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Evaluación y Tratamientos Psicológicos**

Programa de Doctorado: Psicología de la Salud

**La teoría de las necesidades psicológicas básicas en
jugadores de fútbol base: un estudio desde diferentes
aproximaciones metodológicas**

Basic psychological needs theory in grassroots soccer players:
a study from different methodological approaches

TESIS DOCTORAL CON MENCIÓN INTERNACIONAL

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La Dra. Isabel Balaguer Solá, Catedrática de Psicología Social, y la Dra. María Luisa García-Merita, Catedrática de Psicopatología, de la Universitat de València, como directoras de la Tesis Doctoral presentada por Dña. Lorena González García con el título: “La teoría de las necesidades psicológicas básicas en jugadores de fútbol base: un estudio desde diferentes aproximaciones metodológicas”

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En Valencia, a 20 de octubre de 2014.

Fdo. Dra. Isabel Balaguer Solá

Fdo. Dra. María Luisa García-Merita

A mis padres.

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LISTADO DE ABREVIATURAS

ABREVIATURA	SIGNIFICADO
ABQ	Cuestionario de Burnout Deportivo; Athletes Burnout Questionnaire
ADI	Índice de Desviación Promedio; Average Deviation Index
BPNT	Teoría de las Necesidades Psicológicas Básicas; Basic Psychological Needs Theory
CCBS	Escala de Conductas Controladoras del Entrenador; Controlling Coach Behaviors Scale
CFA	Análisis Factorial Confirmatorio; Confirmatory Factor Analysis
CFI	Índice de Ajuste Comparativo; Comparative Fit Index
HLM	Modelo Lineal Jerárquico; Hierarchical Linear Modelling
ICC	Coefficiente de Correlación Intraclase; Intraclass Correlation Coefficients
IMI	Inventario de Motivación Intrínseca; Intrinsic Motivation Inventory
NNFI	Índice de Ajuste No Normativo; Nonnormative Fit Index
NRS	Escala de Necesidad de Relación; Need for Relatedness Scale
OMS	Organización Mundial de la Salud
PNTS	Escala de Frustración de las Necesidades Psicológicas; Psychological Need Thwarting Scale
RMSEA	Raíz del Promedio del Error de Aproximación; Root Mean Square Error of Approximation
SCQ	Cuestionario de Clima en el Deporte; Sport Climate Questionnaire
SDQ-III	Cuestionario de Autodescripción 3; Self-Description Questionnaire 3
SDT	Teoría de la Autodeterminación; Self-determination Theory
SRMR	Raíz Cuadrada de la Media Cuadrática del Residual Estandarizado; Standardized Root Mean Square Residual
SWB	Bienestar Subjetivo; Subjective Well-being
WHO	World Health Organization

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PRESENTACIÓN

PRESENTACIÓN

Esta tesis doctoral se estructura en tres partes bien diferenciadas: 1) Introducción general, 2) Cinco estudios empíricos y 3) Resumen de los resultados, discusión y conclusiones.

En primer lugar, en la introducción general se presentan los principales beneficios de la práctica de actividad física y deportiva sobre la salud física y mental de las personas. Destacamos la importancia que algunas instituciones como la Organización Mundial de la Salud conceden al deporte como herramienta para la promoción de la actividad física y de los estilos de vida saludables y exponemos las razones por las que elegimos el fútbol como deporte central en nuestros estudios. En segundo lugar, nos introducimos en la conceptualización del bienestar y el malestar y presentamos los indicadores que hemos utilizado en nuestra investigación para evaluar ambos constructos. A continuación presentamos la teoría motivacional en la que se centra esta tesis doctoral, esto es la teoría de las necesidades psicológicas básicas (BPNT; Deci y Ryan, 2000). Después realizamos una revisión de la literatura científica llevada a cabo durante las últimas décadas sobre nuestro tema de estudio. Por último, concluimos con la presentación del objetivo general y de los objetivos específicos de esta tesis.

La segunda parte está compuesta por cinco capítulos, desde el Capítulo 2 hasta el Capítulo 6. En ellos se presentan los cinco estudios empíricos incluidos en la tesis.

El Capítulo 2 está constituido por el trabajo titulado *Apoyo a la autonomía, satisfacción de las necesidades psicológicas y bienestar: invarianza de un modelo estructural en futbolistas y bailarines* (Estudio 1). El objetivo principal de este estudio transversal consistió en probar la invarianza de un modelo basado en la parte positiva de la BPNT en dos poblaciones diferentes (jóvenes jugadores de fútbol de sexo masculino y jóvenes bailarines de ambos sexos). Con este fin estudiamos la relación entre la percepción de apoyo a la autonomía, la satisfacción de las necesidades psicológicas básicas de competencia, autonomía y relación y dos indicadores de bienestar (afectos positivos y vitalidad subjetiva). A su vez analizamos el papel mediador de la satisfacción de las necesidades psicológicas básicas en la relación entre la percepción de apoyo a la autonomía y el bienestar de los jóvenes.

En el Capítulo 3 figura el trabajo titulado *Estilo interpersonal controlador del entrenador, frustración de las necesidades psicológicas básicas, y burnout en futbolistas infantiles* (Estudio 2). El objetivo principal de este estudio transversal, en el que participaron 725 jóvenes futbolistas de sexo masculino, fue profundizar en la parte negativa de la teoría, analizando la relación entre las percepciones de los deportistas sobre el estilo interpersonal controlador del entrenador, la frustración de sus necesidades psicológicas básicas y su malestar (*burnout*).

En el Capítulo 4 se muestra el Estudio 3 titulado *Coaches' interpersonal style, basic psychological needs and the well- and ill-being of young soccer players: a longitudinal analysis*. En este trabajo longitudinal

incluimos simultáneamente el análisis de la parte positiva y de la parte negativa de la teoría para examinar la relación entre los cambios en las percepciones que tienen los jugadores de fútbol sobre el estilo interpersonal de sus entrenadores (estilo de apoyo a la autonomía y estilo controlador), los cambios en la satisfacción y en la frustración de sus necesidades psicológicas básicas y los cambios en su bienestar (vitalidad subjetiva) y su malestar (*burnout*). Además exploramos el papel mediador de las necesidades psicológicas básicas en la relación entre el contexto social y el bienestar y el malestar de los jóvenes. En este estudio participaron 597 jóvenes futbolistas que respondieron a unos cuestionarios tanto al principio como al final de una temporada competitiva de fútbol.

En el Capítulo 5 se incluye el trabajo titulado *Athletes' perceptions of coach behaviors and their implications on their well- and ill-being: testing the invariance over time of basic psychological needs theory* (Estudio 4). En este trabajo longitudinal prolongamos el marco temporal del estudio anterior e incorporamos cuatro momentos temporales en dos temporadas consecutivas con el fin de analizar la invarianza de la secuencia defendida por la BPNT a lo largo de las dos temporadas deportivas. Concretamente analizamos la secuencia: estilo interpersonal del entrenador - necesidades psicológicas básicas de los deportistas - bienestar (autoestima) y malestar (*burnout*) de los deportistas, analizando el papel mediador de las necesidades psicológicas básicas. La muestra de este estudio estuvo compuesta por 360 jóvenes futbolistas que contestaron a los cuestionarios en los cuatro momentos temporales.

Siguiendo la aproximación tradicional en la literatura científica, los cuatro estudios previamente mencionados se han llevado a cabo examinando las interrelaciones planteadas por la BPNT desde un enfoque individual. En ellos nos interesó explorar cómo influían las diferencias individuales de la percepción de los jugadores sobre el estilo interpersonal del entrenador sobre sus necesidades psicológicas básicas y sobre su bienestar y malestar.

En el Capítulo 6 figura el trabajo titulado *A test of basic psychological needs theory in Spanish young soccer players: a longitudinal multilevel approach* (Estudio 5), en el que utilizamos una metodología multinivel para conocer cómo puede influir la pertenencia a un grupo, tanto en la percepción de la atmosfera social creada en el equipo, como en las variables psicológicas y de bienestar y malestar. En concreto examinamos la relación entre la percepción compartida de los jugadores sobre el estilo interpersonal (apoyo a la autonomía o controlador) del entrenador del equipo al principio de la temporada, las necesidades psicológicas básicas (satisfacción y frustración) de los jugadores y su bienestar (vitalidad subjetiva) y malestar (*burnout*) a nivel individual al final de la temporada. También analizamos si la satisfacción y la frustración de las necesidades psicológicas básicas de los deportistas a nivel individual mediaba la relación entre la percepción compartida del estilo interpersonal del entrenador del equipo y el bienestar y malestar de los jóvenes. Con este objetivo utilizamos una aproximación multinivel longitudinal en la que analizamos las respuestas de 597 jugadores al principio y al final de una temporada competitiva.

Finalmente, la tercera parte incluye el Capítulo 7. En él ofrecemos un resumen global de los resultados, su discusión y las

conclusiones. Comenzamos proporcionando una descripción detallada de las variables de nuestros estudios (bienestar/malestar - necesidades psicológicas básicas - estilo interpersonal del entrenador). Posteriormente presentamos los resultados de las relaciones defendidas por la BPNT (estilo interpersonal del entrenador - necesidades psicológicas básicas, y necesidades psicológicas básicas - bienestar/malestar). Y finalmente presentamos los resultados sobre el papel mediador de las necesidades psicológicas básicas en la relación entre el contexto y el bienestar/malestar de los jugadores. Tras presentar estos resultados destacamos las implicaciones prácticas que se desprenden de los estudios y consideramos algunas limitaciones y guías para futuros trabajos en el ámbito de la psicología del deporte. Por último cerramos el capítulo con las conclusiones generales de esta tesis.

PRESENTATION

This doctoral thesis is divided into three different parts: 1) General introduction, 2) Five empirical studies, and 3) Summary of the results, discussion and conclusions.

We first present a general introduction about the main benefits of physical activity and sport practice on people's physical and mental health. Then we underline that institutions as the World Health Organization have given importance to sport considering it as a means to promote physical activity and healthier lifestyles, and we expose our reasons to choose soccer as the main sport in our studies. Second we introduce the conceptualization of well- and ill-being and we present the indicators that are used in our research to evaluate both constructs. Next, we present the motivational theory in which this thesis is based on, namely basic psychological needs theory (BPNT; Deci & Ryan, 2000). Then we present a review of the scientific literature about our subject of study conducted during the last decades. And finally, we conclude this chapter presenting our main and general objectives.

The second part consists of five chapters, from Chapter 2 to Chapter 6. In these chapters we present the five empirical studies embedded in this thesis.

In Chapter 2 we present the study entitled *Autonomy support, psychological needs satisfaction and well-being: invariance of the structural model in soccer players and dancers* (Study 1). The main objective of this cross-sectional study was to examine the invariance of a model based on the brighter side of BPNT in two different samples (young male soccer players and young male and female dancers). To this end we study the relationship between perceived autonomy support, satisfaction of basic psychological needs for competence, autonomy and relatedness and two well-being indicators (positive affect and subjective vitality). We also analyze the mediational role basic psychological needs satisfaction in the relationship between perceived autonomy support and youth's well-being.

In Chapter 3 we enter the study entitled *Controlling coach interpersonal style, basic psychological need thwarting, and burnout in young soccer players* (Study 2). The participants of this cross-sectional study were 725 young male soccer players. The main objective was to deepen into the darker side of BPNT, by analyzing the relationship between athletes' perceptions of the controlling coach interpersonal style, and their basic psychological needs thwarting and their ill-being (burnout).

In Chapter 4 we show the Study 3 entitled *Coaches' interpersonal style, basic psychological needs and the well- and ill-being of young soccer players: a longitudinal analysis*. In this longitudinal work we include the analyses of the brighter and the darker side of the theory simultaneously. We examine the relationship between the changes in the soccer players' perceptions of their coaches' interpersonal style (autonomy supportive and controlling), the changes in the satisfaction and thwarting of their basic psychological needs, and the changes in

their well-being (subjective vitality) and ill-being (burnout). Moreover, we explore the mediational role of basic psychological needs in the relationship between the social context and the youth well- and ill-being. Five hundred and ninety seven young soccer players participated in this study and answered a questionnaires package at the beginning and at the end of a competitive soccer season.

In Chapter 5 we include the study entitled *Athletes' perceptions of coach behaviors and their implications on their well- and ill-being: testing the invariance over time of basic psychological needs theory* (Study 4). In this longitudinal work we enlarged the timeframe of the previous study and we incorporated four time points in two consecutive seasons with the aim to analyze the invariance of the sequence defended by BPNT over two seasons. Specifically, we analyzed the sequence interpersonal style of the coach - athletes' basic psychological needs - athletes' well-being (self-esteem) and ill-being (burnout). We also analyzed the mediational role of basic psychological needs. The sample was made up of 360 young soccer players who answered the questionnaires in the four time points.

Following the traditional approach in the scientific literature, the previous four studies have been conducted examining the interrelationships defended by BPNT from an individual level, where we analyzed the influence of the individual differences in the athletes' perceptions of the coaches' interpersonal style on the athletes' basic psychological needs and on their well- and ill-being.

In Chapter 6 we present the study entitled *A test of basic psychological needs theory in Spanish young soccer players: a longitudinal multilevel approach* (Study 5), where we include a multilevel methodology to understand how belonging to a team may influence on

the perception of the social environment created in a team and on psychological and well- and ill-being variables. We examined the relationship between the team shared perceptions of their coach interpersonal style (autonomy supportive and controlling) at the beginning of the season and players' basic psychological needs (satisfaction and thwarting) and their subsequent well-being (subjective vitality) and ill-being (burnout) at the individual level at the end of the season. We also analyzed whether satisfaction and thwarting of the athletes' basic psychological needs mediated the relationship between team shared perceptions of their coach interpersonal style and the youth well- and ill-being. To this end we used a longitudinal multilevel approach to analyze the responses of 597 players at the beginning and at the end of a competitive season.

Finally, the third part consists of Chapter 7. In this chapter we show a global summary of the results, its discussion and the conclusions. We first present a detailed description of our study variables (well-ill-being - basic psychological needs - coach interpersonal style). Thereafter, we present the results of the relationships defended by BPNT (coach interpersonal style with basic psychological needs, and basic psychological needs with well-ill-being). Finally we present the results of the mediational role of basic psychological needs in the relationship between the context and the athletes' well- and ill-being. After presenting these results we underline practical implications that emerge from our studies and we considered some limitations and guidelines for future works within the context of sport psychology. Lastly, we end this chapter with the general conclusions of this thesis.

CAPÍTULO 1

INTRODUCCIÓN GENERAL

INTRODUCCIÓN GENERAL

“El disfrute del máximo grado de salud alcanzable es uno de los derechos fundamentales de todo ser humano”

Constitución de la OMS, 1946.

