun” and intrinsic motivation, and “health” and identified regulation are completely in line with SDT. This implies that this group of athletes enjoy the sport while being aware of the benefits of staying physically active. Which predicts longer enjoyment and participation in the sport (Monteiro et al., 2020; Smith et al., 2006a). The correlations between self-determined motivation and goal orientation strengthen the

(theoretical) relationship between extrinsic motivation and ego orientation. This is in line with the theory of Nicholls (1989), as ego-oriented children seemed to care more about external factors and show stronger relationships with less self-determined motivation compared to children reporting higher task orientation.

Task orientation also had large correlations with higher self-determined motivation, emphasising the connection between task orientation and intrinsic motivation (Smith et al., 2006a). As the children showed higher levels of task orientation compared to ego orientation, they are shown to have adaptive profiles of goal orientation (high task, low ego) (Roberts et al., 2018). The standard deviation of ego orientation shows that some of the children might score the same for task and ego, which could be beneficial for their long term sports career, as elite athletes are shown to benefit from being high in both orientations (Abrahamsen et al., 2008). The importance of external regulation rewards can have both a positive and negative influence on motivation. Winning a race or a prize can be an extrinsic motivation, but this can also lead to pressure to perform, which creates more negative stress (Stoa et al., 2020).

The correlations between mastery climates and higher levels of self-determined motivation (IM, ID) indicates that coaches and parents positively influence intrinsic motivation and enjoyment for these young Norwegian swimmers. The correlations between climates and goal orientation further confirms the theory of Nicholls (1989). The children's perception of a mastery climate is a positive finding and argues for continued participation (O'Rourke & Smith, 2013; Teixeira et al., 2020), positive health outcomes (Pensgaard & Roberts, 2000), increased task orientation (Trenz & Zusho, 2011), and basic psychological needs satisfaction, hence increased self-determined motivation (Rodrigues et al., 2020; Teixeira et al., 2020), of these young swimmers. In congruence with previous research, performance-initiated climates by coach, mother, and father positively correlated with lower self-determined motivation (IJ, EX) and ego orientation (Haugen et al., 2020; O'Rourke & Smith, 2013; Trenz & Zusho, 2011). This confirms the connection between goal orientations, self-determined motivation, and motivational climate.

While most mastery climates significantly correlated, a mother-initiated mastery climate showed a non-significant positive correlation with a coach-initiated mastery climate. This difference between mother and father mastery climate could be due to coincidences in the sample, or perhaps the children perceive slightly stronger support from fathers com-

pared to mothers. Chan et al. (2012) also found slightly smaller correlation coefficients for mothers compared to fathers. However, their sample was approximately four times bigger than that of the present study. The high influence of a coach-initiated climate on these young swimmers' motivation and goal orientation, contrasts the results of O'Rourke et al. (2014) who found parents as the most influential significant other for this age group. The difference between coaches and parents emphasise the importance of the coaching role and the impact they can have on young swimmers' motivation, including responsibility for future participation and development of the children they coach (e.g. Rocchi et al., 2020). It could be that coaches are more important in Norway, or their significance could be due to a change in the swimming culture over the past years. It is also noteworthy that the sample of O'Rourke et al. (2014) was slightly younger ( $M_{age} = 11$ ) than that of the present study ( $M_{age} = 12.2$ ). While previous studies have shown mothers and coaches to be more influential on motivation and participation compared to fathers (Chan et al., 2012; Ullrich-French & Smith, 2009; Woolger & Power, 2000), we found coaches to be most influential, and parents almost equal. That Norway is reaching equality between parents could contribute to explaining the small difference between parents (Singer, 2014). Both parents usually engage in their children's extracurricular activities. They follow up on goals, cheer, and invest their time in the sporting career of their child.

### *Parent's Understanding of Children's Motives and Motivation*

The lack of studies comparing parental belief in children's motives and motivation with the self-reported motives and motivation of the children provides few empirical sources for this discussion. Parents mainly understood the motives and self-determined motivation of the children. Their similarity in responses could also be a result of the influence between parents and children. Considering that they are parents of competitive young swimmers it is understandable that they assume that extrinsic regulation rewards are a large part of their motivation. The Norwegian culture or climate in the training group could direct the focus away from competitions in such a way that children rate this as less important (Norwegian Olympic and Paralympic Committee and Confederation of Sports, n.d.). Contrastingly, parents believed that the children would score lower in identified regulation, hence not participating for the health benefits of being physically active. This difference could be influenced by the media or a culture

emphasising health aspects of being active, which children adapt and include as a part of their motivation. Compared to Marsh et al. (2015) the present study found more differences between the children and the parents. However, the study of Marsh et al. highlights that parents in general understand the children's motives, similar to the this one. The differences between children's motives and self-determined motivation and parents' beliefs can be interpreted as a lack of parents understanding of the child's actual motives and self-determined motivation. It could reflect differences in a generational focus or expectations of what a child should focus on.

