

Sport Climate, Developmental Experiences and Motivational Outcomes in Youth Sport

Panagiotis Gerabinis¹, Antonis Hatzigeorgiadis², Yiannis Theodorakis² & Marios Goudas²

Abstract

This study examined: a) the relative contribution of two types of sport climate (motivational and caring climate) on youth developmental experiences and b) the joint effects of sport climate and developmental experiences on motivational outcomes in youth sport such as perceived belonging, intrinsic interest and intention for future participation. Participants were 241 young athletes (212 males and 29 females, M age= 14.04). Task - involving climate and caring climate were significant predictors of developmental experiences, while ego - involving climate was a significant predictor of negative experiences. Caring climate and initiative experiences were significant predictors of young athletes' perceived belonging and intrinsic interest. It seems that caring climate is a key factor for the positive youth development through sport.

Keywords: Caring climate, Motivational climate, Positive youth development

1. Introduction

It has been suggested that sport participation has the potential to benefit youngsters physically, socially and psychologically (Eime, Young, Harvey, Charity & Payne, 2013). One framework, that has guided this research is Positive Youth Development (PYD). According to PYD, children and adolescents are resources that should be developed rather than deficits that must be dealt (Larson, 2000; Lerner et al., 2005). Weiss and Wiese-Bjornstal (2009) define the PYD framework as the “development of personal skills or assets, including cognitive, social, emotional, and intellectual qualities necessary for youth to become successfully functioning members of society” (p. 1).

The 5Cs model (Lerner et al., 2005) depicts the constructs that represent the desired outcomes of youth development and refers to Competence (cognitive, social and academic skills), Confidence (positive self-worth and self-efficacy), Connection (positive relations between the individual and his or her environment and community), Character (respect for societal and cultural norms, and Caring (sense of sympathy and empathy). Young people who embody these features in their lives, are leading to a sixth C: Contribution to self, family, community, and to the institutions of a civil society.

1.1 PYD through sport participation

Organized sports can facilitate the mental and social development of young people and provide a unique social context that facilitates many developmental elements (Fraser -Thomas, Cote, & Deakin, 2005; Larson, 2000). In addition sport can affect positively personal identification and emotional development (Hansen, Larson & Dworkin, 2003), while Holt and Knight (2014) summarizing research studies, indicated that compared with peers who were not engaged in sports, young athletes who play sports report "high levels of self-esteem, emotional control, problem solving, achievement of objectives, social skills, academic engagement" (p. 30).

¹ School of Physical Education and Sport Science, University of Thessaly, Karies, 421 00, Trikala, Greece, e-mail: pgerab@otenet.gr , pgerampinis@uth.gr

² School of Physical Education and Sport Science, University of Thessaly, Greece

Sports (and other extracurricular activities) are recognized as opportunities for young people to develop social skills and social contribution, to promote a sense of belonging to a society with values and create mutual support relationships with peers (Eccles, Barber, Stone & Hunt, 2003).

Also, young athletes, in comparison to those involved in other programs, reported significant experiences concerning initiative, emotional regulation, and teamwork (Larson, Hansen & Moneta, 2006).

However, sports' engagement may also involve negative experiences such as negative interactions between peers and groups, inappropriate behavior of adults (Hansen et al., 2003) and early dropout (Quested et al., 2013). Goudas (2010) emphasized that for someone to be on the field, is not a factor that leads to the PYD and the development benefits of sports participation depend on factors relating to the ways where the organizers of sports, coaches, parents and peers contribute to the sporting experience.

Research on the PYD in sport has grown rapidly through various quantitative and qualitative studies (Holt et al., 2016; MacDonald & McIsaak, 2016). While there are clear indications that young people can be developed positively with their participation in sports, nevertheless, there are many interpretations or characteristics, experiences or outcomes related to PYD. MacDonald and McIsaak (2016) asserted that the majority of PYD through sport studies have examined links between organized sports programs and PYD outcomes, and not the way or the process PYD occurs. A recent model of PYD through sport (Holt et al., 2016) based on results from a qualitative meta – study proposes that PYD outcomes are possible to occur: a) from implicit process (through PYD climate created by peers, parents and adults) and b) from explicit process (life skills building and transfer activities). This meta –study has denoted that the sport climate created by significant others, is critical for PYD through sport.