La Organización Mundial de la Salud define la salud como un estado general de completo bienestar físico, mental y social, distinguiéndolo claramente de la mera ausencia de enfermedad o de malestar (OMS, 1946). De acuerdo con los valores fundamentales de esta organización, uno de sus objetivos principales y recurrentes a lo largo del tiempo se centra en la mejora de la salud y el bienestar de las personas de todo el mundo, intentando reducir las desigualdades en salud, fortalecer la sanidad pública en general y asegurar que los sistemas sanitarios estén centrados en las personas y sean universales, equitativos, sostenibles y de alta calidad (OMS, 2012).

Dentro del objetivo de mejorar la salud de las personas, resulta especialmente importante la promoción del bienestar físico y psicológico de los jóvenes. Centrándonos en esta población, es importante tener en cuenta que los jóvenes se enfrentan a numerosas

presiones y desafíos, incluyendo las expectativas de desarrollo académico, los cambios en las relaciones sociales que mantienen tanto con su familia como con sus iguales, o los cambios físicos y emocionales asociados a su madurez (Balaguer, Castillo y Pastor, 2002). Además, el estilo de vida que adoptan los adolescentes durante esta etapa puede consolidarse y mantenerse de forma estable a lo largo de la adultez. De forma que si los adolescentes poseen estilos de vida caracterizados por conductas de riesgo para la salud como el uso de sustancias como el tabaco y alcohol o, por el contrario, tienen estilos de vida protectores de la salud que incluyan por ejemplo una dieta saludable y práctica regular de actividad física, esto repercutirá sobre la posterior salud mental y física en el periodo adulto (Kjønniksen, Torsheim y Wold, 2008; OMS, 2012b). En consecuencia, estos años marcan un período importante en el que las decisiones tomadas respecto a la forma de vivir pueden tener un impacto potencial en el futuro bienestar o malestar físico y psicológico de las personas. Atendiendo a este aspecto, la Estrategia Europea para la Salud y el Desarrollo Infantil y Adolescente estableció el objetivo de apoyar a los estados miembros de la Unión Europea para que desarrollen nuevas estrategias y políticas con el fin de conseguir que los niños y adolescentes alcancen su máximo potencial de salud y desarrollo, y consecuentemente reducir los casos evitables de enfermedad y mortalidad (OMS, 2008).

Existen varios factores de riesgo que deben ser abordados urgentemente para posibilitar que los jóvenes alcancen el mayor nivel posible de bienestar. Sin lugar a dudas, la creciente falta de actividad física es uno de los factores de riesgo más relevantes a tratar, ya que se considera que la inactividad física es el cuarto factor de riesgo de muerte en la población mundial y, más concretamente, se le atribuye la

responsabilidad del 6% de las muertes en el mundo (OMS, 2009). Considerando la gravedad de estos datos, la Organización Mundial de la Salud defiende el papel de la actividad física como un medio para promover la salud tanto física como mental de las personas de cualquier edad y de cualquier nivel socioeconómico (OMS, 2010).

La naturaleza de las actividades de tiempo libre de los niños y adolescentes de nuestra sociedad ha cambiado drásticamente durante las últimas décadas. En el pasado, estos solían emplear la mayor parte de su tiempo libre jugando al aire libre, involucrados en juegos o actividades en los que estaban físicamente activos. Sin embargo, debido a una diversidad de factores, encontramos que los jóvenes de hoy en día tienden a ocupar un alto porcentaje de su tiempo libre en conductas mucho más sedentarias, como ver televisión, jugar a videojuegos o navegar por internet. Este patrón de conductas implica que la población juvenil no alcanza los niveles deseables de actividad física, lo que consecuentemente contribuye a comprometer su salud en el futuro. La importancia de la actividad física para la salud social, mental y física de los jóvenes parece indiscutible y, por lo tanto, resulta fundamental aunar esfuerzos para la promoción de la participación en actividades físicas y de su mantenimiento, así como de la calidad de dicha práctica a lo largo del ciclo vital.

La OMS (2010) defiende que la actividad física, durante la niñez y la adolescencia, debe incluir una amplia variedad de actividades, tales como los juegos, los deportes, los desplazamientos, el ocio, la educación física o los ejercicios programados, en sus diferentes contextos habituales (es decir, la familia, la escuela y las actividades comunitarias con los amigos). Además, también postula que es recomendable animar a los jóvenes durante la niñez y la adolescencia a que participen en

actividades que les ayuden a fomentar su desarrollo natural y que sean seguras y divertidas; y se defiende que estas recomendaciones deben alcanzar a todos los niños y jóvenes, independientemente de su género, raza, etnia o nivel económico (OMS, 2010).

La práctica regular de actividad física se ha relacionado con diferentes beneficios para el bienestar físico y psicológico. Algunos de estos beneficios físicos hacen referencia a la mejora de la capacidad cardiorrespiratoria y muscular, la salud ósea y la salud cardiovascular y metabólica (OMS, 2010). Además, aunque la investigación sobre los beneficios psicológicos de la actividad física ha sido menos fecunda que la realizada sobre los beneficios físicos (Bauman, 2004; Saxena, Van Ommeren, Tang y Armstrong, 2005), cada vez existen más trabajos sobre los beneficios de la práctica de actividad física regular sobre la salud mental de las personas (Ströhle, 2009). Algunos de estos estudios defienden que la práctica de actividad física reduce los síntomas de ansiedad, *burnout* o depresión (Balaguer y García-Merita, 1994; Janssen y LeBlanc, 2010; Paluska y Schwenk, 2000; Ströhle, 2009), y que mejora el funcionamiento cognitivo, la autoestima, el autoconcepto y las habilidades sociales (Janssen y LeBlanc, 2010; Taylor, Sallis y Needle, 1985).

La investigación realizada para poner a prueba el papel de la participación deportiva como promotora de la actividad física ha demostrado que las personas que practican deporte son más proclives a alcanzar las recomendaciones de práctica de actividad física beneficiosa para la salud que las personas que no lo practican (Lamprecht y Stamm, 2005). Bajo esta premisa, la Unión Europea hace especial hincapié en el papel que tiene el deporte como promotor de la actividad física y de sus consecuentes beneficios para la salud y defiende que el deporte puede

tener mayor influencia que cualquier otro movimiento social en conseguir esta finalidad. En definitiva, se aconseja que tanto las instituciones públicas como las organizaciones privadas aúnen sus esfuerzos por esta causa (Comisión Europea, 2007).

Es importante tener en cuenta que hay diferencias considerables en la popularidad y en la accesibilidad de los diferentes deportes, lo que favorece que unos deportes o actividades se practiquen más que otros. En este sentido, se considera que el fútbol es el deporte más popular en el mundo (Reilly, Bangsbo y Franks, 2000), con más de 265 millones de participantes (Kunz, 2007). Centrándonos específicamente en la Comunidad Europea, el fútbol es una de las primeras actividades organizadas en la que los jóvenes se involucran fuera de la escuela, aunque después participen en otras actividades, en sustitución de este deporte o en adición al mismo (Wold et al., 2013). Además, en comparación con otros deportes, el fútbol base está ampliamente extendido y es fácilmente accesible incluso en las zonas rurales, y se considera que su práctica implica un bajo coste y requiere menos habilidades físicas que otros deportes. Estas características permiten que un gran número de niños, y un número cada vez mayor de niñas, participen cada año en este deporte, a diferentes edades y en diferentes grupos de competición (Kunz, 2007).

Hay autores que señalan que algunos deportes pueden presentar mayores beneficios físicos y/o psicológicos que otros, dado que se realiza mayor cantidad de actividad física. Si nos centramos en el fútbol, observamos que investigaciones previas han demostrado que este deporte implica la práctica de altos niveles de actividad física en comparación con otras actividades (Faude et al, 2010; Krstrup et al., 2010). En esta misma línea, Faude et al. (2010) defendieron que para

los niños con problemas de sobrepeso, la participación en entrenamientos de fútbol durante seis meses era igual de eficaz que la participación en un programa estándar de ejercicios, mejorando sus capacidades y su forma física y aumentando su autoestima. Además, se ha demostrado que el fútbol recreativo estimula eficazmente las adaptaciones músculo-esqueléticas, metabólicas y cardiovasculares de gran importancia para la salud, ayudando así a reducir el riesgo de desarrollar enfermedades relacionadas con el estilo de vida (Krustrup et al., 2010). Igual que ocurría con los estudios previos en los que se analizaba la relación entre la práctica regular de actividad física y los consecuentes beneficios psicológicos, son más escasos los estudios empíricos que han profundizado en la relación entre la participación en el fútbol recreativo y sus beneficios sobre la salud mental (Krustrup et al., 2010). Entre los estudios existentes, algunos autores han defendido la relación positiva entre la práctica de fútbol y la vitalidad subjetiva, la autoestima y la satisfacción con la vida de los jóvenes futbolistas (e.g., Álvarez, Balaguer, Castillo y Duda, 2012; Balaguer, Castillo, Duda y García-Merita, 2011; Castillo, Duda, Álvarez, Mercé y Balaguer, 2011; Papaioannou et al., 2013; Wold et al., 2013).

Además de los beneficios mencionados anteriormente, otro aspecto a destacar es que la participación en el fútbol base aumenta potencialmente la posibilidad de mantener la práctica de actividad física en el futuro. Por ejemplo, Kjønniksen et al. (2008) encontraron que los niños y niñas que jugaban al fútbol a los 15 años, tenían mayores probabilidades de estar implicados en el fútbol o en otras actividades físicas a los 23 años. En este sentido, parece que jugar al fútbol en edades tempranas tiene el potencial de influir en el desarrollo de hábitos relacionados con la salud a lo largo de la vida. Krustrup et al.

(2010) también apoyaron esta idea y añadieron que los entrenamientos de fútbol que se experimentan como una actividad divertida y gratificante en sí misma podían tener muchos efectos indirectos importantes, como por ejemplo la adopción de conductas saludables o el aumento de las relaciones sociales.

En conclusión, podemos decir que existe un consenso general respecto a la idea de que la participación deportiva, como puede ser el caso de la participación en el fútbol base, conduce a un número considerable de beneficios, como favorecer el desarrollo psicosocial, mejorar la salud física y psicológica y promover el bienestar (Álvarez et al., 2012; Balaguer, 2013; Fraser-Thomas, Côté y Deaken, 2005; Ommundsen, Løndal y Loland, 2013). Sin embargo, para algunos jóvenes deportistas estos beneficios no son tan evidentes y, por el contrario, presentan claros síntomas de malestar. Algunos deportistas perciben fuertes demandas mentales y físicas en su ámbito deportivo y esto puede dañar su autoestima y generar trastornos afectivos y otras experiencias de malestar, como por ejemplo el *burnout* (Bartholomew, Ntoumanis, Ryan, Bosch y Thøgersen-Ntoumani, 2011; Fraser-Thomas y Côté, 2009; Hall, Hill y Appleton, 2012). Sabemos que si los deportistas sufren una experiencia continuada de estrés asociada a su participación deportiva, esto podría llevarles a experimentar *burnout* y, consecuentemente, ocasionar su abandono deportivo (Gould, 1996; Schmidt y Stein, 1991). Por el contrario, también sabemos que cuando los deportistas disfrutan de su práctica deportiva tienen menor intención de abandono e informan con mayor frecuencia sobre su intención de continuar practicando su deporte en el futuro (Quested, Ntoumanis et al., 2013).

Profundizando en el motivo por el que algunos jóvenes tienen experiencias deportivas positivas y otros negativas, y analizando las posibles causas de esta diferencia, algunos autores han defendido que la participación deportiva no es una actividad que promueva el bienestar por sí misma. Más concretamente se defiende que la calidad de la experiencia deportiva es lo que contribuye a la promoción del bienestar o del malestar de los participantes (e.g., Duda y Balaguer, 2007). En esta línea se postula que el contexto social que rodea a los jóvenes deportistas tiene una importante influencia sobre la manera en la que estos viven su participación deportiva. Así, la influencia del contexto social puede determinar si la participación deportiva se experimenta como algo positivo, lo cual contribuiría a su bienestar, o como algo negativo, lo que favorecería a su malestar (Balaguer, 2007).

De esta manera se destaca la importancia de comprender los factores que contribuyen al bienestar y al malestar de los jóvenes en los contextos deportivos, para poder conocer la vía a través de la cual se promueve la calidad de las experiencias deportivas y poder evitar las experiencias traumáticas que aumenten el malestar en los contextos deportivos juveniles. A su vez, si conocemos los factores que originan las experiencias positivas en el deporte, esto nos ayudará a promover el mantenimiento de la práctica deportiva. Con este objetivo a la base, esta tesis parte de una perspectiva motivacional para investigar el impacto que tiene el contexto social en el ámbito deportivo sobre los índices de bienestar y malestar de los deportistas, haciendo especial hincapié en los procesos motivacionales que intervienen en estas relaciones.

Entre las teorías motivacionales contemporáneas, algunas tienen como objetivo principal tratar de comprender los antecedentes motivacionales tanto de la salud, como del bienestar y el malestar. Entre

estas teorías figura la teoría de la autodeterminación (SDT; Deci y Ryan, 1985, 2000), una de las teorías motivacionales con mayor reconocimiento en la actualidad y que va a ser el marco teórico principal de la presente tesis doctoral. Concretamente, de las cinco mini-teorías que componen la SDT, nosotros nos centraremos en la teoría de las necesidades psicológicas básicas (BPNT; Deci y Ryan, 2000) que es la mini-teoría que se ocupa de manera más específica del bienestar y el malestar.

1.1. BIENESTAR Y MALESTAR

La conceptualización del bienestar y del malestar sigue siendo un reto que ha venido ocupando a los filósofos a lo largo de los siglos y que hoy en día todavía no ha encontrado un claro acuerdo entre los teóricos de las diferentes disciplinas de estudio (Diener, 1984; Ryan, Huta y Deci, 2008). Precisamente debido a su complejidad resulta importante establecer un marco teórico adecuado para el estudio del bienestar y del malestar, con el objetivo de alcanzar una mejor comprensión tanto acerca de sus antecedentes, como sobre sus posibles consecuencias. Esto permitirá a los investigadores enfocar sus estudios con una buena guía teórica y facilitará el diseño de intervenciones en diferentes ámbitos, incluido el deporte.

