

Comparing the Relative Impact of Parent- and Coach-Initiated Motivational Climates on Young Athletes' Self-Esteem, Performance Anxiety, and Achievement Goal Orientation.

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A thesis

submitted in partial fulfillment of the

requirements for the degree of

Master of Science

University of Washington

2015

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Program Authorized to Offer Degree:

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Abstract

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Sport-related motivational climate research has been primarily focused on the impact of coaches, whereas parental influence has been a secondary focus. This study focused on 543 youth athletes (ages 9-16) on 82 teams in recreational community center basketball leagues. The impact of the motivational climates created both by parents and by coaches on post-season athlete outcomes of anxiety, self-esteem, and achievement goal orientation was examined. A newly developed adaptation of the Perceptions of Success Questionnaire, the Parent-Attributed Standards for Success Scale (PASSS) was used to measure athletes' perceptions of mastery and ego-oriented parental success criteria, the central component of parental motivational climate. A multi-level regression analysis revealed that perceived parent success standards were a significant predictor of youth outcomes over and above coach motivational climate. We discuss why we think this occurred and suggest future directions for further research on the subject matter as well as possible interventions that can be used to increase positive parent motivational styles.

Background

It is estimated that 68 million children and adolescents (ages 6-18) participate in youth sports in the United States each year (Smoll & Smith, 2012). Youth sports provide an opportunity for individuals to develop important social skills, values, attitudes, and motivational styles.

Achievement goal orientation, as described in Achievement Goal Theory (AGT), provides a framework for understanding how individuals interpret and respond to achievement activity (Nicholls, 1984; McArdle & Duda, 2002; Reinboth & Duda, 2006; White, 2007). AGT posits that by understanding the function and meaning of an individual's goal directed actions; one can understand his or her motivation. Within AGT, there are two distinct achievement goal orientations—ego-involvement and mastery—that are used to define success and measure competency. In a mastery achievement goal orientation, success is self-referenced and characterized by achieving personal goals, task mastery, and exhibiting maximum effort and dedication (Smith, Smoll, & Cumming, 2009). Also, mistakes are not punished; rather they are treated as an opportunity for self-improvement. Because success is not evaluated relative to others, in a mastery climate, it is possible for young athletes to perceive themselves as having less talent or ability than others, and still feel successful and competent (McArdle & Duda, 2002; Nicholls, 1984). In contrast, an ego achievement goal orientation measures success relative to others and is characterized by outperforming or outwitting others, or by performing similarly to others, but with equivalent or less effort (Smith, Smoll, & Cumming, 2009; Duda & Treasure, 2009). Mistakes are considered unacceptable and punished. To have tried hard and “failed” with such an orientation would make the athlete feel particularly incompetent (McArdle & Duda, 2002). Furthermore, to notice personal improvement or to know that you tried as hard as you can, would not elicit a sense of success or be viewed as a demonstration of competence.

In research studies, mastery orientation has been related to high levels of achievement and positive motivational outcomes, such as belief that effort is a cause of success; the use of problem-solving and adaptive learning strategies; the exertion of consistent effort; and persistence in the face of adversity (Duda & Treasure, 2009; Smith, Smoll, & Cumming, 2009; Ames, 1992). Ego orientation has been correlated with a number of less desirable outcomes such as inconsistent effort; increased levels of performance anxiety; reduced persistence and increased rate of withdrawal in the face of failure; and a willingness both to use deception and cheat in order to win (Smith, Smoll, & Cumming, 2009; Duda & Treasure, 2009; Duda, 2005; Roberts et al., 2007; Duda, Smart, & Tappe, 1989). When comparing mastery and ego achievement goal orientations, individuals with mastery orientations tend to display increased enjoyment; intrinsic motivation and interest; and satisfaction (Duda & Treasure, 2009; Smith, Smoll, & Cumming, 2009; Kavussanu & Roberts, 2006).

Just as there are individual achievement goal orientations that can be classified as either ego-involved or mastery based, there are also motivational climates that could be similarly classified. Motivational climates are classically defined as the pattern of normative influences, evaluative standards, rewards and sanctions, interpersonal interactions, and values communicated within the achievement environment (Smith, Cumming, & Smoll, 2008). Both climates are influenced by personal and situational factors (Reinboth & Duda, 2006; O'Rourke et al., 2014). For example in youth sports, key socializing agents, namely coaches and parents, create a climate strongly influenced by what they reinforce, as well as the attitudes and values they transmit through their words and actions. It is important to distinguish between these climates because they have been found to profoundly and differently effect an individual's self-esteem, sense of competency, quality of experience and level of performance anxiety. In a mastery climate, socializing agents

define success in terms of self-improvement, task mastery, and exhibiting maximum effort and dedication (Smith, Smoll, & Cumming, 2009). They also create a setting in which they reinforce effort, cooperation, learning, and improvement (Duda & Treasure, 2009). In such a setting, athletes display maximal effort, persist in the face of setbacks, are proud of personal improvement, and utilize other adaptive achievement strategies (Smith, Smoll, & Cumming, 2009). In an ego climate, socializing agents define success in terms of social comparisons and create a setting in which they provide differential reinforcement between team members (Smith, Smoll, & Cumming, 2009; Duda & Treasure, 2009). In this climate coaches foster rivalry amongst team members, punish mistakes, and care more about individual's winning or outperforming others than their personal improvement (Smith, Smoll, & Cumming, 2009; Duda & Treasure, 2009).