1.2 Sport Climate

Two distinct lines of research have examined sport climate. The first one stemming from achievement goal theory, has examined motivational climate while the second one has examined caring climate. According to achievement goal theory (Nicholls, 1989) individuals set achievement goals that affect their beliefs and guide their behavior and their decision making in achievement contexts. Achievement goals refer to how people construe the development of their competence that motivates people in an achievement context. When a person conceives its competence in relation to a task with the criteria of learning and improvement through effort, he or she is task involved. On the other hand, a person who strives to demonstrate his/her competence relative to others or outperforming others, is ego - involved. Achievement goals are influenced both by individual predispositions and by situational determinants (Nicholls, 1989). The motivational climate created by coaches is categorized in two types which are referred as task – involving climate and ego involving climate (Duda & Nicholls, 1992).

A task-involving motivational climate emphasizes personal improvement and learning from mistakes and facilitates task involvement whereas an ego-involving climate fosters athletes emphasize ego goals. A large number of studies (see Duda & Balaguer, 2007 and Papaioannou, Zourbanos Krommidas & Ampatzoglou, 2012, for reviews) showed that a task-involving climate is positively related to, among others, enjoyment and satisfaction from sport participation, the use of adaptive coping strategies and increased team cohesion. On the contrary, an ego involving climate, has been associated, among others, with higher anxiety, dropout from sport and less mature moral functioning in sport.

A second line of research on sport climate has focused on the perception of caring. In the sport domain, caring climate was defined as the extent to which individuals perceive the particular setting to be interpersonally inviting, safe, supportive, and able to provide the experience of being valued and respected (Newton et al., 2007). In youth sport, Gano-Overway et al, (2009) reported that an intentionally structuring and caring context influence youths to control their emotions, to have empathy and to optimize social behavior while simultaneously reducing antisocial behavior. In addition, young athletes who perceived a caring climate in their teams reported higher pleasure and great commitment to sport, more positive relations with their coaches and teammates and engaged in more caring behaviors with them (Fry & Gano-Overway, 2010) as well as positive mental well-being (Fry et al., 2012).

1.3 Purpose of the study

Two studies that examined the effects of both the motivational climate and the caring climate are those of Iwasaki and Fry (2016) and Gould, Flett and Lauer (2012). Iwasaki and Fry (2016) reported that the caring climate had a stronger effect on athletes' mindful engagement than the task – involving climate.

In perhaps the only one study that has examined the effects of different types of sport climate on PYD, Gould et al., (2012) had middle and high school sport participants responding to YES – 2 (Hansen & Larson, 2005), the Caring Climate Scale (Fry et al., 2012) and the Motivational Climate Scale for youth sports (Smith, Cumming, & Smoll, 2008). The results showed that both caring climate and task - involving climate were related to positive experiences in sport while ego – involving climate was related to negative sport experiences. The current study aimed to replicate the Gould et al., (2012) study in a different context as well as extending it. More specifically, this study assessed experiences of youth participating in sport clubs while the Gould et al., (2012) study examined perceptions of school sport participants. Further, as Gould et al., (2012) provided results for merged positive and negative subscales, the current study aimed to examine the effects of different types of sport climate on specific PYD factors as well as on a number of motivational outcomes.

Based on the above, the current study had two aims: a) To examine the relative contribution of the motivational and caring climate on developmental experiences and b) to assess the joint or independent effects of sport climate and developmental experiences on a number of significant motivational outcomes in sport such as perceived belonging, intrinsic interest and intention for future participation.

2. Methods

2.1 Participants

Two hundred forty one football, basketball and volleyball athletes (212 males and 29 female, M age= 14.04 years, age range 12-17) from a town in central Greece participated in the study.

2.2 Instruments

Item development. The items of the questionnaires were translated to Greek. Three academic experts fluent in English checked the translation and offered comments. Then, six young athletes who did not participate in the study responded to the questionnaires and were asked to comment on comprehensibility of the items. Further revisions were made based on their comments. Additional items were generated based on the personal experience of the one of the researchers as a youth football coach.