Durante las últimas décadas ha aumentado el acuerdo acerca de que el bienestar no es sinónimo de la ausencia de malestar físico o mental (Lee y Oguzoglu, 2007). Más específicamente, un número considerable de investigadores ha defendido que el bienestar y el malestar son dos dimensiones separadas, independientes y distintas (e.g., Diener 1984; Diener, Suh, Lucas y Smith, 1999; Heady, Kelley y

Wearing, 1993; Ryan y Deci, 2001). El hecho de considerar que el bienestar y el malestar representan dos dimensiones diferentes implica que las causas, las consecuencias y los correlatos de uno de ellos no tienen por qué extrapolarse al otro (Diener et al., 1999), de ahí la necesidad de evaluar ambos constructos. Esta idea ha encontrado apoyo en investigaciones científicas previas que han mostrado que los correlatos y las causas del bienestar son diferentes a los correlatos y las causas del malestar (Headey, Holmström y Wearing, 1984; Huppert y Whittington, 2003). En apoyo a la diferenciación conceptual entre estos dos constructos se ha defendido también que la distinción entre el bienestar y el malestar proviene de sus inicios, ya que partieron de ámbitos de investigación diferentes (Headey et al., 1984).

En base a esta idea se defiende que, si queremos promover una participación deportiva saludable, es esencial conceptualizar correctamente ambos constructos y explorar los factores que pueden estar influyendo en los diferentes indicadores de bienestar y de malestar. Esto mejorará la comprensión acerca de cómo se promueve el bienestar y el desarrollo óptimo de los jóvenes deportistas, y nos ayudará a entender la manera de minimizar las causas del funcionamiento desadaptativo en el ámbito deportivo.

1.1.1. BIENESTAR DE LOS DEPORTISTAS

El bienestar es considerado como un constructo complejo y multidimensional al que se le ha atribuido una amplia variedad de definiciones a lo largo del tiempo. Desde la época de los antiguos filósofos griegos, importantes pensadores como Arístipo y Aristóteles coincidieron en que un denominador común de la conducta humana es

el deseo de alcanzar la felicidad. Sin embargo, en cierto modo discrepaban acerca de la manera en que conceptualizaban la felicidad y el bienestar (Aristotle, trad. en 1985; Kraut, 1979; Ryan y Deci, 2001).

Hoy en día, en la psicología contemporánea, la investigación sobre el bienestar diferencia dos perspectivas principales que son relativamente distintas: la perspectiva hedónica y la perspectiva eudaimónica (Deci y Ryan, 2008a; Ryan y Deci, 2001; Waterman, 1993).

Por un lado, la perspectiva hedónica asocia el bienestar principalmente con el placer y la felicidad, y actualmente se ha equiparado este tipo de bienestar con el bienestar subjetivo (e.g., Kahneman, Diener y Schwarz, 1999). Uno de los fundadores de la perspectiva hedónica del bienestar fue el filósofo griego Arístipo de Cirene, quien defendió que el objetivo principal en la vida de una persona es lograr el máximo placer posible de aquello que la persona quiere. Según esta conceptualización del bienestar, se defiende que el bienestar subjetivo es la consecución del placer y la evitación del dolor (Kahneman et al, 1999;. Waterman, 1993). Además, aunque no existe una especificación conceptual clara acerca de cómo se experimenta el hedonismo, se entiende que el disfrute hedonista puede ir acompañado de la satisfacción de necesidades basadas en aspectos físicos, sociales e intelectuales (Waterman, 1993).

En esta línea, de acuerdo con Kahneman et al. (1999), dos de los indicadores más comúnmente utilizados para evaluar las experiencias de bienestar hedónico son el afecto positivo y el afecto negativo (Diener, 1984). La satisfacción con la vida es considerada como otro indicador de bienestar subjetivo, aunque se argumenta que este constructo no captura la esencia del hedonismo tan bien como lo hace el afecto positivo (Deci y Ryan, 2008a; Ryan et al., 2008).

Por otro lado, desde la perspectiva eudaimónica se considera al bienestar como algo más que la mera felicidad y actualmente se equipara este tipo de bienestar con el de bienestar psicológico, definido como un estado que conduce a la actualización del potencial humano (e.g., Ryff y Singer, 1998). Esta segunda perspectiva del bienestar también tuvo sus orígenes en la época de los antiguos filósofos griegos. En este caso, Aristóteles (trad. en 1985) rechazó la visión hedonista del bienestar y en su lugar propuso el concepto de eudaimonia, defendiendo que la auténtica felicidad se encuentra implícita en la realización de una actividad donde se expresa la virtud de la persona (Waterman, 1993). Según Waterman (1993) y Ryan y sus colegas (2008), la eudaimonia se expresa a través del hecho de vivir de acuerdo con el verdadero *yo* y con las potencialidades personales. Así, se define como la autorrealización en la búsqueda del desarrollo de las valiosas potencialidades humanas y en la consecución de los objetivos de nuestra vida (Waterman, 1993). De acuerdo con Aristóteles y sus primeros trabajos sobre la eudaimonia, se considera que este concepto abarca la calidad de las experiencias vividas (Waterman, 1993). En este sentido, el concepto de bienestar no es meramente el reflejo del producto material o emocional de una actividad; sino que más bien la eudaimonia refleja una forma de vida centrada en lo que es intrínsecamente importante para los seres humanos (Ryan et al., 2008).

En la literatura existente en el ámbito de la psicología del deporte, la eudaimonia ha sido conceptualizada a través de diferentes indicadores. Algunos de los más utilizados incluyen la implicación (e.g., Hodge, Lonsdale y Jackson, 2009), la autoestima (e.g., Felton y Jowett, 2013) y la vitalidad subjetiva (e.g., Adie, Duda y Ntoumanis, 2008; López-Walle, Balaguer, Castillo y Tristán, 2012).

Es importante destacar que estos dos enfoques sobre el bienestar no son considerados como polos opuestos, sino como complementarios. En este sentido, parece existir un consenso general que defiende que la eudaimonia es una condición suficiente, aunque no necesaria, para lograr el bienestar subjetivo (Ryan et al., 2008). Esto puede ejemplificarse con el hecho de que una persona que se involucra en una actividad congruente con sus propios valores y en la que desarrolle sus potencialidades (indicadores de una actividad eudaimónica), puede experimentar afectos positivos (como ejemplo del bienestar hedónico). Sin embargo, existen otras muchas situaciones en las una persona puede experimentar afectos positivos, pero que no necesariamente reflejarán experiencias de bienestar eudaimónico (Waterman, 1993).

Centrándonos en el contexto del fútbol base, es posible que un jugador que se esfuerza continuamente por desarrollar su potencial y se sacrifica por alcanzar unos objetivos acordes a sus propios intereses y valores (acorde a la perspectiva eudaimónica), en algunas ocasiones no se sienta entusiasmado y feliz automáticamente (acorde a la perspectiva hedónica), pero sin duda alguna lo hará cuando perciba su desarrollo y cuando vaya consiguiendo los objetivos perseguidos. En este sentido consideramos que los deportistas pueden experimentar elevados niveles de afecto positivo como resultado de estar en pleno funcionamiento, implicados en la actividad que realizan, y además estar desarrollando su potencial deportivo, característico de la eudaimonia (Ryan et al., 2008). En este caso, la eudaimonia podría ser una condición suficiente para la experiencia de bienestar hedónico (por ejemplo, afecto positivo). Sin embargo, existirán otras condiciones en las que las personas se focalicen en obtener placer y evitar el dolor y esto les puede

alejarse de la eudaimonia. Por ejemplo, cuando el único objetivo de la felicidad es la consecución del placer, como en la perspectiva hedónica, los deportistas podrían poner en práctica métodos menos deseables (como por ejemplo establecer metas extrínsecas o hacer trampas) para conseguir el estado esperado de felicidad, y esto podría ser contraproducente para el bienestar eudaimónico (Ryan et al., 2008).

Teniendo en cuenta que cada uno de estos enfoques sobre el bienestar proporciona información diferente y complementaria, es comprensible que los teóricos de este campo de estudio hayan defendido que es necesario evaluar tanto la conceptualización hedónica como la eudaimónica para lograr una mejor comprensión de los factores que influyen sobre el bienestar de las personas y para entender mejor sus diferencias (Nix, Ryan, Manly y Deci, 1999; Ryan y Deci, 2001; Watermann, 1993).

Los indicadores de bienestar utilizados en los diferentes estudios llevados a cabo para alcanzar los objetivos de esta tesis doctoral figuran entre los que están siendo comúnmente evaluados en la literatura contemporánea en el ámbito de la psicología del deporte y en otras áreas (Ryan y Deci, 2001), estos son la vitalidad subjetiva (Ryan y Frederick, 1997), la autoestima (Marsh, Parker y Barnes, 1985) y los estados afectivos (Watson, Clark y Tellegen, 1988). La vitalidad subjetiva es un indicador perteneciente al enfoque eudaimónico, característico de las personas que están experimentando bienestar (Ryan y Deci, 2001), y que se define como la experiencia consciente de tener energía y ánimo (Ryan y Frederick, 1997). La autoestima es otro de los indicadores del enfoque eudaimónico utilizado en la literatura científica (Felton y Jowett, 2013), y se define como la evaluación global de uno mismo como persona (Marsh et al., 1985). Por último, también

incorporamos un indicador de bienestar hedónico, el afecto positivo (Diener, 1984; Watson et al., 1988). El afecto positivo refleja el grado en que una persona se siente entusiasmada, activa y alerta. Por lo tanto, el alto afecto positivo es un estado de alta energía, concentración plena y una implicación gratificante (Watson et al., 1988).

1.1.2. MALESTAR DE LOS DEPORTISTAS

Más allá de las experiencias de bienestar hedónico y eudaimónico de los deportistas, resulta necesario tener en consideración que los jóvenes deportistas también pueden mostrar niveles de malestar debido a su participación en el deporte. Por ejemplo, los participantes en una competición deportiva pueden experimentar altos niveles de ansiedad o depresión, lo cual contribuiría a aumentar su malestar y a mostrar un funcionamiento negativo, con signos de enfermedad física, *burnout* o trastornos alimentarios (Adie y Bartholomew, 2013). En línea con la conceptualización de bienestar y malestar previamente mencionada, en la que consideramos a estos constructos como conceptos diferentes que expresan dimensiones independientes y no meramente opuestas (Lee y Oguzoglu, 2007; Ryan y Deci, 2001), esta tesis se apoya en la idea de que la ausencia de malestar psicológico o físico no equivale a un funcionamiento óptimo, y viceversa. Por lo tanto, consideramos fundamental examinar los indicadores de malestar, junto con los indicadores de bienestar, con el fin de obtener una mejor comprensión de las experiencias de los jóvenes en el deporte.

Además, si nos centramos en las posibles causas del malestar, el supuesto mencionado previamente en cierto modo también implica que

los procesos y las condiciones sociales y psicológicas que conducen a una participación deportiva no saludable y al consecuente malestar pueden ser diferentes de aquellas que favorecen una participación deportiva saludable y promotora del bienestar. De esta manera se destaca la importancia de examinar de forma conjunta los posibles antecedentes del malestar y del bienestar defendidos desde las aproximaciones teóricas pertinentes.

Ofreciendo una explicación sobre la diferenciación del malestar y el bienestar, Headey y sus colegas (1984) indicaron que originalmente el estudio del malestar se centró en la revisión de la bibliografía científica sobre la epidemiología psiquiátrica de la neurosis y la depresión, estableciendo así una base fundamental distinta a la del estudio de la felicidad y del potencial humano que precede a la tradición del bienestar. En este enfoque tradicional del estudio del malestar se han destacado diferentes variables relacionadas con el malestar, entre las que figuran la condición económica, el sexo y los rasgos de personalidad como la baja autoestima, la introversión o el neuroticismo (e.g., Pearlin, Lieberman, Menaghan y Mullan, 1981; Henderson, Byrne y Duncan-Jones, 1981). Headey y sus colegas analizaron los correlatos y las causas del malestar (evaluándolo a través de afectos negativos, preocupación y quejas somáticas) e indicaron que las variables del entorno social, especialmente la situación socioeconómica, tenían un importante impacto sobre el malestar y, específicamente, mostraron que el bajo estatus socioeconómico se relacionaba con el malestar. Por otra parte, el mismo estudio mostró que la competencia personal, definida como la sensación de que uno puede controlar y organizar su propia vida, también correlacionaba fuerte y negativamente con la experiencia de malestar. En cuanto a las preocupaciones de la vida, se

destacó que una de las principales preocupaciones era la mala salud y, más específicamente, la insatisfacción con la salud mostró ser el correlato más fuertemente relacionado con el malestar. Por último, también se demostró que la insatisfacción con aspectos materiales, como el puesto de trabajo y el nivel de vida, tenía un impacto notable sobre el malestar de las personas.

En la literatura científica de la psicología del deporte, se ha evaluado el complejo constructo del malestar de maneras diferentes. Posiblemente, uno de los indicadores de malestar más utilizados en los últimos años ha sido la percepción de *burnout* de los deportistas (e.g., Adie et al., 2008; Quested y Duda, 2011), mientras que otro gran número de estudios ha utilizado medidas como los afectos negativos (e.g., Gagné, Ryan y Bargmann, 2003), los síntomas físicos (e.g., Reinboth, Duda y Ntoumanis, 2004), la depresión (e.g., Felton y Jowett, 2014) o los trastornos de alimentación (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Quiles-Marcos et al., 2011).

Para esta tesis doctoral se ha utilizado específicamente el *burnout* de los deportistas como el indicador de malestar, analizándolo en los diferentes estudios que hemos llevado a cabo para alcanzar nuestros objetivos. El *burnout* de los deportistas se define en términos de sentimientos de agotamiento emocional y físico, con un sentido reducido de realización personal y una actitud indiferente y cínica hacia la participación deportiva (Raedeke y Smith, 2001). Tanto las personas implicadas en las organizaciones deportivas, como los medios de comunicación, los investigadores y los profesionales en el contexto deportivo han defendido de manera general que el *burnout* representa un problema importante en el deporte (Cresswell y Eklund, 2007; Gould, Tuffey, Udry y Loehr, 1996).

Uno de los primeros psicólogos que abordó el constructo del *burnout*, fuera del ámbito de la psicología del deporte, fue Freudenberger (1974), quien lo definió como los sentimientos de fracaso y agotamiento del trabajador, principalmente debido a una sobrecarga de las demandas de energía, recursos personales y fuerza espiritual. Posteriormente, Maslach y Jackson (1981) ofrecieron una de las conceptualizaciones más utilizadas del *burnout*, considerándolo como un trastorno multidimensional caracterizado por el agotamiento emocional, la despersonalización y un reducido sentido de realización personal.