In sport activity, coaches are a major socializing agent (O'Rourke et al., 2014; Horn & Horn, 2007; Duda & Treasure, 2009; Smith, Smoll, & Cumming, 2009). Though the domain of their direct influence is limited to sports, they may spend long hours with youth, creating a climate that has been shown to affect youth motivation and quality of experience in sports (O'Rourke et al., 2014). There have been a number of studies investigating the influence of coaches on youth motivation (Duda, 2013; Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012; Ntoumanis & Biddle, 1999). The motivational climates created by coaches have been found to predict youth emotional, cognitive, and behavioral outcomes (Duda, 2013). Sport performance anxiety is defined as a predisposition to experience cognitive anxiety (e.g., negative thoughts) and/or somatic anxiety (e.g., muscle tension and other forms of physiological arousal) in a competitive sport situation (Lewthwaite & Scanlan, 1989; O'Rourke, Smith, & Smoll, 2011; Smith et al., 2006). Scanlan and Passer (1978, 1979, and 1981) found that coach motivational climate had a

significant impact upon sport performance anxiety and self-esteem. Specifically, they found that mastery climates led to decreased anxiety and increased self-esteem, whereas ego climates had the opposite effects. Lewthwaite and Scanlan (1989) found similar effects. Competitive sport presents an evaluative situation (e.g., a basketball game) that can lead to cognitive and physiological arousal (Liukonnen et al., 2010; Smith, 1986). Sport performance anxiety can lead to a variety of negative consequences such as lowered self-esteem, greater disappointment after a poor performance, increased avoidance behavior, and increased dropout rates (Lewthwaite & Scanlan, 1989). As such, reduction in anxiety is associated with improved sporting experiences.

Of course parents are the main socializing influence on their children and have an indelible influence on their overall psychosocial development (Pomerantz & Thompson, 2008). Thus, as one might expect, the motivational climate created by parents, driven by their own motivational style, also has a major influence upon youth achievement goal orientation (McArdle & Duda, 2002). One focus of study has been on the effect of parental motivational climate upon sport performance anxiety (O'Rourke, Smith, & Smoll, 2011). In this study, researchers found that a high parent ego motivational climate has harmful effects on youth performance anxiety. Conversely, Ames found (1992) that a high mastery climate has beneficial effects on youth performance anxiety. Lewthwaite & Scanlan (1989) found that mastery climates led to decreased sport performance anxiety and increased self-esteem. Ego climates had the opposite effects.

Another area of study on the effects of parental motivational climates has focused on youth self-esteem. Studies such as O'Rourke, Smith, & Smoll (2011), O'Rourke et al., (2012), and Smoll, Smith, & Cumming (2007) suggest that parental mastery motivational climates help protect or increase youth self-esteem while ego motivational climates display the opposite effects. These findings display the same directional relationship with regard to self-esteem as

those found on the impact of coach motivational climates on young athletes (Reinboth & Duda, 2006; Smoll et al., 1993; Smith & Smoll, 1990).

In terms of achievement goal orientation, preadolescence is an important time period to study because it is a formative stage that will have bearing on the future orientation of young athletes. It is characterized by some of the most rapid physical and mental changes individuals will encounter throughout their lifetime (Colby, O'Leary, & Monti, 2001). Starting around age 9, youth begin to understand the concept of competitive ability, which is a foundation for the formation of their own motivational style that gradually emerges during the period of time between late childhood and early adolescence (White, 2007).

To date, only one study (O'Rourke et al., 2014) has compared the relative influence of both parents' and coaches' motivational climate on youth athletes. That study involved a sample of swimmers in an Olympic development program with highly involved and committed parents. O'Rourke et al. (2014) hypothesized and found that parent-initiated motivational climate has a greater impact on youth athletes in the domains of performance trait anxiety, self-esteem, and autonomous regulation than coach motivational climate. The study also provided further evidence of the finding that mastery climates decrease anxiety and increase self-esteem while ego climates create the opposite effects (O'Rourke et al., 2014).

The current study focused on the role of parental success standards as perceived by their children on the personality and motivational variables described above. I also examined the relative influence of parents' and coaches' motivational climates on youth development and achievement goal orientation within in a *recreational* youth sport setting as opposed to the more highly competitive Olympic development program studies by O'Rourke et al (2014). Within this context, I anticipate less direct parental involvement than would be found in a more competitive

Olympic development program, and less parental influence. It is therefore of interest to determine the relative strength of young athlete perceived coach and parental definitions of success. I expect that parents – because of their overriding influence in the overall psycho-social development of their children – will have greater influence than the coaches. Furthermore, I expect to find that high mastery climate scores for both coaches and parents will be positively associated with young athletes' self-esteem levels and mastery achievement goal orientation, and negatively associated with anxiety and ego achievement goal orientation. I also expect that high ego climate scores for parents and coaches will be positively associated with young athletes' anxiety and an ego achievement goal orientation and negatively associated with self-esteem and a mastery achievement goal orientation.