Motivational Climate Scale. The Motivational Climate Scale for Youth Sports (Smith et al., 2008) was used with six items depicting a task - involving climate (e.g. “The coach makes players feel good when improved”) and six items depicting an ego - involving climate (e.g. “The coach spent less time with the players who weren’t as good”). Also four items of the Empowering and Disempowering Motivational Climate Questionnaire (Appleton, Ntoumanis, Quested, Viladrich & Duda, 2016) were used. An additional item was derived from the young athletes’ comments: “I was talking with my coach about the problems on the sport”, while from the personal experience of the one of the researchers two items were added, (e.g. The coach was giving us the opportunity to take initiatives”). Responses were given on a 5 - point scale (1= *Not at all true* to 5 = *Very true*).

Caring Climate Scale. The Caring Climate Scale (CCS) was used (Newton et al., 2007) with thirteen items (e.g. “Children are treated with respect”). From the young athletes’ comments, an additional item was generated: (e.g. “The coach says that we shouldn’t insult each other”) while two items were generated for the purposes of the study (e.g. “Children are sad when one partner has some problem”). Responses were given on a 5 – point scale (1= *Strongly disagree* to 5 = *Strongly agree*).

Developmental Experiences Scale. The “YES – Sport” (MacDonald, Côté, Eys & Deakin, 2012), items from the “Purpose of Sport Questionnaire” (Duda, 1989), items generated from the young athletes’ comments, as well as items generated for the purpose of this study were used.

For the personal and social skills, thirteen items of the homonymous subscale of “YES –Sport” (e.g. “I learned to be patient with other team members”), three items of “Mastery – Cooperation” subscale from the “Purpose of Sport Questionnaire” (e.g. “Teach us to follow rules”), one item of the “Good Citizen” subscale from the “Purpose of Sport Questionnaire” (e.g. “Make us loyal”) and two items generated for this study (e.g. “I learned to try for the others”) were used. Concerning cognitive skills, one item from the homonymous subscale of “YES – Sport” (“Improved creative skills”), one item from “Initiative” subscale (“Improved athletic or physical skills”), one item of “Physically Lifestyle” subscale from the “Purposes of Sport” Questionnaire (“Teach us how to exercise”) and one item generated for this study (“I learned to eat properly”) were used.

Regarding goal setting, four items from the homonymous subscale of the “YES-Sport” (e.g. “I learned to consider challenges when making future plans”), and two items generated for this study (e.g. “We learned to set goals as a team”) were used. Regarding the initiative experiences, three items from the “Initiative” subscale of the “YES – Sport” were used (e.g. “Learned to focus my attention”), four items from the “Enhance Self – Esteem” subscale of the “Purposes of Sport scale” questionnaire (e.g. “Help us to keep working in spite of obstacles”), two items were developed from athletes’ comments (e.g. “Dealing with my sport, it boosts me psychologically”) as well as two items generated for this study (e.g. “I learned to try from inner desire”) were used. For the negative experiences, seven items of the homonymous subscale of “YES – Sport” (e.g. “Adult leaders made personal comments that made me mad”), one item of the “Competitiveness” subscale from the “Purposes of Sport Questionnaire” (e.g. “Teach us to be aggressive”), and three items generated for this study (e.g. “There are fights in the team”) were used. Responses were given on a 4 – point scale (1= *Not at all* to 4 = *Definitely*).

Motivational outcomes. For the measurement of perceived belonging, four items from the “Positive team involvement sports scale” (Boone & Leadbeater, 2006) were used (e.g. “I feel I'm really part of my team”). Responses were given on 4 - point scales (1= *Never* to 4 = *Always*). To measure athletes’ intrinsic interest, the “Enjoyment – Interest” subscale of the Intrinsic Motivation Inventory (McAuley, Duncan & Tammen, 1989) was used (e.g. “I find football interesting”). Responses were given on a 5 - point scales (1= *Strongly disagree* to 5= *Strongly Agree*). For the measurement of the intention for future participation, two items were used (Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002) (e.g. “I plan to play football next season”). Responses were given on a 5 - point scales (1= *Strongly disagree* to 5 = *Strongly Agree*).