It should also be recognized that the results could be due to a smaller sample size or different types of bias (Thomas et al., 2015). Finally, parents interestingly seem to understand their own, or friends' influence on motivation as the motive "significant others" is positively correlated with the belief of children lacking motivation or high levels of external regulation pressure. As parents introduce swimmers to the sport (Baxter-Jones & Maffulli, 2003) the children might feel obliged to continue, and parents seem to understand this influence they have on their children.

### *Theoretical Discussion*

The compatibility of AGT and SDT could be viewed as both a limitation and a strength. Combining the two theories can create a holistic and unifying theoretical framework capturing both the quality of motivation and achievement goals, as well as mental aspects necessary for continued participation and enjoyment of swimming. The correlations between ego-orientation and extrinsic forms of motivation, and task-orientation and intrinsic motivation show that these two theories might have more in common than they are different. These results confirm the similarity between task involvement and intrinsic motivation, and the argument that task orientation can be considered a part of SDTs description of intrinsic motivation (Roberts et al., 2018). A fundamental difference is that AGT explains behaviour as governed by the perception of demands and meaningfulness, while SDT sees behaviour as an act to satisfy the three basic needs (Roberts et al., 2018). Yet, there are similarities in the drive to demonstrate and elevate competence (O'Rourke et al., 2011). According to SDT, competence is developed when seeking and mastering optimal challenges for ones capacities (Deci & Ryan, 2004). An ego-oriented person will choose an activity in which they are guaranteed to outperform their opponents, hence increase their experience of competence through superiority. While

a task-oriented person will choose activities in which they can develop, grow, and master. Thus, both goal orientations will lead to satisfaction of the need for competence and increase the potential for intrinsic motivation (Duda & Nicholls, 1992; Roberts et al., 2018; Salguero et al., 2004). Demonstration of incompetence can consequently fail to satisfy the need for competence and is therefore avoided by individuals with a differentiated conception of ability. Success can thus be obtained through satisfying the need for competence in situations in which you gain experience or demonstrate superior competence.

There are also similarities between a mastery climate (AGT) and an autonomy-supportive (SDT) (O'Rourke & Smith, 2013). This is supported by Monteiro et al. (2018) connecting a mastery climate and task orientation with enjoyment and participation through basic psychological needs satisfaction and self-determined motivation. Similarly, Kolayış and Çelik (2017) argues that a mastery climate increases self-determined motivation, as this climate is related to enhanced levels of enjoyment. The current study shows supporting results through the correlations between mastery climate and intrinsic motivation, and performance climate and extrinsic motivation.

## Practical Implications

Previous research has established the importance of a mastery climate, intrinsic motivation, and task orientation for positive health outcomes, persistence, and performance development (Monteiro et al., 2020; Monteiro et al., 2018; Roberts et al., 2018). This study emphasises the importance of coaches and parents valuing this quality of motivation and goal orientation (task) of their athletes/children. They should strive to maintain the mastery climate they are already creating, which will uphold the intrinsic motivation and task orientation of the swimmers. For the participants, this study can be a platform to understand their own inner life, their family, and the environment around them. For coaches, parents, and athletes this study provides the status quo of the current “motivational landscape” among young Norwegian swimmers and emphasises the importance of motivation for future development and performance. They benefit from a better understanding of the qualities provided by the different types of motivation, and their potential to influence motivation in either a positive



or negative way. This knowledge can help coaches and parents guide young swimmers in pursuit of goals and future aspirations.

## Limitations and Future Directions

The findings of the present study must be considered in the context of its limitations. An online survey design can increase chances of social desirability, and if parents' hopes for their child's motives and motivation influence their judgement of what they believe their child's motives and motivation is. The seriousness and cognitive level of the participants must be judged as well. Bias due to conflict of loyalty when answering questions concerning their coach, mother, and father could occur. This might be the case as fewer children answered the questionnaire for fathers compared to mothers. As this was the final part of the questionnaire it could also be due to tiredness, that mothers were more engaged in the children answering the questionnaire than fathers, that mothers are more engaged in the children's extracurricular activities, or more single mothers. The internal reliability measures of the PMQ show that other instruments should be explored. As the participants in this study were children the design of the online questionnaire used smiley-face "buttons" representing the Likert-scale. This could bias responses and the interpretation of the results (Wu & Leung, 2017).

The present study did not ask parents to provide the ID-number of their child. If future studies did this, it would be possible to provide further details on parent-child relationships in sports as the children grow and develop. Future research could aim at revealing cultural differences between parents' beliefs of their child's motives and motivation, and possibly differences throughout the child's swimming career. A peer-initiated motivational climate should be addressed because it could have a larger influence than coaches and parents, even among young children (Smith et al., 2006b). Peers influence motivation through competitive behaviour, evaluative communication, and social relationships. A peer-initiated task-involving motivational climate influences persistence and motivation through perceived needs satisfaction (Jõesaar et al., 2011). Cultural differences should also be explored, particularly comparing the Norwegian (Scandinavian) sporting culture (Norwegian Olympic and Paralympic Committee and Confederation of Sports, n.d.).