METHOD

Participants

Six hundred and twelve youth basketball players (369 boys and 243 girls, M age = 11.76, SD = 1.56, age range = 9 – 16) on 82 teams from 5 recreational community center basketball leagues in the Pacific Northwest participated in the study. Within the sample, 51.5% (n = 315) were Caucasian, 4.0% (n = 24) were Asian, and the remainder represented other or mixed ethnic group ancestry (n = 53) (35% of the sample did not reveal their ethnicity). Athletes who were coached by their parents (n = 69) were removed from the data set in order to avoid any potential confounding factors, resulting in a sample of 543 athletes on whom the results reported below are based. All the 82 coaches were male. The median time that youth played for the current coach prior to the beginning of the season was two years. Over 90% of young athletes (N = 509) reported playing other sports in addition to basketball.

Measures

Parent Achievement Goal Orientation

Young athlete perception of parent achievement goal orientation was assessed using Parent-Attributed Standards for Success Scale (PASSS), an adaptation of the Perception of Success Questionnaire (POSQ; Roberts, Treasure, & Balague, 1998) that has been used in much previous research to measure success criteria in athletes. We used it to tap perceptions of the parents' standards of success, a key component of parental motivational climate. The PASSS was written in language suitable for young participants. In it, the young athletes answer questions that focus on their parents' definition of success. They respond in terms of "the parent who is most involved in your sport activities." Each of the 12-items is prompted from the stem, "When I play sports, it is most important TO MY PARENT that..." and responses are made on a 4-point Likert scale ranging from 1 (Strongly disagree) to 4 (Strongly agree). The PASSS has both an ego ("I beat other people") and mastery ("I master something I couldn't do before") subscale.

Coach Motivational Climate

Young athlete perception of coach motivational climate was assessed using the Motivational Climate Scale for Youth Sports (MCSYS; Smith, Cumming, & Smoll, 2008). The MCSYS was developed with age-appropriate language for young athletes to measure their perceptions of the coach's definition of success. It is comprised of 16 items with two subscales: ego ("Winning games was the most important thing for the COACH") and mastery ("The COACH made players feel good when they improved a skill") (Smith, Cumming, & Smoll, 2008). Responses were made using a Likert scale ranging from 1 (Not at all true) to 5 (Very True). Research has found the MCSYS to have good reliability, high factorial validity, and strong construct validity (Smith, Smoll, & Cumming, 2007).

Achievement Goal Orientation

The Achievement Goal Scale for Youth Sports (AGSYS; Cumming et al., 2008) is a self-assessment measure that was used to assess young athlete achievement goal orientation. The 12-item measure has two subscales: ego (“To me, success means being better than others”) and mastery (“My goal is to master the skills in my sport”). Responses are made on a Likert scale ranging from 1 (Not at all true) to 5 (Very true). The AGSYS has high factorial (CFI = .95) and construct validity, and acceptable scale reliability (internal consistency— $\alpha = .75$; test-retest— $\alpha = .92$ (mastery) and $\alpha = .95$ (ego)) with individuals similar in age to the sample of this study (Cumming et al., 2008).

Performance Trait Anxiety

The Sport Anxiety Scale-2 (SAS-2; Smith et al., 2006) was adapted from the Sport Anxiety Scale in order to measure trait anxiety within a youth sample. Each of the 15 items is prompted with the stem “Before or while I compete in sports...” and responses are made on a 4-point Likert scale ranging from 1 (Not at all) to 4 (Very much). The AGSYS assesses three dimensions of anxiety: somatic anxiety (“My muscles feel shaky”), worry (“I worry that I will let others down”), and concentration disruption (“I lose focus on the game”). The SAS-2 has high factorial (CFI = .96) and construct validity, and scale reliability (test-retest: $\alpha = .91$) with individuals similar in age to the sample of this study (Smith et al., 2006). The total global anxiety score is calculated by summing the items from the three subscales and was used as the measure of anxiety in this study.

Self-Esteem

The Washington Self-Description Questionnaire (WSDQ; Smoll et al., 1993) was used to measure young athlete self-reported levels of self-esteem. As suggested by the literature on self-esteem measures (Wylie, 1979), rather than focusing on specific areas of competence, the

WSDQ is a 14-item global measure with two subscales: one positive (“I feel proud of myself”) and the other negative (“I’m usually so poor at things, I feel like giving up”). Responses are made on a Likert scale ranging from 1 (Not like me) to 4 (Very much like me) and the questions were written in language suitable for comprehension by younger athletes. Research on the WSDQ has found that it has high internal consistency (.80 to .86), good test-retest reliability, and validity as an outcome variable (Smith & Smoll, 1990; Smoll et al., 1993).