2.3 Procedure

Approval for the study was secured from the Ethics Committee of the University. Athletes completed the questionnaires in groups. Each group was briefed by the investigator and athletes were informed that the procedure was not mandatory and the questionnaires would be anonymous. Completion of the questionnaires lasted 20-25 min.

2.4 Preliminary statistical analyses

In order to examine the structural validity of the questionnaires (motivational climate, caring climate, developmental experiences) confirmatory factor analyses were applied, using the EQS program. Simple and hierarchical regressions were employed toward the aims of the study.

Structural validity of motivational climate scales. Twenty one items were set to load on two factors: Eleven items on “Ego involving climate” and ten items on “Task involving climate”. Results showed that there was not a good fit of the assumed model: $\chi^2/df= 1.84$, CFI= .76, RMR= .081, RMSEA= .069. Considering the loadings of the variables on the factors and suggestions regarding regression errors, a second confirmatory analysis was run with two independent factors, deleting five items related to “Ego involving climate” factor and two items related to “Task involving climate”. The results showed a good fit of the model to the data: $\chi^2/df= 1.38$, CFI= .94, RMR= .054, RMSEA= .04”. Based on the results of the confirmatory analysis, a composite score of six items was computed for “Ego involving climate” and a composite score of eight items was computed for “Task involving climate”

Structural validity of caring climate scale. Sixteen items were set to load on one factor termed “Caring climate”. The results showed that there was not a good fit of the assumed model data: $\chi^2/df= 3.23$, CFI= .75, RMR= .064, RMSEA= .097. Considering the loadings of the variables on the factors and suggestions regarding regression errors, a second confirmatory analysis was run after deleting six items. The results showed a good fit of the model to the data: χ^2/df data = 2.04, CFI = .92, RMR = .041, RMSEA = .066. A composite score of the remaining ten items was computed for caring climate.

Factors and structural validity of the developmental experiences scales. Fifty one items were set to load on five factors: Nineteen items on “personal and social skills”, four items on “cognitive skills”, five items on “goal setting”, eleven items on “initiative experiences” and eleven items on “negative experiences”. Results showed an unacceptable assumed model: $\chi^2/df= 1.7$, CFI= .70, RMR= .059, RMSEA= .058. A second confirmatory analysis was run with five independent factors, deleting six items related to “personal and social skills”, one item related to “goal setting”, one item related to “cognitive skills”, two items related to “initiative experiences” and three items related to “negative experiences” ($\chi^2/df = 1.4$, CFI = .86, RMR = .041, RMSEA = .041). Due to the large correlations among the factors in a subsequent analysis, items were set to load on three factors: Eight items on “personal and social skills”, fourteen items on “initiative experiences” and eight items on “negative experiences” .

The results showed that there was a good fit of the model to the data $\chi^2/df = 1.3$, CFI = .92, RMR = .037, RMSEA = .036.

3. Results

Table 1 presents descriptive statistics and internal consistency indices. All the subscales demonstrated acceptable reliability. In general, young athletes scored high on task involving climate, caring climate and on motivational outcomes. Further, they reported low scores on ego involving climate and negative experiences. Medium scores were observed on personal and social skills and initiative experiences. Correlation analysis (Table 1) showed that task involving climate and caring climate had moderate positive correlations with personal and social skills and initiative experiences. They were also positively related to perceived belonging and to athletes' intrinsic interest. Ego involving climate had a moderate positive correlation with negative experiences.

Regarding the first aim of the study, simple regression analyses (Table 2) yielded low – moderate R^2 for the prediction of developmental experiences factors. Task - involving climate and caring climate had similar and significant beta values on personal and social skills and initiative experiences, while ego – involving climate was a significant predictor of negative experiences. Regarding the second aim of the study, three hierarchical regression analyses were run for the prediction of the athletes' perceived belonging, intrinsic interest and their intention for future participation respectively (Table 3). Motivational and caring climate were entered in the first step, while developmental experiences were entered in the second step. Regarding perceived belonging and intrinsic interest, caring climate was a significant predictor with additional variability explained by initiative experiences while for intention for future participation developmental experiences did not add to the contribution of caring climate.