Entre las diferentes explicaciones que se han ofrecido sobre las causas del *burnout*, existe un consenso generalizado acerca de la importancia que tiene la percepción de una situación negativa mantenida a lo largo del tiempo. Los primeros trabajos que examinaron las causas del *burnout* de los deportistas propusieron que este estado negativo continuado a lo largo del tiempo podría atribuirse a una exposición crónica al estrés psicosocial (Smith, 1986). En esta línea, el *burnout* de los deportistas se consideró como el resultado de una percepción prolongada de desequilibrio entre las demandas y los recursos (Smith, 1986). Smith (1986) sugiere que la percepción de este desequilibrio mantenida durante un período prolongado de tiempo podría dar lugar a la percepción de baja realización, bajo control percibido y, potencialmente, a un estado de indefensión aprendida. Además, defiende que las consecuencias conductuales del *burnout* conllevan a una disminución de la eficiencia y una retirada psicológica, si no física, de la actividad.

En la misma línea que Maslach y Jackson (1981), pero centrándose específicamente en el contexto deportivo, Raedeke (1997)

sugirió que los deportistas que perciben que deben mantener su participación deportiva a pesar de que ya no tienen ningún deseo de seguir participando, presentan un elevado riesgo de sufrir *burnout*. En esta línea, este autor defendió que el *burnout* de los deportistas es una consecuencia de las intensas demandas de los entrenamientos y de las competiciones, así como de las expectativas no cumplidas impuestas por ellos mismos o por los demás. En consecuencia, esto deriva en un síndrome psicológico que refleja un agotamiento emocional y físico, un sentido reducido de realización y la devaluación del deporte, que se traduce en una falta de interés respecto a la participación deportiva.

1.2. ANTECEDENTES MOTIVACIONALES DEL BIENESTAR Y EL MALESTAR

Un modelo teórico contemporáneo que ha profundizado en el estudio del bienestar y del malestar en diferentes contextos es la teoría de la autodeterminación (self-determination theory; SDT, Deci y Ryan, 1985, 2000). La SDT es una aproximación a la motivación y a la personalidad humana que utiliza métodos empíricos y constituye una meta-teoría organísmica que pone de relieve la importancia del desarrollo de los recursos internos de los seres humanos para el desarrollo de la personalidad y la autorregulación de la conducta (Ryan, Kuhl y Deci, 1997). En este sentido, algunos de los puntos centrales de esta teoría indican que las personas presentan una tendencia inherente hacia su propio crecimiento, reconoce la existencia de unas necesidades psicológicas básicas innatas como base fundamental para la automotivación y la integración de la personalidad, y considera que han de

darse determinadas condiciones sociales para que se promuevan estos procesos positivos (Ryan y Deci, 2000a).

Respecto a la conceptualización del bienestar, la SDT defiende principalmente la concepción de bienestar eudaimónico, considerando el bienestar psicológico como el funcionamiento óptimo de las personas y como la experiencia y el intento de especificar aquello que integra el *yo* y la forma en la que esto se puede lograr (Ryan y Deci, 2001). En este sentido, Deci y Ryan (2000) definen el bienestar como algo más que las experiencias personales de afecto positivo y las bajas experiencias de afecto negativo. Más bien, Deci y Ryan hacen referencia a "una función organísmica en la que la persona detecta la presencia o ausencia de vitalidad, flexibilidad psicológica y un profundo sentido interior de bienestar" (p. 243). Centrándonos en el contexto deportivo, esto significaría que un deportista que presenta un alto grado de bienestar estaría funcionando plenamente y experimentaría un crecimiento personal junto al deseo de realización en su contexto de logro (Ryan et al., 2008).

Además, la teoría defiende que este bienestar sólo es alcanzable cuando las tres necesidades psicológicas básicas de competencia, autonomía y relación están satisfechas. Ya que estas tres necesidades se analizarán más profundamente en el siguiente punto de este capítulo, únicamente cabe mencionar de forma breve que la necesidad de competencia se define como la experiencia de que uno puede conseguir los efectos y los resultados deseados de manera eficaz (White, 1959). La necesidad de autonomía hace referencia al grado en que las personas sienten volición y se sienten responsables de la iniciación de su propia conducta (deCharms, 1968). Y, por último, la necesidad de relación es el

grado en que las personas se sienten conectadas a otros y tienen un sentimiento de pertenencia (Baumeister y Leary, 1995).

Además, a pesar de que la SDT aborda la perspectiva eudaimónica del bienestar, esta teoría también defiende que la satisfacción de las tres necesidades psicológicas básicas fomenta igualmente el bienestar subjetivo, como por ejemplo el afecto positivo o la felicidad, pertenecientes al enfoque hedónico (Ryan y Deci, 2001). Por otra parte, la SDT no sólo se ha ocupado del crecimiento personal y del bienestar, sino que también ha mostrado interés por la frustración, la alineación y los efectos patógenos de los contextos que frustran las necesidades, así como su influencia en las experiencias de malestar de las personas (Ryan y Deci, 2000a).

Es importante destacar que esta teoría también se ha centrado en estudiar la manera de reducir la alienación y la malevolencia humana (Ryan y Deci, 2000a). En este sentido, ha mostrado su preocupación por la ansiedad de las personas, su inseguridad o implicación en el ego, aspectos que amenazan las necesidades psicológicas básicas, defendidas como los constructos a través de los cuales se puede proporcionar una explicación sobre los fenómenos que expresan el lado más oscuro de la naturaleza humana, como la depresión, el odio, la violencia o la degradación de uno mismo y de los demás. Además, la investigación científica basada en la SDT ha proporcionado un considerable número de ejemplos y explicaciones sobre cómo las necesidades psicológicas básicas, las condiciones sociales que las apoyan o las frustran y los procesos motivacionales y emocionales que intervienen en este proceso están implicados en la etiología de problemas de adaptación y de enfermedad mental.

1.2.2. TEORÍA DE LAS NECESIDADES PSICOLÓGICAS BÁSICAS

La teoría de las necesidades psicológicas básicas (basic psychological needs theory; BPNT, Deci y Ryan, 2000) es la mini-teoría de la teoría de la autodeterminación de particular relevancia para el bienestar y el malestar, por lo que constituye la base central de esta tesis doctoral.

La BPNT es una meta-teoría organísmico-dialéctica que defiende la existencia de tres necesidades psicológicas básicas llamadas competencia, autonomía y relación. Por una parte, la necesidad de competencia hace referencia a la experiencia de que uno mismo puede lograr con eficacia los efectos y resultados deseados (White, 1959). Se considera que esta necesidad fue inicialmente formulada por White (1959) y, aunque este autor se refirió al término motivo y a una propensión básica de las personas hacia la búsqueda de competencia, en línea con la BPNT lo describió como la propensión a influir o a tener un efecto sobre el medio ambiente para lograr las consecuencias deseadas en él. También defendió que esta tendencia reflejaba la manifestación de una motivación bien estructurada y focalizada en producir el efecto deseado, una consideración que está estrechamente relacionada con la necesidad de competencia defendida dentro de la BPNT. En este sentido, la teoría postula que la satisfacción de la necesidad de competencia ha demostrado que es particularmente importante para la experiencia de la motivación intrínseca y añade que hechos como la retroalimentación positiva, relacionados con la eficacia, promueven la satisfacción de la necesidad de competencia y consecuentemente la motivación intrínseca, mientras que la retroalimentación negativa relacionada con

la ineficacia tiende a frustrar la necesidad de competencia y a obstaculizar la motivación intrínseca (Deci y Ryan, 1985).

Por otra parte, la necesidad de autonomía hace referencia al grado en que los individuos sienten voluntad, se sienten responsables de la iniciación de su propia conducta y sienten la experiencia de libertad psicológica (deCharms, 1968). Cuando una persona siente que su necesidad de autonomía está satisfecha, experimenta la posibilidad de elegir y siente que tiene el control sobre su propia conducta; de esta manera percibirá que su conducta emana del propio *self* y que está en consonancia con sus valores e intereses personales. Aunque la importancia y la universalidad de la necesidad de autonomía se ha puesto a prueba y ha quedado ampliamente confirmada, algunos autores han cuestionado la generabilidad de esta necesidad en diferentes contextos como los países orientales y las clases sociales más bajas o las personas en situación de pobreza. Algunas de las cuestiones que se presentan sobre la validez universal de la necesidad de autonomía surgen como consecuencia de las diferencias en la manera de definir esta necesidad. Específicamente, puede darse el caso que desde una aproximación cultural relativista, la autonomía se conceptualice como individualismo, independencia y singularidad, mientras que desde la aproximación de la SDT se refiere a la experiencia de ser el iniciador de las propias acciones y decisiones (Vansteenkiste, Niemiec y Soenens, 2010). De esta manera, cuando la conceptualización de la necesidad de autonomía no esté en línea con la SDT y se entienda como independencia, es de esperar que algunos autores sostengan erróneamente que está en contra o que no sea relevante para las culturas orientales (Markus y Kitayama, 2003). Además, la BPNT defiende que si bien la necesidad de autonomía es un requisito esencial

para la experiencia de bienestar de todas las personas en las diferentes culturas, puede haber diferencias en cuanto a la forma en que las necesidades se satisfagan y que también existan ligeras diferencias en cuanto a su importancia para el bienestar.

Por último, la necesidad de relación es el grado en que los individuos se sienten conectados a otras personas y tienen un sentimiento de pertenencia, poniendo un especial énfasis en la experiencia de atención y cuidado recíproco y en la preocupación por los otros significativos (Baumeister y Leary, 1995). En este sentido, la necesidad de relación se refiere al deseo de querer y cuidar a los otros, así como de sentirse querido y cuidado por ellos (Baumeister y Leary, 1995). Al igual que Deci y Ryan (2000), Baumeister y Leary (1995) defienden que la necesidad de relación es fundamental y, del mismo modo, también defienden la existencia de una tendencia inherente, o un deseo, de sentirse relacionado con los demás.

La BPNT defiende que estas tres necesidades son los nutrientes esenciales para el funcionamiento óptimo de las personas, influyendo en su crecimiento y en el desarrollo de su integridad y bienestar (Deci y Ryan, 2000; Ryan y Deci, 2000a). La teoría destaca la importancia del contexto social para la satisfacción o la frustración de las necesidades psicológicas básicas y, por lo tanto, para facilitar u obstaculizar los procesos orgánicos naturales. Otra característica importante de esta teoría es que considera que las necesidades son innatas, universales y constantes a lo largo del desarrollo evolutivo, lo que significa que las personas buscan la satisfacción de estas necesidades desde los inicios de su infancia y durante toda la vida, y que son necesarias independientemente de la edad, el género, la clase social o la cultura.

Además, la teoría postula que algunos procesos naturales como la búsqueda del bienestar solo se producen de forma óptima cuando una persona experimenta la satisfacción de estos nutrientes esenciales o, alternativamente, en la medida en que la persona tenga recursos internos suficientes para sustentar su propio desarrollo (Deci y Ryan, 2000). Por el contrario, cuando estos procesos organísmicos se obstaculizan debido a un contexto con condiciones desfavorables, como por ejemplo un contexto excesivamente controlador, en el que se presentan elevadas demandas o en el que las personas se sienten rechazadas, se defiende que las necesidades se frustrarán y se suplirán por procesos alternativos y a menudo defensivos o de auto-protección. Estos procesos alternativos tienen su utilidad funcional en estas condiciones contextuales negativas, pero en ningún caso conducen a un desarrollo óptimo. En concreto, estos procesos alternativos llevados a cabo en compensación de la experiencia de que las necesidades no estén satisfechas o estén frustradas conducen a un funcionamiento psicológico desadaptativo, así como a la tendencia a evitar preocuparse por los demás y a centrarse en uno mismo, a dejar de implicarse psicológicamente en las actividades que se realizan o, en los casos más extremos, a implicarse en actividades antisociales.

Así pues, en esta mini-teoría se destaca la importancia de la satisfacción de las tres necesidades psicológicas básicas como requisito indispensable para alcanzar la salud y el crecimiento personal y se considera que las necesidades de competencia, autonomía y relación hacen referencia a la estructura de la psique humana, y a la tendencia innata y duradera en el tiempo hacia la consecución de la eficacia, la conexión y la coherencia (Deci y Ryan, 2000).

Específicamente, uno de los supuestos teóricos más importantes de la BPNT es que la satisfacción de las tres necesidades psicológicas básicas constituye el proceso psicológico central a través del cual se produce el bienestar, el desarrollo y el crecimiento óptimo, así como otras consecuencias positivas (Deci y Ryan, 2000). Pero por otra parte, más allá del crecimiento psicológico y del bienestar, la BPNT también considera que las personas pueden mostrar patrones afectivos, cognitivos y conductuales que representen la parte no óptima o el lado más oscuro de la naturaleza humana.

Aunque desde la formulación inicial de la BPNT sus autores han reconocido las consecuencias negativas de la frustración de las necesidades psicológicas básicas sobre el aumento del malestar de las personas (Deci y Ryan, 2000), existe muy poca investigación en el contexto deportivo que haya profundizado sobre este lado oscuro de la naturaleza humana. Precisamente, hasta hace poco tiempo no se había incorporado el estudio de la frustración de las necesidades psicológicas básicas de los deportistas (Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011). Esto se debe principalmente al hecho de que en las investigaciones previas en el contexto deportivo se ha considerado que las bajas puntuaciones en la satisfacción de las necesidades eran equivalentes a la presencia de frustración de las mismas. Sin embargo, hoy en día existe una clara diferenciación entre ambos constructos y se presenta un amplio consenso sobre la conveniencia de evaluar ambas variables psicológicas (es decir, la satisfacción y la frustración de las necesidades psicológicas básicas) para recoger de forma más fiel el impacto que la participación deportiva puede tener sobre el bienestar y el malestar físico y psicológico de los deportistas. De hecho, analizar tanto la satisfacción como la frustración

de las necesidades psicológicas básicas nos ayuda a realizar un análisis más amplio de las experiencias psicológicas de los deportistas en el entorno deportivo y permite a los investigadores realizar predicciones más fiables respecto a los diferentes correlatos relacionados con la salud. En concreto, la teoría defiende que la satisfacción de las necesidades psicológicas se relaciona más directamente con un estado experiencial positivo y que predecirá más fuertemente el bienestar de las personas, mientras que la frustración de las mismas representa una medida que se enfoca directamente hacia el estado experiencial negativo y que predecirá mejor las experiencias de un funcionamiento problemático entre los deportistas, así como su malestar.

Además, el hecho de que las tres necesidades psicológicas básicas se consideren innatas y no aprendidas ofrece un contenido motivacional a la vida y, por otra parte, el hecho de considerarlas como nutrientes esenciales para la salud y el bienestar de las personas implica que, por ejemplo, un contexto social que fomenta la competencia pero no consigue satisfacer la necesidad de relación provoque cierta disminución del bienestar. De una manera similar, un contexto que frustre activamente todas o alguna de las necesidades incrementará directamente las experiencias de malestar (Ryan y Deci, 2000b).