Procedure

After receiving parental consent and athlete assent, young athletes gathered in a group setting and completed measures individually. This occurred twice—once before the season and once, two to three weeks before the end of the season. The data used in this study was the post-season data (collected two to three weeks before the end of the season). The coach was not present during data collection, and athletes were assured that their names would be removed from the questionnaires and were completely confidential.

Results

Means, standard deviations, alphas, and correlations among the predictor and criterion variables are reported in Table 1. The scales display high reliability. Correlations are highly significant with directionality that is consistent with prior research findings such as coach mastery and ego climate scores as well as parent mastery and ego climate scores being negatively correlated.

Psychometric Properties of the PASSS

Using RStudio (Version 0.98.1062) and the lavaan package (Rosseel, 2012), a number of analyses were run to measure the PASSS psychometric properties. I began by calculating the correlation between the ego and mastery factors to test their orthogonality. A correlation of -0.11

was found to support adequate orthogonality. Then, using the lavaan package I ran a Confirmatory Factor Analysis. I began by testing a one-factor model and found Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root-mean square error of estimate (RMSEA) values of 0.56, 0.46, and 0.19 respectively. Then I entered the hypothesized two-factor (ego and mastery) model. The CFI, TLI, and RMSEA values were 0.95, 0.94, and 0.07 respectively. Using guidelines suggested by Bollen (1989) and Fan et. al., (1999), the two-factor fit was appropriate with indices exceeding 0.90 and RMSEA below 0.10, whereas the one-factor fit was not. Loadings for the ego factor ranged from 0.57 to 0.85 and from 0.54 to 0.73 for the mastery factor (See Figure 1). Pre- and post-season ego and mastery scores were correlated to measure test-retest reliability. Both mastery ($r = .48, p < .001$) and ego ($r = .54, p < .001$) climates were statistically significant, indicating adequate test-retest reliability. These analyses support the PASSS as being a measure with acceptable psychometric properties and independent ego and mastery dimensions.

Results Overview

This study is addressing two research questions. The first is replicatory in nature—do the results support the generally hypothesized relationships between parent and coach motivational climates (i.e., ego and mastery) on post-season athlete self-esteem, anxiety, and achievement goal orientation? This was assessed by looking at the magnitude and directionality of our predictor coefficients. Our second question explores the relative impact of parent and coach motivational climates on the same post-season athlete outcomes as the first question. To assess this question, I compared the amount of significant predictors and the magnitude of their coefficients.

Correlational Analysis

As seen in Table 1, parent and coach mastery motivational climates were significantly positively correlated with post-season self-esteem and athlete mastery achievement goal orientation and significantly negatively correlated with post-season anxiety and ego achievement goal orientation. Conversely, parent and coach ego motivational climates were significantly negatively correlated with post-season self-esteem and achievement goal orientation and significantly positively correlated with athlete anxiety and ego achievement goal orientation. Tests for the significance of correlation magnitude were run and a significant difference was only found between parent ($r = 0.61$) and coach ego climate ($r = 0.45$) on athlete post-season ego achievement goal orientation $z(438) = 3.49, p < 0.001$.

Multi-Level Regression Analysis

Using IBM SPSS Statistics-Version 21, Hierarchical Linear Modeling (HLM) was used to analyze the data, as it has a number of advantages over other methods for analyzing multi-level data. HLM does not ignore the nested nature of the data or treat it as a nuisance variable. This was required because the athletes are nested within teams. Also, HLM does not aggregate data that results in loss of data and prevents the opportunity to examine cross-level interactions (Snijders & Bosker, 2012). This is particularly important when doing team sport research. Because of clustering within teams (i.e. coaches), the assumption of independence of young athlete data is violated and basic regression models or analysis of variance tests are not appropriate to analyze the data. We used IBM SPSS Statistics Version 21 to run the analyses. The intraclass correlation coefficient's (ICC) were calculated for each of the four models using young athlete anxiety, self-esteem, ego achievement goal orientation, and mastery achievement goal orientation as the dependent variables. The ICC's were 0.02, 0.10, 0.24, and 0.14,

respectively, indicating that there is an effect of intrateam clustering and that a multi-level framework is the most appropriate model to analyze the data.

Overview of Models 1-4

Separate models were created for each of the four dependent variables (listed with corresponding model number—post-season young athlete: performance anxiety (1), self-esteem (2), ego achievement goal orientation (3), and mastery achievement goal orientation (4)). The models examined the effects of perceived parent and coach ego and mastery motivational climates and their interactions on the aforementioned outcomes. Creation of the models began with an empty or unconditional model, without any predictors. The first empty model included only a fixed intercept; the next one added a random intercept. The -2 restricted log likelihood (-2RLL) score was used to determine whether to remove or retain the random intercept for each model. Then the empty models were used to calculate the ICC's. The four predictor variables—coach ego, coach mastery, parent ego, and parent mastery climate—were then entered together as fixed factors. Our data for models 1, 2, and 3 reflect this process. After entering the four predictor variables, Model 4 displayed an error indicating that a more parsimonious model was required in order to calculate reliable data. To calculate reliable results, predictors were entered one at a time. -2RLL scores and deviance tests (chi-squared tests, $\alpha = .05$) were used after entering each predictor in order to measure model fit. For Model 4, the predictors that remained in the model were coach mastery and parent mastery. After centering the predictor variables by cluster to reduce multicollinearity between the predictor variables and their interactions (i.e., product terms), models 1-4 then had interactions entered and any significant interactions were probed. The results of the multilevel analyses are presented in Table 2.