Table 1. Descriptive statistics, internal consistency indices and correlations for the study's scales

	M	SD	α	Mean Item – Total Correlation	Correlations								
					1	2	3	4	5	6	7	8	
Task involving climate	4.24	.56	.70	.39									
Ego involving climate	1.87	.65	.67	.40	-.36*								
Caring climate	4.31	.48	.76	.43	.60*	-.41*							
Personal and social skills	3.33	.42	.67	.33	.48*	-.21*	.49*						
Initiative experiences	3.25	.45	.84	.48	.45*	-.17*	.45*	.69*					
Negative experiences	1.74	.59	.79	.50	-.25*	.45*	-.32*	-.26*	-.18*				
Perceived belonging	4.38	.68	.76	.37	.39*	-.32*	.47*	.28*	.40*	-.37*			
Intrinsic interest	4.50	.58	.75	.55	.32*	-.27*	.50*	.40*	.47*	-.17*	.45*		
Intention	4.16	.90	-	-	.15	-.18*	.24*	.21*	.22*	-.23*	.19*	.26*	

* $p < .001$

Table 2. Predictors of developmental experiences

Dependent Variables	Independent Variables	R^2	F	β	t	p	Partial correlation
Personal and social skills	Task involving climate			.30	4.26	.00*	.27
	Ego involving climate			.03	.49	.62	.03
	Caring climate			.33	4.6	.00*	.29
		.30	32.50*				
Initiative experiences	Task involving climate			.29	4.02	.00*	.26
	Ego involving climate			.06	.88	.38	.06
	Caring climate			.30	4.04	.00*	.26
		.25	26.00*				
Negative experiences	Task involving climate			-.03	-.37	.71	-.02
	Ego involving climate			.38	6.05	.00*	.37
	Caring climate			-.15	-2.00	.05	-.13
		.23	23.16*				

* $p < .001$ **Table 3. Hierarchical regression analyses predicting perceive belonging, intrinsic interest and intention for future participation**

Predictors	<u>Motivational outcomes</u>								
	<u>Perceived belonging</u>			<u>Intrinsic interest</u>			<u>Intention</u>		
	β	F_{change}	ΔR^2	β	F_{change}	ΔR^2	β	F_{change}	ΔR^2
Step 1		24.48*	.24*		25.66*	.25*		5.81	.07
Task involving climate	.06			.03			.007		
Ego involving climate	-.14			-.07			-.09		
Caring climate	.38*			.45*			.21		
Step 2		10.94*	.1*		9.6*	.08*		2.61	.03
Task involving Climate	.004			-.07			-.04		
Ego involving Climate	-.07			-.10			-.04		
Caring climate	.30*			.35*			.15		
Personal & social skills	-.17			.04			.04		
Initiative experiences	.33*			.31*			.11		
Negative experiences	-.23*			.04			-.14		

* $p < .001$

4. Discussion

The environment created by the sport coach has a significant impact on positive development of young athletes (Duda & Balaguer, 2007; Fry & Gano-Overway, 2010; Gould et al., 2012; Smith, Smoll & Cumming, 2007). The results showed that the sport climate (motivational and caring climate) created by the coach, was related to youth personal and social development. Specifically, regression analyses showed that the task involving motivational climate and the caring climate contributed to the prediction of developmental experiences.

The ego - involving motivational climate as expected, contributed to the prediction of negative experiences, but it did not contribute to the prediction of motivational outcomes. These results confirm previous findings showing positive effects of task involving climate (Duda & Balaguer, 2007) and caring climate (Fry & Gano Overway, 2010) as well as detrimental effects of an ego-involving climate (Duda & Balaguer, 2007, Gould et al., 2012). Further, these results add to the PYD literature, showing that both task-involving climate and caring climate may facilitate the development of personal and social skills.