Centrando la atención en el contexto de interés (el fútbol base), y siguiendo los postulados de la BPNT, en esta tesis se defiende que los jóvenes jugadores de fútbol pueden experimentar que sus necesidades psicológicas básicas están satisfechas como consecuencia del apoyo que reciben del contexto social. Así, un contexto adecuado podría favorecer la satisfacción de las necesidades psicológicas básicas de un jugador y facilitar que se perciba a sí mismo con gran competencia, autonomía y con una buena relación con las otras personas de su equipo. Un jugador

tiene satisfecha su necesidad de competencia ya que se siente hábil jugando al fútbol y percibe que tiene un buen rendimiento personal tanto en los partidos como en las sesiones de entrenamiento. Por otra parte, percibe que tiene satisfecha su necesidad de autonomía porque se siente libre para expresar sus ideas y sus opiniones, ve que tiene la oportunidad de participar en las decisiones sobre las estrategias que podrían utilizar en los entrenamientos y en los partidos y también percibe que se siente libre de hacer las cosas a su propia manera. Por último, tener satisfecha de la necesidad de relación puede experimentarse como consecuencia de sentir que los compañeros del equipo y el entrenador le apoyan, le comprenden y le valoran.

Como se ha mencionado previamente, durante un largo periodo de tiempo, la baja satisfacción de las necesidades ha sido equiparada erróneamente a la frustración de las mismas. Sin embargo, cuando decimos, por ejemplo, que se da una baja satisfacción de la necesidad de competencia, esto nos indica que el deportista se siente con poco grado de competencia, posiblemente porque no ha rendido bien. Esto difiere de la frustración de la necesidad de competencia, ya que en este último caso el deportista percibiría que el contexto está actuando activamente para que se sienta incompetente, esto es, impidiéndole que consiga sentirse competente, lo cual produce un grado determinado de frustración de la necesidad de competencia, o de la necesidad a la que se esté atacando activamente.

De esta manera, centrándonos en la experiencia de frustración de las necesidades psicológicas básicas de los deportistas, sabemos que hay situaciones en un contexto determinado, como los entrenamientos deportivos, en las que se pueden obstaculizar y frustrar activamente las necesidades psicológicas básicas con las consecuentes repercusiones

negativas para la salud y el bienestar (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). En este sentido, cuando los jugadores sienten que hay situaciones en las que se les impide que se sientan competentes o cuando les dicen cosas que los hacen sentir incompetentes, se contribuye a la frustración de su necesidad de competencia. Por otro lado, los jugadores sienten que se frustra su necesidad de autonomía cuando ellos perciben que se les empuja a comportarse de una forma determinada en los entrenamientos y en los partidos, o sienten que no se les permite tomar decisiones respecto a la forma de entrenar. Además, pueden existir otras situaciones en las que los jugadores sientan que no gustan o que están siendo rechazados por el resto de jugadores del equipo o por el mismo entrenador, o incluso que sientan que otras personas en el equipo les envidian cuando tienen éxito. Todo esto contribuirá, sin duda, a frustrar su necesidad de relación.

Respecto a la manera de entender el concepto de necesidades, observamos que existen algunas similitudes y algunas diferencias entre como las define la BPNT y como las delimitan otras teorías. Por ejemplo, según Deci y Ryan (2000) existe cierto acuerdo en la forma en que las considera Murray (1938) y la SDT ya que ambos consideran que las necesidades son psicológicas y no físicas. Sin embargo, Murray defiende que las necesidades psicológicas se adquieren a lo largo de la vida y que no son innatas, en contraposición con lo que se sostiene desde la BPNT. Por otra parte, para Hull (1943) las necesidades sí que son innatas, pero defiende la existencia de unas necesidades fisiológicas, y no psicológicas, que cuando se satisfacen conducen al bienestar, mientras que cuando no están satisfechas conllevan la experiencia de malestar. Además, desde esta perspectiva, se considera que cuando las necesidades no están satisfechas suponen unos déficits fisiológicos

disruptivos que conllevan el desequilibrio del organismo y que en consecuencia empuja a la persona a actuar de una forma determinada para recuperar la satisfacción de las necesidades y para devolver el equilibrio al organismo. Según Deci y Ryan (2000) una idea central de las teorías del impulso es la asunción de que la base del organismo humano es el equilibrio, y que la satisfacción de la necesidad constituye el proceso que combate sus carencias, tratando de recuperar el estado óptimo de calma. Por lo tanto, estas teorías presentan una importante diferencia respecto a la BPNT, puesto que, mientras que en la teoría del impulso de Hull se considera a la persona como un ser pasivo que se mueve cuando se da un desequilibrio, en la BPNT se defiende que la naturaleza humana está orientada de forma inherente hacia el crecimiento y a actuar y a participar en las actividades que resultan interesantes y que mueven a las personas hacia la coherencia y la integridad personal.

Además, la BPNT defiende que si las personas están en un contexto en el que se favorece la satisfacción de sus necesidades psicológicas básicas de competencia, autonomía y relación, su interés se centrará en la consecución de su meta o en realizar actividades interesantes y agradables, lo que consecuentemente conducirá a su bienestar. Sin embargo, si las personas sienten que sus necesidades están siendo frustradas de manera activa, esto conllevará consecuencias no óptimas o disfuncionales como las mencionadas anteriormente (Ryan y Deci, 2000a), pero no necesariamente será este estado de carencia el que les lleve a funcionar para encontrar el equilibrio.

Así, desde la perspectiva de las teorías del impulso se considera que el objetivo funcional de la conducta de las personas se puede interpretar como la satisfacción de necesidades. Mientras que en la

BPNT se defiende que los procesos vitales innatos y las conductas que los acompañan pueden producirse de forma natural, sin la presión de que exista un déficit en alguna necesidad (Deci y Ryan, 2000). La BPNT indica que con el fin de mantener estos procesos vitales innatos, así como para que se produzcan las diferentes consecuencias positivas, se requiere que se satisfagan los nutrientes (i.e, las necesidades psicológicas básicas). Pero la BPNT no considera que la satisfacción de las necesidades psicológicas básicas sea el objetivo principal por el que se justifican todas las acciones. Admite, por supuesto, que hay momentos en los que las personas actúan específicamente tratando de satisfacer sus necesidades psicológicas básicas, pero, de forma general, la satisfacción de las necesidades de una persona no se alcanza actuando expresamente con el propósito de querer satisfacerlas, sino más bien a través de la implicación en actividades que resultan agradables, interesantes o importantes.

1.2.2.1. Contexto social

La BPNT defiende que el contexto social influye sobre el bienestar y el malestar de las personas, y que esta influencia está mediada por el grado en el cual las tres necesidades psicológicas básicas de competencia, autonomía y relación están satisfechas o frustradas. También postula que tanto las condiciones ambientales adecuadas como las diferencias individuales actúan como antecedentes de la satisfacción de las necesidades psicológicas básicas de los deportistas contribuyendo a facilitar su proceso de crecimiento natural. Este crecimiento natural se refleja en indicadores tales como la vitalidad y la salud mental. Sin embargo, los procesos que perjudiquen la autonomía,

la competencia y la relación de las personas se asociarán con un peor bienestar y un mayor malestar (Deci y Ryan, 2000).

Específicamente, la BPNT se centra en la forma en la que el contexto social facilita las oportunidades para la consecución de la satisfacción o la frustración de las necesidades psicológicas básicas y su consecuente bienestar o malestar (Ryan y Deci, 2000a). En este sentido, se defiende que el estilo interpersonal que adopten las personas significativas en las interacciones tendrá un importante papel a la hora de favorecer la satisfacción o la frustración de las necesidades psicológicas básicas de las personas. En el contexto del fútbol base, existen personas significativas como los padres, los pares y los entrenadores que son muy importantes para los jóvenes deportistas. Esta tesis se centra específicamente en los entrenadores ya que se ha informado que estos, incluso más que los padres, influyen de forma importante en las experiencias psicológicas que los deportistas obtienen de su participación deportiva (Reinboth et al., 2004; Smoll y Smith, 2002), y que sus conductas se relacionan con el grado de bienestar o malestar de los deportistas (Amorose, 2007; Duda y Balaguer, 2007).

Desde sus inicios, la teoría de la autodeterminación ha defendido que en el contexto social pueden observarse conductas de los otros significativos que apoyan la autonomía o que son controladoras. Siguiendo esta clasificación propuesta por la SDT, Vallerand y Losier (1999) sugirieron que en el contexto deportivo las conductas de los entrenadores podrían verse en términos de dos estilos interpersonales, denominados estilo interpersonal de apoyo a la autonomía y estilo interpersonal controlador, y proporcionaron ejemplos de conductas de entrenadores con esos estilos.

Los entrenadores que apoyan la autonomía, ofrecen oportunidades de elección, fomentan la toma de iniciativas y las conductas auto-dirigidas de los deportistas (Black y Deci, 2000; Reeve et al., 1999). Más detalladamente, los entrenadores que apoyan la autonomía proporcionan todas las opciones posibles dentro de los límites y las normas que imponen a los deportistas; explican el porqué de las tareas, las limitaciones y las normas; intentan conocer los sentimientos de los deportistas y dan oportunidades para que éstos puedan tomar iniciativas y trabajar de forma independiente; tratan de proporcionar retroalimentación de manera no controladora sobre la competencia de sus jugadores, evitan el control manifiesto sobre las conductas de los deportistas, evitan realizar críticas que hagan que los jugadores se sientan culpables, evitan hablarles de manera controladora o intimidadora y ofrecerles recompensas tangibles y también evitan la implicación en el ego entre los jugadores de su equipo (Mageau y Vallerand, 2003).

Esta dimensión del estilo interpersonal de apoyo a la autonomía es en la que se han centrado la mayor parte de las investigaciones previas basadas en la BPNT. Específicamente, los estudios centrados en el contexto deportivo han demostrado que cuando los entrenadores se comportan de este modo y apoyan la autonomía de sus jugadores, los deportistas experimentan una mayor satisfacción de sus necesidades psicológicas básicas (Adie et al., 2008; Gagné et al., 2003). Además, la percepción del apoyo a la autonomía y la consecuente satisfacción de las necesidades psicológicas predicen consecuencias positivas como la diversión, la vitalidad y el afecto positivo de los deportistas (Adie et al., 2008; Álvarez, Balaguer, Castillo y Duda, 2009; Gagné et al., 2003).

Por otro lado, los entrenadores que presentan un estilo interpersonal controlador, tienden a comportarse de forma coercitiva, presionando y siendo autoritarios con los objetivos que plantean a sus deportistas, con la finalidad de imponerles una forma específica y preconcebida de pensar, sentir y comportarse (Bartholomew, Ntoumanis y Thøgersen-Ntoumani, 2010). Sabemos que a través de este control los entrenadores pueden conseguir objetivos a corto plazo como por ejemplo que los jugadores se comporten como ellos quieren en ese momento, pero estas conductas no serán internalizadas por los jugadores, y de este modo no tendrán una duración prolongada en el tiempo (Bartholomew, Ntoumanis y Thøgersen-Ntoumani, 2009). Más concretamente, se considera que los deportistas perciben que la presión que ejercen sobre ellos es aquello que les impulsa a actuar de esa determinada manera, de forma que cuando esa presión desaparezca también desaparecerá la conducta.

Una de las principales contribuciones sobre el estilo controlador del entrenador en el contexto deportivo la constituyeron los diferentes trabajos realizados por Bartholomew y sus colegas (2009), quienes hicieron una revisión exhaustiva de las estrategias motivacionales controladoras de los entrenadores bajo la perspectiva de la teoría de la autodeterminación y presentaron una taxonomía preliminar de seis estrategias de control. Estas estrategias incluyen las recompensas materiales, la retroalimentación controladora, el control personal excesivo, conductas de intimidación, la promoción de la implicación en el ego y la atención condicional. Posteriormente, esta taxonomía de conductas controladoras contribuyó al desarrollo de la Escala de Conductas Controladoras del Entrenador (CCBS, Bartholomew et al., 2010), en la que se diferenciaron cuatro dimensiones: el uso

controlador de recompensas, la atención condicional negativa, las conductas de intimidación y el excesivo control personal.

Desde la teoría se defiende que cuando los entrenadores se comportan de manera controladora y presionan a sus deportistas, provocan la frustración de sus necesidades psicológicas básicas de autonomía, competencia y relación. Esto, a su vez, da lugar a una variedad de consecuencias negativas para los deportistas, lo que se espera que perjudique su bienestar y que aumente su malestar.

En conclusión, tal y como se muestra en la Figura 1, la BPNT postula que las conductas de apoyo a la autonomía de los entrenadores favorecerán las necesidades psicológicas básicas de los deportistas y así promoverá su bienestar y prevendrá su malestar. Por el contrario, las conductas controladoras de los entrenadores aumentarán la frustración de las necesidades de los deportistas, aumentando de esta forma su malestar y disminuyendo su bienestar. Consecuentemente, los deportistas que presentan altos niveles de bienestar y bajos niveles de malestar disfrutarán de un funcionamiento óptimo y, a su vez, se favorecerá su crecimiento personal (Ryan et al., 2008).

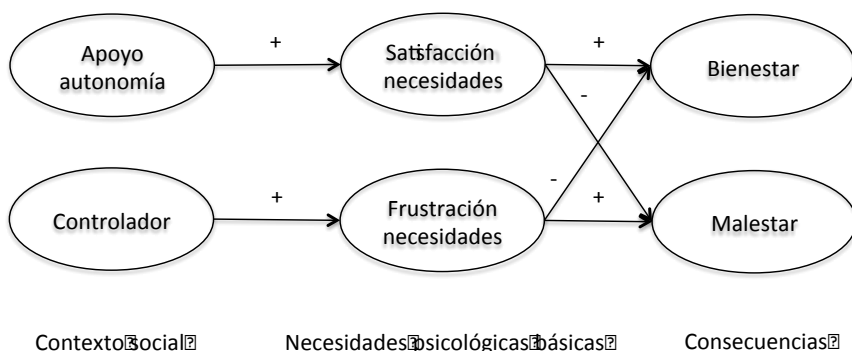


Figura 1. Representación de los principios centrales de la teoría de las necesidades psicológicas básicas

1.3. REVISIÓN DE LA LITERATURA

Con el fin de ahondar en los postulados de la BPNT estudiados en los artículos de esta tesis hemos realizado una revisión de la literatura científica publicada en las últimas décadas. La revisión se ha centrado principalmente en el contexto deportivo, pero también considera algunos estudios del campo de la danza y la educación física. Todos los estudios revisados se basan en la BPNT y evalúan al menos algunas de las principales características del entorno social (i.e., la percepción de apoyo a la autonomía o la percepción del estilo controlador de entrenadores o profesores), la satisfacción o frustración de las necesidades psicológicas básicas de los deportistas, bailarines o estudiantes, y los indicadores de bienestar (principalmente afecto positivo, autoestima y vitalidad subjetiva) y de malestar (principalmente *burnout*).