Performance Anxiety

As shown in Table 2, three of the four predictors had a statistically significant relation on young athlete anxiety levels in Model 1. Coach and parent mastery climate produced significant negative coefficients ($p < .001$) while parent ego climate exhibited a significant positive coefficient ($p = .002$). As defined by the coefficients, coach mastery climate was the strongest predictor, followed by parent mastery and parent ego climates respectively. Coach ego climate was not statistically significant ($p > .05$). The parent motivational climate by coach motivational climate interaction was statistically significant ($p < .05$).

Self-Esteem

Three of the four predictors had a statistically significant relation on young athlete self-esteem level in Model 2. As shown in Table 2, coach and parent mastery climate had significant positive coefficients ($p < .001$) while coach ego climate had a significant negative coefficient ($p < .01$). Parent mastery yielded the strongest relation to self-esteem levels. Parent ego levels were not statistically significant ($p > .05$). None of the interactions were statistically significant.

Ego Achievement Goal Orientation

As shown in Table 2, the results indicated that only two of the four predictors had a statistically significant relation on young athlete ego achievement goal orientation. Coach and parent ego climate both had statistically significant positive coefficients ($p < .001$) with parent ego exhibiting the strongest relation to athlete ego achievement goal orientation. Neither coach nor parent mastery climate were statistically significant ($p > .05$). None of the interactions were statistically significant.

Mastery Achievement Goal Orientation

Model 4, as mentioned above, only used two of the predictor variables in order to calculate reliable results. As shown in Table 2, both coach and parent mastery had statistically significant

positive coefficients ($p < .001$), with parent mastery yielding a stronger relation to athlete mastery achievement goal orientation. None of the interactions were statistically significant.

Summary of Comparative Coach and Parent Results

In order to test our hypothesis comparing the relative relation of parent motivational and coach motivational climate, comparisons across models are required and are made possible by centering the scores within each team cluster. We found that the largest statistically significant predictor in all of the models, with the exception of model 1, was either parent ego or parent mastery climate (see Table 2). In Model 1 we found coach mastery to be the most significant predictor.

Discussion

The Parent-Initiated Motivational Climate Questionnaire-2 (PIMCQ-2; White, 1998), though a commonly used measure for assessing parental motivational climates, was not chosen in this study for a number of reasons. The PIMCQ-2 was developed for use with an older cohort than this study's sample. It might present reading difficulties for this younger group, still developing their reading skills. It also has lower levels of internal consistency for our target population age range than it has for slightly older adolescents (White, Duda, Hart, 1992). Another reason the PIMCQ-2 was not chosen is that the ego and mastery factors are highly negatively correlated, whereas the PASSS displays more orthogonality between the factors. This parallels the orthogonality of the ego and mastery scales in the AGSYS ($r = -.11$) and MCSYS ($r = .03$). Further, the PIMCQ-2 does not assess for parental conceptualization of success as perceived by the young athlete. Another concern was that the PIMCQ-2 was developed and validated as a measure with three factors representing ego, mastery, and avoidance climates. O'Rourke et al. (2014) used the PIMCQ-2 with a sample similar in age to ours. They conducted

an exploratory factor analysis that found a two-factor structure (ego and mastery) rather than a three-factor structure (O'Rourke et al., 2014) indicating that a two-factor structure is preferable for our study.

The purpose of this study was to examine the overall impact of parental athletic success standards as perceived by their children and to compare the relation of these perceptions with coach motivational climate on several measures of young athlete psychological well being and achievement goal orientation. In model 1, the positive coefficients for coach and parent ego climates indicating that ego climates have an expected negative impact on post-season athlete anxiety levels due to increasing performance anxiety. Conversely, the negative coefficients for coach and parent mastery climates indicating that mastery climates are expected to have a positive impact on athlete anxiety levels by decreasing performance anxiety. The parent mastery by coach mastery interaction was significant indicating that young athlete anxiety was lowest when exposed to both parent and coach mastery climate. Model 2 investigated the impact of motivational climates on post-season athlete self-esteem. Here, the coefficients appear to be the opposite as model 1 (i.e., positive coefficients for mastery and negative for ego climates). That is, parent and coach mastery climates have a positive impact on self-esteem while parent and coach ego climates have a negative impact. Model 3 measured the relation between motivational climates and post-season athlete ego achievement goal orientation. Coach and parent ego climates both had significant and positive coefficients, predicting increased post-season athlete ego achievement goal orientation. The only negative coefficient was coach mastery and the coefficient was very small ($\gamma = -.04$, $SE = .05$) and non-significant ($p = .34$). Parent mastery, surprisingly, had a positive coefficient. However the coefficient was again small ($\gamma = .007$, $SE = .04$) and also nonsignificant ($p = .87$). Model 4 measured the relation between motivational

climates and post-season athlete mastery achievement goal orientation. Due to model fitting criteria, there were only two factors in the model, coach and parent mastery climates. Both had significant positive coefficients thus predicting increased levels of post-season athlete mastery achievement goal orientation.