Considering theoretical limitations, the collected data can only truly present the questionnaires' operationalisations of the psychological phenomena described in both theories. As psychological concepts are not directly available, this type of research is dependent on the validity and reliability of tools designed to measure these concepts. The choice of including two (fundamentally) different theories invites the discussion of their compatibility and further development of theories of motivation in sport. The similarities and differences between the two theories are debated (Roberts et al., 2018), this liaison is in this research deemed beneficial to provide a more holistic understanding of young swimmers' "motivational landscape".

## Conclusion

In conclusion, the liaison between AGT and SDT provides a unique combination of theories which can be advantageous and provide a holistic insight into young Norwegian swimmers' motivation and motivational climate. The swimmers are more task-oriented and intrinsically motivated in what they experience as mastery climates created by coaches and parents. In general, parents seem to understand the motives and self-determined motivation of their children. Which gives a unique insight into the athlete-parent relationship of young swimmers.

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## Declaration of Interest Statement

There are no conflicts of interest to declare.

## Data Availability Statement

The data that support the findings of this study are available from the first author, Ingeborg Ljødal ([ingeborglj@nih.no](mailto:ingeborglj@nih.no)), upon reasonable request.

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**Table 1.** Descriptive statistics and Cronbach's alpha for motives of children and parent's belief of children's motives.

Variable	Children		Parents	
	M (SD)	<i>a</i>	M (SD)	<i>a</i>
Health (six items)	4.17 (.51)**	.59	3.72 (.59)**	.73
Fun (three items)	4.51 (.51) <sup>†</sup>	.49	4.24 (.53) <sup>†</sup>	.37
Sport specific characteristics (comp/train) (six items)	4.21 (.61)	.80	3.98 (.66)	.61
Significant other (sigother) (three items)	3.40 (.83)	.53	3.16 (.69)	.34
Affiliation (two items)	4.17 (.73)	.53	4.14 (.69)	.58
Status (three items)	3.12 (.87)	.63	3.18 (.89)	.73
Energy (two items)	4.06 (.73)	.31	3.18 (.99)	.68

Note. Significant differences \**p* < .05; \*\**p* < .01, *a*: Cronbach's alpha.

**Table 2.** Descriptive statistics and Cronbach's alpha of self-determined motivation of children and parent's belief.

Variable	Children		Parents	
	M (SD)	<i>a</i>	M (SD)	<i>a</i>
Intrinsic Motivation (IM)	4.48 (.56)	.80	4.45 (.46)	.68
Identified Regulation (ID)	3.71 (.74) <sup>†</sup>	.68	3.45 (.56) <sup>†</sup>	.49
Introjected Regulation (IJ)	1.79 (.82)	.82	1.91 (.78)	.84
External regulation pressure (EXpres)	1.53 (.60)	.77	1.72 (.75)	.71
External regulation (EX)	2.17 (.67)	.74	2.49 (.57)	.86
External regulation rewards (EXrew)	3.02 (1.21)**	.93	3.52 (.89)**	.85
Amotivation (AM)	1.73 (.89)	.89	1.68 (.74)	.87

Note. Significant differences \**p* < .05; \*\**p* < .01, *a*: Cronbach's alpha.



**Table 3.** Descriptive statistics and Cronbach's Alpha of children's goal orientation and perceived motivational climate.

Variable	M (SD)	Cronbach's alpha ( <i>a</i> )
Ego orientation	3.30 (1.01)	.91
Task orientation	4.52 (.44)	.70
Coach performance climate	2.17 (.80)	.78
Coach mastery climate	4.42 (.50)	.76
Mother performance climate	1.91 (1.13)	.85
Mother mastery climate	5.60 (1.07)	.75
Father performance climate	1.95 (1.26)	.86
Father mastery behaviours	5.52 (1.21)	.78
Father mastery values	6.11 (.98)	.65

**Table 4.** Correlation Matrix.

Variable	Ego	Task	IM	ID	IJ	EX-pres	EX-rew	AM
Health				.45**				
Fun			.47**					
Sport specific characteristic								
Significand others						.47**		
Ego orientation						.30*	.62**	
Task orientation			.60**	.59**			.38**	
Coach performance climate	.54**				.35**	.36**	.34**	
Mother performance climate	.44**						.29*	
Father performance climate	.41**				.28*	.27*		
Coach mastery climate		.55**	.50**	.28*			.35**	-.32**
Mother mastery climate		.35**		.34**				
Father mastery behaviour		.28*	.42**	.30*				
Father mastery values			.35**					

Note. IM: intrinsic motivation; ID: identified regulation; IJ: introjected regulation; EXpres: external regulation pressure; EXrew: external regulation reward; AM: amotivation. Significant differences \**p* < .05; \*\**p* < .01.