The small number of studies that have examined simultaneously the effects of motivational climate and caring climate does not allow for conclusions regarding the relative contribution of these two types of sport climate on young athletes' positive youth development and motivational outcomes. In the Gould et al., (2012) study, ego-involving climate had the strongest (negative) effect on positive and negative experiences while in the Iwasaki and Fry (2016) study caring climate had a stronger effect on athletes' mindful engagement in practice than task-involving climate. In the present study, both caring and task-involving climate predicted personal and social developmental skills but caring climate was a more powerful predictor of motivational outcomes. Although there is a degree of overlap between the two types of sport climate, evidenced by relatively high correlations between the two constructs (Iwasaki & Fry: .67, present study .60), studies have reported different effects and therefore it is suggested that both motivational and caring climate may be examined in studies assessing the sport climate.

Despite the significant contribution of the two types of motivational climate on the prediction of developmental experiences, the explained variance was relatively low. This may probably attributed to the fact that sport training in the clubs the participants of this study were trained, did not provide for planned activities specifically designed to create developmental experiences. Authors have pointed that in order to contribute to positive youth development, sport programs should be enriched with activities deliberately targeting developmental outcomes (Danish, Forneris, Hodge, & Heke, 2004; Goudas, 2010, Holt et al., 2016).

To turn to the practical applications of this study, it is evident that a climate of care and warmth that emphasizes personal development, affects positively motivational outcomes and facilitates the realization of positive developmental experiences. According to Gano - Overway et al. (2009), the practitioners of sport, by creating a caring environment can enable young people to reap not only the physical benefits of sport, but also the important social, emotional and psychological benefits. Therefore, the coaches should foster a caring climate and establish circumstances (e.g. teachable moments, modeling) to promote the sense of caring for each another (Fry & Gano - Overway, 2010).

References

- Appleton, P. R., Ntoumanis, N., Quested, E., Viladrich, C., & Duda, J. L. (2016). Initial validation of the coach-created Empowering and Disempowering Motivational Climate Questionnaire (EDMCQ-C). *Psychology of Sport and Exercise*, 22, 53-65.
- Boone, E. M., & Leadbeater, B. J. (2006). Game on: Diminishing risks for depressive symptoms in early adolescence through positive involvement in team sports. *Journal of Research on Adolescence*, 16, 79-90.
- Danish, S., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure Journal*, 46 (3), 38-49.
- Duda, J. L. (1989). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport and Exercise Psychology*, 11, 318-335.
- Duda, J. L., & Balaguer, I. (2007). Coach-created motivational climate. In S, Jowett., & D. Lavallee,(Eds), *Social psychology in sport* (pp.117-130). Leeds, UK: Human Kinetics.
- Duda, J.L., & Nicholls, J.G. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology*, 84, 290-299.
- Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular activities and adolescent development. *Journal of Social Issues*, 59, 865-889.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10, 1-21.
- Fraser-Thomas, J. L., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education & Sport Pedagogy*, 10, 19-40.