These findings about youth athletes in a recreational setting are consistent with our hypothesis that mastery motivational climates generally serve as protective factors, decreasing anxiety levels and ego achievement goal orientation; and they serve as enhancing factors, increasing self-esteem and mastery achievement goal orientation. Conversely, ego motivational climates increase anxiety levels and ego achievement goal orientation while decreasing self-esteem. The findings are also consistent with a large body of literature on motivational climates. While no inferences can be drawn regarding the impact of parent and coach ego climates on athlete mastery achievement goal orientation (due to model fit), past literature would suggest that ego climates decrease athlete mastery achievement goal orientation. These results, derived in a recreational setting, support the hypothesis and provide further support for past findings on the impact of parent and coach motivational climate on young athlete psychological outcomes and achievement goal orientation (O'Rourke et al., 2008; Smith et al., 2007; Smith & Smoll, 1990).

Coaches, long considered to be the strongest influence on young athletes, have until recently been the focus of most research on motivational climate and sport (Smoll, & Smith, 2011). They are in a position of power and have a direct influence on young athletes—with regard to sport. As a result, interventions have been created to help coaches facilitate more effective implementations of mastery motivational climates for young athletes (Mastery Approach to Coaching; Smith et al., 2007). More recently, the focus of sport motivational climate research has begun to expand to examine the impact of parents on young athletes (White, 1998; White,

2007), which raises the question as to the relative impact of coaches and parents on young athlete motivational climate.

O'Rourke et al. (2014) addressed this question by comparing the relative impact of parents and coaches in a highly competitive Olympic swimming club environment. The study used a hierarchical regression analysis. First, they entered coach factors then parent factors. Then they entered parent factors first followed by coach factors. When entered first, coach climate scores were significant predictors of youth self-esteem, accounting for 9% of the variance. Next parent climate scores were entered and they were found to also be significant predictors of self-esteem, accounting for an additional 14% of variance after controlling for self-esteem variance accounted for by gender and coach-initiated motivational climate. When entering parent climate scores first, they were highly significant predictors of self-esteem, accounting for 21% of variance. Next coach climate scores were entered and found to be non-significant predictors of self-esteem, accounting for 1% of variance after controlling for variance accounted for by gender and parent-initiated motivational climate. The same pattern of results was found when accounting for performance trait anxiety. The researchers found that in this highly competitive setting, featuring strong parental financial and other involvement, the relative impact of parental motivational climate superseded that of the coach. The present study sought to investigate whether the same effect would be found in a less competitive setting, one presumed to have less direct parental involvement. As seen in Table 2, in three of our four models parent climates had the largest coefficient, results consistent to those in O'Rourke et al. (2014) with the exception of anxiety. Somewhat surprisingly coach ego was unrelated to anxiety whereas parental ego was a significant positive predictor. That is, in a less competitive athletic setting, one involving a

different social context, presumed to have less parental influence, the success standards communicated by parents appears to be more influential than those communicated by coaches.

Limitations

I would like to identify four main limitations of the study. The first is that not all measures were completed at the beginning and end of the season; particularly pre-season self-esteem (WSDQ) was not measured. This prevented performing a longitudinal analysis of the data. Next, this study only included male coaches, as, surprisingly, no female coaches were involved in the programs. Thus generalizations cannot be made regarding the potential impact of female coaches on athlete outcomes. Third, because over 90% of the young athletes reported playing other sports, it is possible that the influence of coaches in other sports may be diluting the influence of the basketball coaches. Finally, the argument could be made that a coach version of the PASSS should have been developed and used to assess coach motivational style. However, I chose to use the well-validated MCSYS so as to compare the predictive power of the PASSS with an established coach climate measure that also exhibits a clear two-factor structure. I am encouraged by the relatively modest correlations between the corresponding mastery and ego scales of the PASSS and MCSYS, suggesting that the athletes were making clear distinction between coach and parental standards of success. That said, however, I suggest that a corresponding coach version of the PASSS be developed and evaluated. If such a measure should exhibit the degree of orthogonality that the PASSS scales exhibit, as well as its other psychometric strengths, it could be a useful measure in future research.

Future Directions

While we have a better understanding of the relative impact of parents and coaches on young athletes in highly competitive and now recreational settings, further research is merited on areas

such as: coach gender, and the relative impact of mothers and fathers. Another interesting area of research would be to investigate athletes who are coached by their parents.