Las investigaciones apoyadas en el marco de la BPNT, realizadas en el contexto deportivo, podríamos agruparlas en dos periodos. En un primer periodo los investigadores se centran principalmente en la dimensión del estilo interpersonal de apoyo a la autonomía y analizan su relación con la satisfacción de las necesidades psicológicas básicas y los indicadores de bienestar o malestar. El principio de este periodo se caracteriza por haber utilizado principalmente una metodología transversal en las investigaciones (e.g., Adie et al., 2008; López-Walle et al., 2012), aunque al final ya incorpora varios estudios longitudinales (e.g., Coatsworth y Conroy, 2009; Reinboth y Duda, 2006). Además, durante este período también se hace eco el estudio del papel mediador de las necesidades psicológicas básicas, incluyéndose en diversas investigaciones (e.g., Adie, Duda y Ntoumanis, 2012; Quested y Duda,

2011). En un segundo periodo se produce un importante avance en la literatura y se incorpora el estudio de la parte negativa de la BPNT, de manera que comienzan a surgir algunos trabajos que introducen complementariamente las dos dimensiones del contexto deportivo (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Pelletier, Fortier, Vallerand y Briere, 2001) y en un caso en concreto se ponen a prueba modelos en los que se introducen tanto la parte positiva como la negativa de la BPNT (i.e., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Durante el primer periodo se ha publicado un considerable número de estudios fundamentados en la BPNT realizados con muestras de deportistas desde edades tempranas a edades adultas y que participaban en diferentes deportes como el cricket, hockey, rugby, fútbol o voleibol. En estos estudios se ha ofrecido apoyo empírico a las relaciones postuladas teóricamente entre las percepciones de los deportistas sobre el apoyo a la autonomía ofrecido por su entrenador, la satisfacción de sus necesidades psicológicas básicas y diferentes índices de bienestar y malestar (e.g., Adie et al., 2008; López-Walle et al., 2012).

Concretamente, los resultados mostraron que las percepciones de los deportistas sobre el estilo interpersonal de apoyo a la autonomía de su entrenador, predecían positivamente la satisfacción de sus necesidades psicológicas básicas, tanto tomando cada necesidad por separado (e.g., Adie et al., 2008; Amorose y Anderson-Butcher, 2007), como analizando las tres necesidades conjuntamente (e.g., Álvarez et al., 2009). Sin embargo, hay algunos estudios que no han encontrado un apoyo total a las relaciones planteadas por la BPNT (e.g., Balaguer, Castillo y Duda, 2008; Reinboth et al., 2004). Por ejemplo, Balaguer et al. (2008), en su estudio con deportistas de diferentes deportes, mostraron

que las percepciones de los deportistas sobre el apoyo a la autonomía ofrecido por su entrenador predecían positivamente la satisfacción de sus necesidades de autonomía y relación, pero no la de competencia. Por otra parte, los resultados del estudio de Reinboth et al. (2004) con deportistas ingleses indicaron que la percepción del estilo interpersonal de apoyo a la autonomía predecía en sentido positivo la satisfacción de la necesidad de autonomía, mientras que las necesidades de competencia y de relación, se relacionaban positivamente con otras dimensiones del contexto social (en concreto con el clima de implicación en la tarea y el apoyo social del entrenador, respectivamente).

Centrando la atención en las relaciones entre la satisfacción de las necesidades psicológicas básicas y los indicadores de bienestar y malestar, en general, los resultados apoyaron la relación positiva entre la satisfacción de las necesidades y el bienestar, así como una relación negativa entre las necesidades y los indicadores de malestar. Concretamente, en el estudio realizado por Adie y sus colegas (2008), los resultados mostraron que la satisfacción de las tres necesidades psicológicas básicas predecía positivamente la vitalidad subjetiva; mientras que, en el estudio realizado por Reinboth y sus colegas (2004) con jóvenes jugadores de cricket y fútbol, este indicador de bienestar sólo fue predicho por la satisfacción de las necesidades de competencia y autonomía. Además, respecto a la experiencia de malestar de los deportistas, algunos estudios informaron que la satisfacción de las tres necesidades actuaba como predictor negativo del *burnout* global (Hodge, Lonsdale y Ng, 2008; Perreault, Gadreau, Lapoint y Lacroix, 2007), y lo mismo ha ocurrido cuando solo se ha tenido en cuenta alguna dimensión del *burnout* global (e.g., el agotamiento físico y

emocional en Adie et al., 2008). Adicionalmente, se ha encontrado una relación negativa entre la satisfacción de la necesidad de competencia y los síntomas físicos de los deportistas como el dolor de cabeza o de estómago (Reinboth et al., 2004).

Todos los estudios previamente mencionados analizaron la secuencia apoyo a la autonomía - necesidades psicológicas básicas - bienestar o malestar, y se realizaron mediante una metodología transversal. Sin embargo, el uso de esta metodología implica muchas limitaciones metodológicas (Schmidt y Teti, 2005). Por ejemplo, no puede proporcionar información sobre los cambios a lo largo del tiempo o las diferencias inter-individuales en cambios intra-individuales (Miller, 1998; Wohlwill, 1973). Además, los estudios transversales no pueden responder cuestiones como la estabilidad de las características o los procesos a lo largo del tiempo (Miller, 1998).

Una solución conocida para algunas deficiencias de la metodología transversal es el uso de un diseño de investigación longitudinal. Como Campbell (1988, p. 43) señaló, "hay pocos temas que consigan un mayor acuerdo entre los científicos sociales que la necesidad de incorporar estudios longitudinales en contraposición de los estudios transversales". En este sentido, los diseños longitudinales son útiles y necesarios, ya que dan la posibilidad de centrarse en el cambio intra-individual, en secuencias de desarrollo y en la concurrencia del cambio social y ambiental que permite a los investigadores obtener explicaciones de cuestiones específicas (McCall, 1977). Además, los estudios longitudinales ayudan a explorar las causas de los cambios intra-individuales porque esta metodología cumple con un requisito que, aunque no es un criterio suficiente, sí que es un

criterio necesario para realizar inferencias causales: la ordenación temporal (Baltes y Nesselroade, 1979; Campbell, 1988). Por lo tanto, este enfoque permite a los investigadores examinar los antecedentes y los consecuentes, así como hacer algunas especulaciones razonables sobre la causalidad.

En respuesta a las limitaciones de los diseños transversales, podríamos decir que se sitúa el final del primer periodo de la investigación sobre la BPNT, en el que algunos autores ponen a prueba esta teoría en el contexto deportivo y en el de la danza incorporando enfoques longitudinales en sus estudios. En estos estudios los investigadores todavía centran el foco de atención sobre el efecto de la dimensión del estilo interpersonal de apoyo a la autonomía y estudian sus repercusiones sobre la satisfacción de las necesidades y el bienestar y malestar de deportistas o bailarines. Los resultados de estos estudios longitudinales ofrecieron un apoyo general a los postulados de la teoría informando de relaciones positivas entre las percepciones de los deportistas (e.g., Adie et al., 2012), bailarines (e.g., Quedsted y Duda, 2011) o estudiantes de educación física (Standage y Gillison, 2007) sobre el apoyo a la autonomía y la satisfacción de sus tres necesidades psicológicas básicas. También han aparecido algunas discrepancias en los resultados de otros trabajos. Por ejemplo, en el estudio longitudinal realizado por Gagné y colegas (2003) con jóvenes chicas gimnastas que completaron cuestionarios diarios antes y después de 15 prácticas durante cuatro semanas en un período de no competición, solo se encontraron correlaciones positivas entre las percepciones de apoyo a la autonomía del profesor y la satisfacción de las necesidades de autonomía y relación de los gimnastas.

Por otra parte, aunque con algunas pequeñas excepciones, también se encontró apoyo general sobre la relación entre la satisfacción de las necesidades psicológicas básicas y el bienestar (e.g., Gagné et al., 2003) y el malestar (e.g., Amorose et al., 2009) de los deportistas. Centrándonos en uno de los indicadores de bienestar, encontramos que el afecto positivo se relacionó positivamente con la satisfacción de las tres necesidades psicológicas básicas en el estudio con gimnastas de Gagné y colegas (2003), mientras que en el estudio con bailarines de Quested, Duda, Ntoumanis y Maxwell (2013) se encontraron pequeñas discrepancias. Concretamente, los últimos autores encontraron algunas diferencias en función del contexto de estudio (es decir, la clase, el ensayo y la actuación). Estos autores informaron que en el contexto de clase, los cambios diarios en la satisfacción de la necesidad de competencia y relación predecían positivamente los cambios en el afecto positivo de los bailarines. Mientras que en el contexto del ensayo, los cambios diarios en la satisfacción de las necesidades de autonomía y relación predecían positivamente los cambios en el afecto positivo. Finalmente, en el contexto de la actuación fueron los cambios en la satisfacción de la necesidad de autonomía y competencia los que predecían los cambios en el afecto positivo.

En cuanto a la experiencia de autoestima en el contexto deportivo, Gagné y sus colegas (2003) hallaron relaciones positivas entre la satisfacción de las tres necesidades psicológicas básicas y la autoestima, mientras que Amorose y colegas (2009) encontraron que sólo la satisfacción de las necesidades de competencia y autonomía predecía positivamente este indicador de bienestar en una muestra de jugadores de voleibol. Por otra parte, en los estudios de Coatsworth y

Conroy (2009) con jóvenes nadadores, y en el de Standage y Gillison (2007) con jóvenes estudiantes de educación física, sólo la satisfacción de la necesidad de la competencia predijo positivamente la autoestima.

En algunos estudios anteriores en los que se ha incluido la evaluación de la vitalidad subjetiva, como el de Gagné et al. (2003), se ha indicado que la experiencia de este indicador de bienestar se relacionaba positivamente con la satisfacción de las tres necesidades psicológicas básicas; sin embargo, Reinboth y Duda (2006) vieron que solo la satisfacción de las necesidades de autonomía y relación predecía positivamente la vitalidad subjetiva de los deportistas.

En segundo lugar, en cuanto a los índices de malestar, los resultados de los estudios anteriores, aunque con algunas excepciones también han ofrecido un apoyo general a la teoría. Por ejemplo, Amorose y sus colegas (2009) en su estudio con deportistas encontraron que la satisfacción de las tres necesidades psicológicas básicas al final de la temporada predecía negativamente la experiencia de *burnout*; mientras que en los resultados presentados por Gagné y sus colegas (2003), no se halló ninguna relación significativa entre estas variables.

En cuanto al afecto negativo, otro indicador de malestar ampliamente utilizado en las investigaciones desarrolladas en el contexto deportivo y de la danza, Quested, Duda et al. (2013) encontraron resultados diferentes dependiendo del contexto de danza analizado. Los resultados de este estudio mostraron que en el contexto de la clase, los cambios diarios en la satisfacción de las necesidades de autonomía, competencia y relación predecían negativamente el afecto negativo, mientras que los cambios en la satisfacción de la necesidad de

competencia fue la única necesidad que predecía negativamente el afecto negativo en el contexto del ensayo y de la actuación.

Un principio de la BPNT es el postulado que defiende que las tres necesidades psicológicas básicas median la relación entre las percepciones del contexto social (e.g., las percepciones de las conductas de los entrenadores) y las experiencias de bienestar y malestar de los deportistas (Ryan y Deci, 2000a). Dando un paso más en la revisión de la literatura, una serie de trabajos en el contexto deportivo y de la danza han incluido el análisis del papel mediador de la satisfacción de las tres necesidades psicológicas básicas entre las percepciones de los deportistas sobre el estilo de apoyo a la autonomía del entrenador/profesor y los indicadores de bienestar y malestar de los deportistas/bailarines.

En esta línea, en el estudio transversal de López-Walle y colegas (2012) con deportistas mexicanos, se encontró apoyo a la función mediadora de la satisfacción de las tres necesidades psicológicas básicas en la relación entre las percepciones de los deportistas sobre el apoyo a la autonomía del entrenador y el bienestar, evaluado a través de los indicadores de vitalidad subjetiva y satisfacción con la vida. Sin embargo, en el estudio longitudinal con jóvenes jugadores de fútbol realizado por Adie et al. (2012), solo se encontró apoyo a que la satisfacción de las necesidades de competencia y relación mediaban la relación entre las percepciones de apoyo a la autonomía del entrenador y la vitalidad subjetiva de los jugadores.

Finalmente, en un estudio longitudinal realizado en el contexto de la danza, se apoyó la función mediadora de las tres necesidades psicológicas básicas en la relación entre los cambios en la percepción de los bailarines sobre el apoyo a la autonomía por parte de su profesor y los cambios en el *burnout* (Quested y Duda, 2011).

Entrando en el segundo período de investigación en la BPNT, desde el comienzo de la teoría, se prestó atención a la importancia de evitar las condiciones que podrían frustrar directamente las necesidades psicológicas básicas de las personas, debido a las importantes consecuencias negativas que esto podría tener sobre su malestar (Deci y Ryan, 2000). Sin embargo, solo desde hace relativamente poco tiempo se ha prestado atención a estas condiciones negativas (por ejemplo, el estilo interpersonal controlador) en el contexto deportivo, así como a su efecto negativo sobre las necesidades psicológicas básicas de los deportistas. Además, también ha sido recientemente cuando la literatura científica ha prestado atención al estudio del papel de la frustración de las necesidades psicológicas básicas, sus antecedentes y sus consecuentes (Vallerand, Pelletier y Koestner, 2008). Como hemos señalado en otro lugar de la tesis, el hecho de que exista poca investigación sobre las causas y consecuencias directas de la frustración de las necesidades psicológicas básicas posiblemente se debe a que generalmente los estudios previos han equiparado, erróneamente, las bajas puntuaciones de satisfacción de las necesidades con la presencia de frustración de las necesidades psicológicas.

Centrando la atención en las condiciones del contexto social, en esta tesis doctoral se defiende la importancia de incorporar simultáneamente ambos estilos interpersonales en los estudios científicos. Al evaluar ambos estilos interpersonales (estilo de apoyo a la autonomía y controlador) consideramos que se consigue una visión más comprensiva y realista de las características del entorno social que influyen en la satisfacción y la frustración de las necesidades de los deportistas (Bartholomew, 2011). De esta forma, los trabajos científicos

que incorporan tanto el estilo de apoyo a la autonomía como el estilo controlador ayudarán a determinar las condiciones sociales específicas que favorecen o perjudican el bienestar psicológico y físico entre los jóvenes deportistas.