- Fry, M. D., & Gano-Overway, L. A. (2010). Exploring the contribution of the caring climate to the youth sport experience. *Journal of Applied Sport Psychology, 22*, 294-304.
- Fry, M. D., Guivernau, M., Kim, M. S., Newton, M., Gano-Overway, L. A., & Magyar, T. M. (2012). Youth perceptions of a caring climate, emotional regulation, and psychological well-being. *Sport, Exercise, and Performance Psychology, 1*, 1-14.
- Gano-Overway, L. A., Newton, M., Magyar, T. M., Fry, M. D., Kim, M. S., & Guivernau, M. R. (2009). Influence of caring youth sport contexts on efficacy-related beliefs and social behaviors. *Developmental Psychology, 45*, 329-340.
- Goudas, M. (2010). Prologue: A review of life skills teaching in sport and physical education. *Hellenic Journal of Psychology, 7*, 241-258.
- Gould, D., Flett, R., Lauer, L. (2012). The relationship between psychosocial developmental and the sports climate experienced by underserved youth. *Psychology of Sport and Exercise, 13*, 80-87.
- Hansen, D. M., & Larson, R. W. (2005). The youth experience survey 2.0: Instrument revisions and validity testing. *Urbana-Champaign, IL: University of Illinois*. Retrieved from <http://youthdev.illinois.edu/wp-content/uploads/2013/11/YES-2.0-Instrument.pdf>.
- Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence, 13*, 25-55.
- Holt, N.L., & Knight, C.J. (2014). Youth sport as a vehicle for youth development: Benefits and risks. In N.L.Holt (Ed.). *Parenting in Youth Sport. From research to practice* (pp. 28 - 40). London, UK: Routledge.
- Holt, N. L., Neely, K. C., Slater, L. G., Camiré, M., Côté, J., Fraser-Thomas, J., MacDonald, D., Strachan, L., & Tamminen, K. A. (2016). A grounded theory of positive youth development through sport based on results from a qualitative meta-study. *International Review of Sport and Exercise Psychology, 10*, 1-49.
- Iwasaki, S., Fry M.D. (2016). Female adolescent soccer players' perceived motivational climate, goal orientations, and mindful engagement. *Psychology of Sport and Exercise 27*, 222-231.
- Larson, R. W. (2000). Towards a psychology of positive youth development. *American Psychologist, 55*, 170-183.
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology, 42*, 849-863.
- Lerner, R. M., Lerner, J. V., Almerigi, J. B., Theokas, C., Phelps, E., Gestsdottir, S., Naudeau, S., Jelicic, H., Alberts, A., Ma, L., Smith, L. M., Bobek, D. L., Richman-Raphael, D., Simpson, I., Christiansen, E. D., & Von Eye, A (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-H study of positive youth development. *The Journal of Early Adolescence, 25*, 17-71.
- MacDonald, D. J., Côté, J., Eys, M., & Deakin, J. (2012). Psychometric properties of the youth experience survey with young athletes. *Psychology of Sport and Exercise, 13*, 332-340.
- MacDonald, D. J., & McIsaac, T. (2016). Quantitative assessment of positive youth development in sport. In N.L. Holt (Ed.), *Positive Youth Development through sport* (2nd ed., pp. 83-96). London, UK: Routledge.
- McAuley, E., Duncan, T., & Tammen, V. V. (1989). Psychometric properties of the intrinsic motivation inventory in a competitive sport setting: A confirmatory factor analysis. *Research Quarterly for Exercise and Sport, 60*, 48-58.
- Newton, M., Fry, M., Watson, D., Gano-Overway, L., Kim, M. S., Magyar, M., & Guivernau, M. (2007). Psychometric properties of the caring climate scale in a physical activity setting. *Revista de Psicología del Deporte, 16*, 67-84.
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. London. Harvard University Press.
- Papaioannou, A. G., Zourbanos, N., Krommydas, H., & Ampatzoglou, G. (2012). The place of achievement goals in the social context of sport: A critique of the trichotomous and 2x2 models. In G. Roberts & D. Treasure (Eds.). *Advances in motivation in sport and exercise* (3rd Ed, pp. 59-90). Champaign, IL: Human Kinetics.
- Quested, E., Ntoumanis, N., Viladrich, C., Haug, E., Ommundsen, Y., Van Hove, A., Mercé, J., Hall, H. K., Zourbanos, N., & Duda, J. L. (2013). Intentions to drop-out of youth soccer: A test of the basic needs theory among European youth from five countries. *International Journal of Sport and Exercise Psychology, 11*, 395-407.
- Sarrazin, P., Vallerand, R., Guillet, E., Pelletier, L., & Cury, F. (2002). Motivation and dropout in female handballers: A 21-month prospective study. *European Journal of Social Psychology, 32*, 395-418.
- Smith, R. E., Cumming, S. P., & Smoll, F. L. (2008). Development and validation of the motivational climate scale for youth sports. *Journal of Applied Sport Psychology, 20*, 116-136.
- Smith, R. E., Smoll, F. L., & Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport & Exercise Psychology, 29*, 39-59.
- Weiss, M. R., & Wiese-Bjornstal, D. M. (2009). Promoting positive youth development through physical activity. *President's Council on Physical Fitness and Sports Research Digest, 10*, 1-8.