Conclusion

Having found similar evidence to that of O'Rourke et al. (2014), I believe that the findings of the two studies, obtained in both a highly competitive and less competitive setting, suggest that parents play a more prominent role in young athlete achievement goal orientation than do coaches and should be a focus of increased research, and a target for intervention or training. These findings were inline with the original hypotheses and, from a developmental perspective, make a lot of sense due to the relative impact parents have on almost every aspect of child development.

These findings also provide further support to research suggesting that mastery climates, compared to ego climates, lead to better outcomes for young athletes. Mastery climates increase sport enjoyment (including, increased enjoyment even when playing on losing teams), psychological outcomes (e.g., increased self-esteem), and in turn, athletes' success in sport (Cumming et al., 2007; O'Rourke, Smith, & Smoll, 2011; Lewthwaite & Scanlan, 1989; Duda, 2005). In 2007, Smoll, Smith, and Cumming conducted a study that included a mastery intervention for coaches and one for parents in order to decrease young athlete anxiety. The coach training included a workshop for coaches on increasing their mastery motivational style of coaching (e.g., *Mastery Approach to Coaching*; Smith, Smoll, Cumming, 2007). The parent training included a workshop on the same topic (e.g., *Mastery Approach to Parenting in Sports*; Smoll, Smith, & Cumming, 2007). The findings from this study were positive in support of a dual training model (i.e., trainings for parents and coaches). Athletes in the control condition (parents and coaches that did not receive the mastery intervention) exhibited higher anxiety

scores at the end of the season than beginning. Athletes whose parents and coaches did receive the intervention exhibited decreased anxiety scores over time (Smoll, Smith, & Cumming, 2007, Summer). This study serves as a preliminary model for a future study that could measure the relative impact of a coach only mastery intervention, a parent only mastery intervention, a coach and parent mastery intervention, and a control condition. This design would allow for a comparison of main and interactive effects on young athlete outcomes, which were confounded in the 2007 study.

Parents, who are now recognized as important to young athlete sport and sport related psychological outcomes, can be difficult to engage in research. In a research setting, to manage difficulties in parental recruitment, payment should be considered as a method to increase research participation (as done in Smoll, Smith, & Cumming, 2007). However, putting research into practice remains an exciting challenge in increasing parental interest and “buy-in”. One potential strategy includes focusing first on the coach. Coaches tend to be easier to reach, more receptive, easier to train (i.e., training one coach per team per league rather than every parent for every child in a league), and may in turn help inspire parental interest in positive motivational achievement goal orientations once they see the impact of the training. Another less pragmatic but more aspirational option is to increase parental knowledge regarding the benefits of mastery motivational styles. Parents, particularly less invested ones, may feel that after they have registered their child up to participate in a sport activity their impact on the young athlete ends, or is diminished and that any workshops should be the responsibility of coaches. Brochures, booklets, and public education are methods that could be used to inform parents of their impact on the youth sport experience. Once parents recognize their potential impact, follow up could include a brief educational workshop focused on the application of a mastery orientation to sport

activity. Conducting such a workshop in the context of a cookout, potluck, or other type of social gathering might increase participation. In tandem, this model of parent and coach workshops could prove to be an effective method to help maximize the youth sport experience for all youth and provide enduring psychological benefits in all realms of life.