Hace relativamente poco tiempo que se ha incorporado la dimensión del estilo controlador del entrenador en algunos trabajos sobre la BPNT realizados en el contexto deportivo. Uno de estos primeros estudios fue realizado por Pelletier et al. (2001), quienes se centraron en una muestra de jóvenes nadadoras y sus entrenadores para analizar la relación de ambos estilos interpersonales y las regulaciones motivacionales de las deportistas. Unos años más tarde, Blanchard, Amiot, Perreault, Vallerand y Provencher (2009) también incorporaron el estilo controlador de los entrenadores en su investigación, encontrando una relación negativa entre la percepción de control por parte del entrenador y las necesidades psicológicas básicas de los deportistas. Los resultados de este estudio también mostraron relaciones negativas significativas, aunque relativamente pequeñas, entre la percepción de los deportistas de un apoyo a la autonomía y la percepción de un estilo controlador, lo que se interpretó como que ambos estilos podrían no ser dos extremos opuestos de un mismo continuo. Finalmente, destaca el estudio exhaustivo sobre las conductas controladoras de los entrenadores realizado por Bartholomew et al. (2009) y su posterior desarrollo la Escala de Conductas Controladoras del Entrenador (CCBS, Bartholomew et al., 2010).

Por otro lado, centrandó la atención en la parte negativa de la BPNT, en la literatura científica también existía la necesidad de desarrollar un instrumento para medir el grado de frustración de las necesidades psicológicas básicas. Esta contribución fue realizada por

Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani (2011) a través del desarrollo de la Escala de Frustración de las Necesidades Psicológicas. Con este trabajo, los autores ayudaron a clarificar las diferencias entre la satisfacción y la frustración de las necesidades psicológicas básicas, y también proporcionaron una herramienta útil para captar el estado vivencial negativo que se produce cuando los deportistas perciben que se están frustrando activamente sus necesidades de competencia, autonomía y relación.

Los resultados de los estudios transversales que se han realizado en el contexto deportivo evaluando simultáneamente la parte oscura y la parte positiva de la BPNT, revelaron que las percepciones que tenían los jugadores sobre el apoyo a la autonomía recibido por parte del entrenador predecían positivamente la satisfacción de las necesidades psicológicas básicas y negativamente su frustración; mientras que por otro lado, las percepciones sobre el estilo de entrenamiento controlador predecían positivamente la frustración de las necesidades de los deportistas (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Es importante destacar que sólo en el estudio longitudinal de mediciones diarias presentado dentro del trabajo de Bartholomew, Ntoumanis, Ryan, Bosch y sus colegas (2011), los resultados mostraron que las percepciones de un estilo controlador predecían negativamente la satisfacción de las necesidades psicológicas básicas de los deportistas, además de predecir positivamente su frustración.

En cuanto a las consecuencias de la satisfacción y la frustración de las necesidades psicológicas básicas, la investigación previa que ha considerado estos dos aspectos ha mostrado que la satisfacción de las necesidades psicológicas básicas de los deportistas predecía

positivamente los indicadores de bienestar de vitalidad subjetiva (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011) y de afecto positivo (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) y predecía negativamente los indicadores de malestar tales como el afecto negativo y el *burnout* (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Por otra parte, la frustración de las necesidades psicológicas básicas de los deportistas predecían positivamente el *burnout* global o algunas de sus dimensiones (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011), así como otros indicadores de malestar como la depresión, los trastornos alimentarios, el afecto negativo y los síntomas físicos (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), y también predijo negativamente la vitalidad subjetiva (Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011).

Por último, destacar que toda la investigación que se ha mencionado anteriormente se ha realizado desde el nivel individual. Esto significa que las investigaciones se han centrado y han examinado las interrelaciones propuestas en la BPNT desde un nivel individual utilizando metodología transversal y longitudinal. Este enfoque individual ayuda a entender cómo las percepciones individuales de los deportistas sobre el estilo interpersonal de sus entrenadores influyen en sus propias necesidades psicológicas básicas, lo que a su vez tiene diferentes consecuencias. El análisis de los datos a este nivel individual no se centra en la influencia que tiene que los deportistas estén agrupados dentro de un equipo, por lo que puede no reflejar de forma fiel cómo afecta el hecho de pertenecer a un equipo sobre diferentes factores sociales y cognitivos de los jugadores. Por lo tanto, es

importante combinar en los estudios científicos en el ámbito deportivo el uso de enfoques realizados a nivel individual y a nivel de equipo, ya que esto nos ayudará a entender cómo un clima específico creado en un equipo, percibido y compartido por los diferentes jugadores, influye en las necesidades y en otras variables de los jugadores.

1.4. OBJETIVOS

Tal y como hemos indicado previamente, la BPNT ha defendido de forma consistente que el bienestar de los jóvenes se promueve a través de los contextos sociales adaptativos, en los que las personas significativas presentan principalmente un estilo interpersonal de apoyo a la autonomía, lo que consecuentemente influye sobre la satisfacción de las necesidades psicológicas básicas de los jugadores (Deci y Ryan, 2000). Por otra parte, también se ha defendido que el malestar de los jugadores aumenta cuando los entrenadores presentan un estilo interpersonal controlador, el que a su vez frustra las necesidades psicológicas básicas de los jugadores (Deci y Ryan, 2000).

Estudios empíricos en el contexto del deporte, la danza o la educación física han confirmado los fundamentos teóricos de la BPNT en muestras de deportistas jóvenes (e.g., López-Walle et al., 2012) y adultos (e.g., Adie et al., 2008) que participaban en diferentes disciplinas como el cricket, el hockey, el rugby o el voleibol; al igual que en muestras de jóvenes bailarines vocacionales (e.g., Quested y Duda, 2011) y de estudiantes de educación física de instituto (e.g., Standage y Gillison, 2007). De forma general, los estudios previos han demostrado que las percepciones de un estilo interpersonal de apoyo a la autonomía promovían la satisfacción de las necesidades psicológicas básicas (e.g.,

López-Walle et al., 2012) y disminuían la frustración de las mismas (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Por otra parte, la percepción del estilo interpersonal controlador aumentaba la frustración de las necesidades psicológicas básicas y solo mostró disminuir la satisfacción de las mismas en un estudio longitudinal a nivel intra-individual (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Además, la satisfacción de las necesidades psicológicas básicas predecía positivamente el bienestar en los deportistas (e.g., López-Walle et al., 2012) y negativamente el malestar en bailarines (e.g., Quested y Duda, 2011); mientras que la frustración de las necesidades de los deportistas predecía positivamente el malestar (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) y negativamente el bienestar (e.g., Felton y Jowett, 2014).

Tomando en consideración que la mayoría de los estudios se han llevado a cabo analizando la parte positiva de la teoría (i.e., la influencia del apoyo a la autonomía sobre la satisfacción de las necesidades y sobre los indicadores de bienestar), y que la parte negativa (i.e., la influencia del control sobre la frustración de las necesidades de las necesidades y sobre el malestar) se ha incorporado hace relativamente poco tiempo y principalmente a través de estudios transversales, parece necesario contribuir y avanzar la literatura científica a través de la realización de trabajos longitudinales que estudien simultáneamente tanto la parte positiva como la negativa de la BPNT.

En este sentido, en esta tesis analizaremos en detalle los aspectos que favorecen el desarrollo óptimo de los jóvenes deportistas y que impiden su malestar, considerando la influencia de las percepciones que tienen los deportistas sobre el estilo de apoyo a la autonomía y el estilo controlador de sus entrenadores, y el impacto que esto tiene

sobre la satisfacción y la frustración de sus necesidades psicológicas básicas. Con el fin de conseguir este objetivo utilizamos diferentes acercamientos metodológicos que incluyen el uso de estudios longitudinales, el análisis de la invarianza a lo largo del tiempo y a través de diferentes muestras e introduciendo el uso de una metodología multinivel.

1.4.1. OBJETIVO PRINCIPAL Y OBJETIVOS ESPECÍFICOS

En línea con los postulados teóricos de la BPNT y con estudios científicos previos, el objetivo principal de este trabajo doctoral ha sido analizar si las percepciones sobre el estilo interpersonal del entrenador repercuten sobre el bienestar y el malestar de los jóvenes jugadores de fútbol y estudiar cuáles son los mecanismos mediadores que intervienen en esta relación.

Para conseguir este objetivo, se han planificado una serie de objetivos específicos que han sido distribuidos a lo largo de cinco estudios empíricos diferentes:

- Objetivo específico 1: Analizar desde una aproximación transversal las relaciones entre las percepciones de apoyo a la autonomía, la satisfacción de las necesidades psicológicas básicas, diferentes indicadores de bienestar (i.e., el afecto positivo y la vitalidad subjetiva). Analizar el papel mediador de la satisfacción de las necesidades psicológicas básicas en la relación entre la percepción de apoyo a la autonomía y el bienestar de los jóvenes. Además, se estudiará si las relaciones analizadas se mantienen invariantes a través de dos muestras diferentes (i.e., jóvenes jugadores de fútbol y jóvenes bailarines) (Estudio 1).

- Objetivo específico 2: Analizar desde una aproximación transversal las relaciones entre las percepciones de los jugadores de fútbol sobre el estilo interpersonal controlador de su entrenador, la frustración de sus necesidades psicológicas básicas y su malestar (Estudio 2).
- Objetivo específico 3: Analizar desde una aproximación longitudinal las relaciones entre los cambios en las percepciones de los deportistas sobre el estilo interpersonal del entrenador (i.e., apoyo a la autonomía y controlador) con los cambios en la satisfacción y en la frustración de sus necesidades psicológicas básicas y con los cambios en su bienestar (autoestima y vitalidad subjetiva) y su malestar (*burnout*), examinando el papel mediador de las necesidades psicológicas básicas y analizando de forma simultánea tanto la parte positiva como la parte negativa de la teoría (Estudios 3 y 4).
- Objetivo específico 4: Extender el objetivo previo alargando el marco temporal a dos temporadas competitivas y posibilitando así el análisis de la invarianza de la secuencia defendida por la BPNT a lo largo del tiempo, analizando también el papel mediador de las necesidades psicológicas básicas (Estudio 4).
- Objetivo específico 5: Incorporar una aproximación longitudinal multinivel para analizar si las percepciones compartidas de los deportistas sobre el estilo interpersonal de los entrenadores en sus equipos predicen la satisfacción y la frustración de sus necesidades psicológicas básicas a nivel individual y si esto influye sobre su bienestar y malestar, examinando también el papel mediador de las necesidades psicológicas básicas (Estudio 5).

GENERAL INTRODUCTION

“The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being”

WHO Constitution, 1946.

The World Health Organization defines health as a general state of complete physical, mental and social well-being, and clearly distinguishes it from the mere absence of disease or ill-being (WHO, 1946). According to the fundamental values of this organization, one of its main and recurrent goals over time is to focus on the improvement of people’s health and well-being worldwide, trying to reduce health inequalities, to strengthen public health in general and to ensure people-centered health systems that are universal, equitable, sustainable and of high quality (WHO, 2012).

Within the goal of enhancing people’s health, the promotion of young people’s physical and psychological well-being seems especially important. Focusing on this population, it is important to consider that young people face many pressures and challenges, including growing academic expectations, changes in their social relationships with family and friends, as well as physical and emotional changes associated with

their maturation (Balaguer, Castillo, & Pastor, 2002). Moreover, the lifestyle established during this transitional period can continue into adulthood and remain stable over time. Thus when the adolescents establish a lifestyle including risky behaviors such as the use of tobacco and alcohol, or, alternately, if they adopt a healthy lifestyle including the adoption of healthy diet and the engagement in physical activity, this will influence on their subsequent adult's physical and psychological health (Kjønniksen, Torsheim, & Wold, 2008; WHO, 2012b). Consequently, these years mark an important period when the decisions made on their lifestyle may potentially impact their future experiences of physical and psychological well- and ill-being. Taking this into account, the European Strategy for Child and Adolescent Health and Development set the goal of supporting European Member States in developing new strategies and policies to enable children and adolescents to achieve their full potential in health and development and consequently, reduce the cases of avoidable disease and mortality (WHO, 2008).

In order to enable youth to achieve their highest possible level of well-being, there are several risk factors that should be urgently addressed. Undoubtedly, one of the most salient risk factors to address is growing physical inactivity. Considering the population worldwide, physical inactivity is thought to be the fourth leading risk factor for death globally, and more specifically it is claimed to be responsible for 6% of the deaths worldwide (WHO, 2009). Taking into account the gravity of these data, the World Health Organization defends the role of physical activity as a means to promote physical as well as mental health among people of all ages and all socioeconomic levels (WHO, 2010).

The nature of leisure time activities of the children and adolescents of our societies seems to have drastically changed worldwide during the last decades. In the past, young people used to spend most of their leisure time playing outside, involved in physically active games or activities. However, due to many different factors, young people nowadays tend to spend much more of their free time involved in sedentary behaviors such as watching TV, playing videogames or surfing the internet. This pattern of behavior means that the youth population does not achieve the desirable rates of physical activity, and consequently compromises their future health. The importance of physical activity for the social, mental and physical health of young people seems irrefutable, and therefore it is essential to increase efforts to promote consistent and quality engagement in physical activities across the life span.

WHO (2010) defends that physical activity during childhood and adolescence should include a large variety of activities such as play, games, sports, transportation, recreation, physical education or planned exercise, in varied and habitual contexts (i.e., in the family, at the school, and in community activities with friends). Furthermore, it is recommended that, throughout childhood and adolescence, young people should be encouraged to participate as much as possible in activities that help to foster their natural development and which are safe and enjoyable. The WHO argues that these recommendations should reach every child and youth irrespective of gender, race, ethnicity, or income level (WHO, 2010).

Doing physical activity on a regular basis has been linked to different benefits for physical and mental well-being. Some of these benefits include the improvement of the cardiorespiratory and

muscular fitness, bone health, and cardiovascular and metabolic health biomarkers (WHO, 2010). Besides, although there has been more research on the physical than on the psychological benefits of being physically active (Bauman, 2004; Saxena, Van Ommeren, Tang, & Armstrong, 2005), there is an increasing number of studies focusing on the benefits of regular physical activity on mental health (Ströhle, 2009). In this regard, some of these studies maintain that physical activity reduces symptoms of anxiety, burnout or depression (Balaguer & García-Merita, 1994; Janssen & LeBlanc, 2010; Paluska & Schwenk, 2000; Ströhle, 2009), and improves cognitive functioning, self-esteem, self-image and social skills (Janssen & LeBlanc, 2010; Taylor, Sallis, & Needle, 1985).