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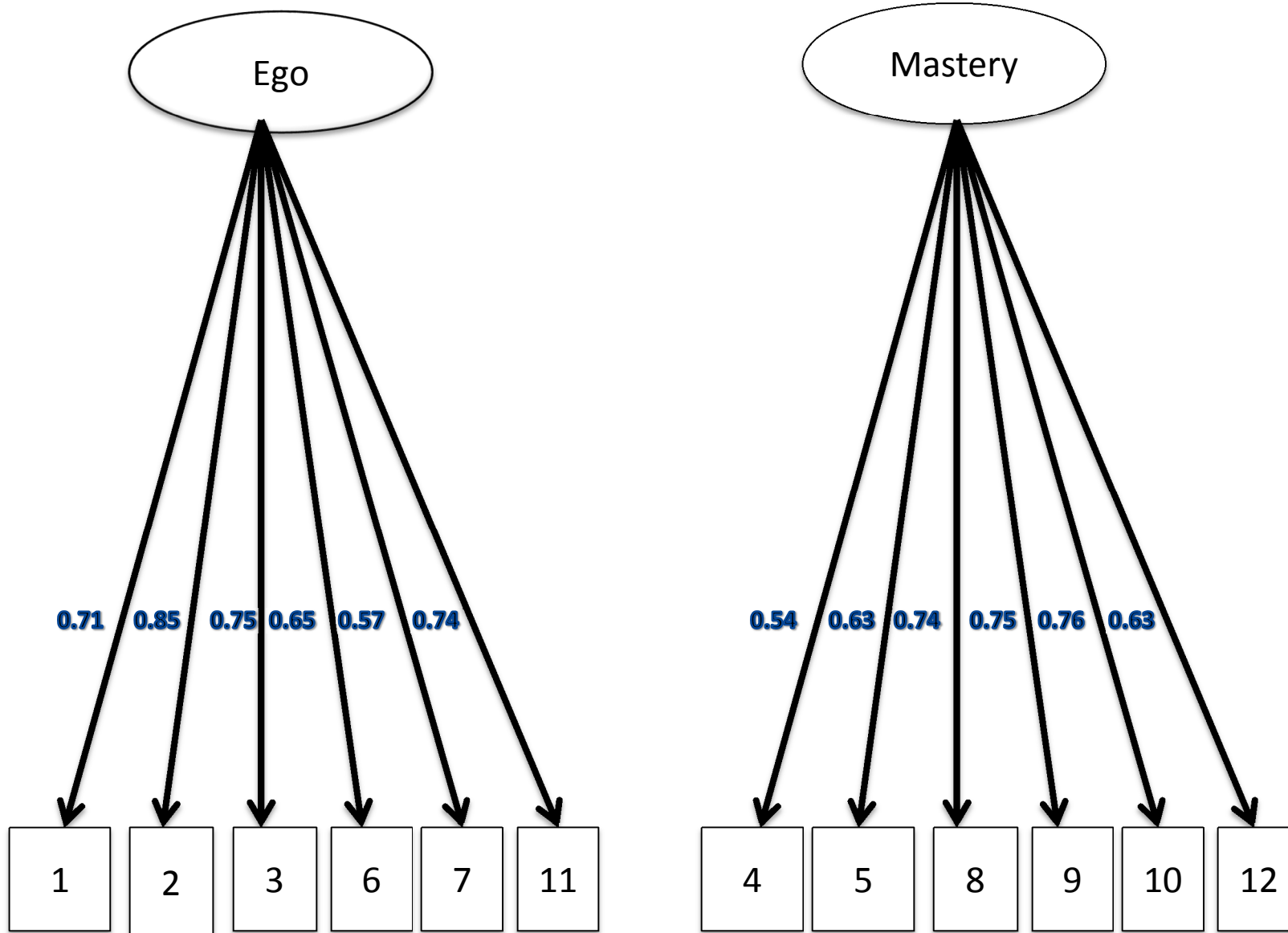
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Figure 1.

Confirmatory Factor Analysis Model



*Table 1.**Mean, standard deviations, correlations, and alpha coefficients for all variables.*

	1	2	3	4	5	6	7	8	Mean	SD	α
(1) Coach MC	-	-.39**	.29**	-.15**	.35**	-.33**	-.19**	.40**	25.49	3.90	0.90
(2) Coach EC		-	-.11*	.35**	-.23**	.26**	.49**	-.18**	10.80	4.17	0.85
(3) Parent MC			-	-.11*	.37**	-.29**	-.17**	.49**	3.63	0.43	0.84
(4) Parent EC				-	-.18**	.26**	.61**	-.12*	2.02	0.68	0.86
(5) Self-Esteem					-	-.51**	-.14**	.40**	46.30	6.92	0.86
(6) Performance Anxiety						-	.26**	-.23**	24.79	8.88	0.93
(7) Ego AGO							-	.03	2.36	1.07	0.89
(8) Mastery AGO								-	4.50	0.58	0.80

* = $p < 0.05$ ** = $p < 0.01$

MC = Mastery Climate, EC = Ego Climate

AGO = Achievement Goal Orientation

Table 2

Hierarchical Linear Model

Team Level	Performance Anxiety			Self-Esteem			Ego Achievement Goal Orientation			Mastery Achievement Goal Orientation		
	γ	Std. Error	T	γ	Std. Error	T	γ	Std. Error	T	γ	Std. Error	T
Random Intercept	25.07	0.500	-	46.19	0.440	-	2.38	0.082	-	4.48	0.041	-
Individual Level												
Coach MC	-2.37	0.472	-5.02***	1.19	0.353	3.36***	-0.05	0.047	-0.98	0.11	0.026	4.06***
Coach EC	0.74	0.474	1.57	-1.00	0.356	-2.80**	0.19	0.047	4.11***	-	-	-
Parent MC	-1.39	0.441	-3.14**	1.84	0.334	5.51***	0.01	0.044	0.02	0.22	0.026	8.36***
Parent EC	1.67	0.458	3.64***	-0.47	0.345	-1.37	0.43	0.045	9.58***	-	-	-
Interaction												
Coach MC x Parent MC	-1.07	0.516	-2.07*	0.28	0.394	0.71	-0.01	0.052	-0.23	0.03	0.031	0.84
Coach MC x Parent EC	-0.99	0.533	-1.85	0.50	0.396	1.27	0.02	0.054	0.39	-0.03	0.032	-0.81
Coach EC x Parent MC	-1.04	0.542	-1.92	0.13	0.418	0.31	0.01	0.055	0.12	-0.03	0.032	-0.98
Coach EC x Parent EC	-0.73	0.528	-1.37	0.34	0.400	0.84	0.06	0.054	1.07	-0.01	0.031	-0.13

* = $p < 0.05$

** = $p < 0.01$

*** = $p < 0.001$

MC = Mastery Climate, EC = Ego Climate