Research examining the role of sport as a relevant means to promote physical activity have shown that individuals who practice sport are more likely to meet the recommendations for physical activity related to health than those who do not practice it (Lamprecht & Stamm, 2005). With this focus, the European Union emphasizes the essential role of the sport movement, arguing that it may have a greater influence than any other social movement in promoting health-enhancing physical activity. For this reason, it is claimed that the various public authorities as well as private organizations should all contribute towards the goal of promoting sport participation as a tool for enhancing physical activity levels and improving peoples' health (European Commission, 2007).

Moreover, it is important to take into account that there are considerable differences in popularity and accessibility of different sports, which in turn means that some sports are more practiced than others. In this sense, soccer is considered to be the most popular sport

in the world (Reilly, Bangsbo, & Franks, 2000) with over 265 million participants worldwide (Kunz, 2007). Specifically, focusing on the European Community, soccer is often the first organized activity outside of school in which young people engage, and they may later become involved in other activities, either in addition to soccer or instead of it (Wold et al., 2013). Moreover, in comparison to other sports, grassroots soccer is widely prevalent and easily accessible even in rural areas, and it is supposed to present low costs for participation and to require fewer physical abilities than other sports. As a result of these characteristics, a high number of boys and an increasing number of girls participate every year in this sport, at different ages and within different competitive groups (Kunz, 2007).

Regarding the possible benefits that practicing sport may have on physical and psychological well-being, some authors defend that certain sports may present more health benefits than others, as they suppose higher levels of physical activity. Focusing on soccer, previous research studies have documented that soccer is a sport that entails high levels of physical activity compared to other sports (Faude et al., 2010; Krustup et al., 2010). In this regard, Faude et al. (2010) found that a six-month soccer training with overweight children was as effective in improving their physical capacity, their health-related fitness parameters and their self-esteem as a standard exercise program. Further, recreational soccer has been shown to effectively stimulate musculoskeletal, metabolic, and cardiovascular adaptations important to health, thereby reducing the risk of developing lifestyle diseases (Krustup et al., 2010). As with the studies regarding physical activity in general and the consequent psychological benefits, there is a dearth of empirical research documenting the benefits of recreational

soccer on positive mental health (Krustrup et al., 2010). In existing literature, some recent studies have found associations between soccer participation and young athletes' subjective vitality, self-esteem and life satisfaction (e.g., Álvarez, Balaguer, Castillo, & Duda, 2012; Balaguer, Castillo, Duda, & García-Merita, 2011; Castillo, Duda, Álvarez, Mercé, & Balaguer, 2011; Papaioannou et al., 2013; Wold et al., 2013).

Besides the aforementioned benefits, another important contribution of participating in grassroots soccer is an increase in the potential for sustained physical activity later in life. For instance, Kjønnsen et al. (2008) found that those boys and girls who reported playing soccer at the age of 15 had higher odds of being engaged in soccer or other physical activities at the age of 23. In this sense, it appears that playing soccer at a young age may have the potential to influence the development of health-related habits throughout life. This idea was also supported by Krustrup et al. (2010), who argued that soccer training which is experienced as a fun and rewarding activity in itself may have many important indirect effects, such as, for example, the adoption of healthy behaviors, as well as an increase in social relations.

Thus, the general consensus appears to support that participation in sport, as may be the case for grassroots soccer, leads to a considerable number of positive outcomes, including increased psychosocial development and improved physical and psychological health and well-being (Álvarez et al., 2012; Balaguer, 2013; Fraser-Thomas, Côté, & Deaken, 2005; Ommundsen, Løndal, & Loland, 2013). However, for many young athletes these positive outcomes are not obvious, rather, they show clear signs of ill-being. Some of these young athletes perceive extreme mental and physical demands placed upon

them in the sport context, which can subsequently damage their self-esteem and generate affective disorders and other experiences of ill-being, such as burnout (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Fraser-Thomas & Côté, 2009; Hall, Hill, & Appleton, 2012). We know that athletes' experiences of chronic stress associated with their sport participation can lead to burnout and, in turn, this can lead them to drop out of sport (Gould, 1996; Schmidt & Stein, 1991). While, on the other hand, when athletes enjoy their sport practice they have fewer intentions to drop out of sport and may express more frequently their intention to continue their engagement in sport (Quested, Ntoumanis et al., 2013).

In examining the reasons why some athletes have positive sports experiences and others have negative experiences, and analyzing its possible causes, some authors have showed that sport participation does not enhance well-being *per se*. Rather, it is argued that the quality of the sports experiences contributes to the promotion of the participants' well-being (e.g., Duda & Balaguer, 2007). In this sense, it is argued that the social context of the young athletes has an important influence on the way that they experience their sport participation, and determines whether it is experienced as something positive, contributing to their well-being, or as something negative, increasing their ill-being (Balaguer, 2007).

Thus, in order to enhance the athletes' healthier sport experiences and to avoid practices that increase their ill-being, it is important to understand the factors that contribute to the athletes' well- and ill-being in competitive youth sport settings. If we identify the factors that contribute to positive sport experiences, this will enable us to promote a maintained sport engagement over time. To this end, this

thesis applies a motivational perspective to investigate the impact of the social environment manifest in the sport setting on the indices of athletes' well- and ill-being, with particular emphasis placed on the motivational processes that influence these relations.

The main objective of some of the current motivational theories is to understand the motivational antecedents of health, well-being and ill-being. Of these motivational theories, self-determination theory (SDT; Deci & Ryan, 1985, 2000) is currently one of the most acknowledged, and it will be the theoretical framework of this thesis. More specifically, of the five mini-theories that compose SDT, we will center on basic psychological needs theory (BPNT; Deci & Ryan, 2000), which is particularly relevant to the study of well- and ill-being.

1.1. WELL- AND ILL-BEING

The conceptualization of well- and ill-being is an on-going challenge across different social contexts; which has puzzled philosophers for centuries and has still not found consensus amongst theorists of different disciplines (Diener, 1984; Ryan, Huta, & Deci, 2008). However, due to its complexity, it is important to establish an appropriate framework to study well- and ill-being, in order to gain a better understanding about its causes and its possible consequences. This would enable researchers to guide future studies in a better way, and will facilitate the design of new interventional studies in many different domains, including sport.

During the last decades there has already been a growing awareness that well-being is not synonymous with the absence of physical and mental ill-being (Lee & Oguzoglu, 2007). More specifically,

a considerable number of researchers maintain that well- and ill-being are best viewed as separate, independent and distinct dimensions (e.g., Diener 1984; Diener, Suh, Lucas, & Smith, 1999; Headey, Kelley, & Wearing, 1993; Ryan & Deci, 2001). To consider that well- and ill-being are largely distinct domains implies, at least in part, that the causes, consequences and correlates of well-being would not necessarily extrapolate to ill-being (Diener et al., 1999), thus emphasizing the need to evaluate both constructs. In this regard, results from previous scientific research have shown evidence that the correlates and causes of well-being are somewhat different from the correlates and causes of ill-being (Headey, Holmström, & Wearing, 1984; Huppert & Whittington, 2003). Supporting these conceptual differences between well- and ill-being, it has been argued that the distinction between the two concepts derives in part from reviewing different bodies of research (Headey et al., 1984).

Based on this idea, it is argued that, if we want to promote healthy and sustained sport participation, it is essential to conceptualize both constructs and to explore different indices of well-being, together with those of ill-being. This will enable us to understand how different factors contribute to the young athletes' well-being and their optimal development, as well as to understand how to minimize the causes of their maladapted and compromised functioning in competitive sport settings.

1.1.1. ATHLETES' WELL-BEING

Well-being is a complex and multidimensional construct that has received a variety of definitions over time. Since the time of the ancient Greeks, important philosophers such as Aristippus and Aristotle agreed

that a common denominator of human behavior is the desire to obtain happiness. However, they disagreed about the conceptualization of happiness and well-being (Aristotle, trans. 1985; Kraut, 1979; Ryan & Deci, 2001).

Nowadays, in contemporary psychology, research on well-being primarily differentiates between two relatively distinct perspectives: the hedonic and the eudaimonic perspectives (Deci & Ryan, 2008a; Ryan & Deci, 2001; Waterman, 1993).

On the one hand, the hedonic approach essentially associates well-being with pleasure and happiness, and equates the term of well-being with subjective well-being (e.g., Kahneman, Diener, & Schwarz, 1999). One of the founders of the hedonic approach of well-being was the ancient Greek philosopher Aristippus of Cyrene, who defended that the main goal of one's life is to attain the maximum pleasure in getting what one wants. According to this conceptualization of well-being, it is defended that subjective well-being implies the experience of pleasure and the avoidance of pain (Kahneman et al., 1999; Waterman, 1993). Although there is no clear conceptual specification about how hedonism is experienced, it is maintained that hedonic enjoyment can be brought about by the satisfaction of physically-, socially- and intellectually-based needs (Waterman, 1993).

In this respect, according to Kahneman et al. (1999), two of the most common indicators used to evaluate the experiences of hedonic well-being are positive and negative affect (Diener, 1984). Life satisfaction is considered to be another indicator of subjective well-being; however, it is argued that this construct does not capture the essence of hedonism as well as positive affect (Deci & Ryan, 2008a; Ryan et al., 2008).

On the other hand, from the eudaimonic approach, well-being is considered as more than just happiness, and the term well-being is equated to psychological well-being, defined as a state leading to the actualization of the human potential (e.g., Ryff & Singer, 1998). Likewise, this second perspective of well-being was established at the time of the ancient Greek philosophers. In this case, Aristotle (trans. 1985) rejected the hedonic view of well-being and instead proposed the concept of eudaimonia, arguing that authentic happiness is to be found in an activity expressing the virtue of a person (Waterman, 1993). According to Waterman (1993) and Ryan and colleagues (2008), eudaimonia is expressed through living in accordance with one's true self or personal potential. It is defined as self-realization in the pursuit of fulfilling valued human potentials and advancing one's purpose in life (Waterman, 1993). In line with Aristotle and his early work on eudaimonia, this concept is considered to cover the quality of lived experiences (Waterman, 1993). Thus, the term well-being does not merely reflect some material or emotional by-product of an activity; rather, eudaimonia reflects a way of living that focuses on what is intrinsically worthwhile to human beings (Ryan et al., 2008).

In existing sport psychology literature, eudaimonia has been captured through a number of different indicators. Some of the most commonly used indicators include engagement (e.g., Hodge, Lonsdale, & Jackson, 2009), self-esteem (e.g., Felton & Jowett, 2013), and subjective vitality (e.g., Adie, Duda, & Ntoumanis, 2008; López-Walle, Balaguer, Castillo, & Tristán, 2012).

It is noteworthy that the two conceptualizations of well-being are not considered as opposites, but merely as complementary. In this regard, there appears to be a general consensus defending that

eudaimonia is one sufficient condition to achieve subjective well-being, although it may not be a necessary condition (Ryan et al., 2008). This would be exemplified by the fact that individuals who engage in activities congruent with their own values, in which they can exert their potential (hallmarks of an eudaimonic activity), would consequently experience positive affects (as an example of hedonic well-being). However, there are many other situations in which a person can experience positive affects that may not necessarily reflect eudaimonic well-being (Waterman, 1993).

Focusing on the context of grassroots soccer, it may happen that the athletes' exertion of struggle, sacrifice and effort to achieve objectives in line with their own interests and values (according to the eudaimonic approach) on some occasions do not lead to an experience of enthusiasm and happiness (according to the hedonic approach), but, rather, these athletes experience subjective well-being when realizing their development and achieving their goals. In this sense, we consider that athletes may typically experience heightened feelings of positive affect as a result of being fully functioning, engaged, and realizing their athletic potential, all characteristics of eudaimonia (Ryan et al., 2008). In this case, eudaimonia could be a sufficient condition for the experience of hedonic well-being (for instance, when considered as positive affect). However, there could be other situations in which athletes are focused on the attainment of pleasure and the avoidance of pain, which would move the athletes away from eudaimonia. Thus, when the sole goal of happiness is the attainment of pleasure, as in the hedonic approach, athletes may deploy less desirable methods (e.g., establishing extrinsic goals, cheating) to reach this end-state of

happiness, that could here be opposed to the eudaimonic approach of well-being (Ryan et al., 2008).

Considering that each approach to well-being provides different and complementary information, it is understandable that theorists in the field of well-being have argued for the necessity of evaluating both conceptualizations (i.e., the hedonic and the eudaimonic) in order to achieve a better understanding of the factors that influence on people's subjective and psychological well-being and to further understand their differences (Nix, Ryan, Manly, & Deci, 1999; Ryan & Deci, 2001; Watermann, 1993).

The indicators of well-being used to achieve our objectives in this thesis are among the most commonly used indicators of well-being assessed in the recent sport psychology literature, as well as in other domains (Ryan & Deci, 2001). These are subjective vitality (Ryan & Frederick, 1997), self-esteem (Marsh, Parker, & Barnes, 1985), and positive affective states (Watson, Clark, & Tellegen, 1988). Subjective vitality is one indicator embedded in the eudaimonic approach, assumed to characterize individuals who are experiencing well-being (Ryan & Deci, 2001), it is defined as one's conscious experience of possessing energy and aliveness (Ryan & Frederick, 1997). Self-esteem is another widely used indicator of eudaimonic well-being in the scientific literature (Felton & Jowett, 2013), and is conceptualized as an overall evaluation of oneself (Marsh et al., 1985). Finally, we also incorporated a frequently used indicator of hedonic well-being, namely, positive affect (Diener 1984; Watson et al., 1988). Positive affect reflects the extent to which a person feels enthusiastic, active and alert. Thus, high positive affect is a state of high energy, full concentration, and pleasurable engagement (Watson et al., 1988).

1.1.2. ATHLETES' ILL-BEING

Beyond athletes' experiences of hedonic and eudaimonic well-being, it is necessary to recognize that young athletes can also display high levels of ill-being due to their sport participation. For instance, participants in competitive sport settings could experience high levels of anxiety or depression that would contribute to their ill-being and a diminished functioning, showing symptoms of physical illness, burnout or disordered eating (Adie & Bartholomew, 2013). In line with the aforementioned conceptualizations of well- and ill-being, considered as different concepts expressing independent rather than antipodal dimensions (Lee & Oguzoglu, 2007; Ryan & Deci, 2001), in this thesis we support the idea that the absence of psychological or physical ill-health does not necessarily equate to optimal functioning, and vice versa. Therefore, we believe that it is essential to examine the indices of diminished functioning and ill-being, alongside the indicators of well-being, in order to better understand how to promote optimal sport experiences amongst young athletes.

Focusing on the possible causes of ill-being, the aforementioned assumption also implies that the social-psychological conditions and processes that lead to unhealthy sport engagement and ill-being are likely different to those that promote a healthier sport participation. This highlights the importance of examining the potential antecedents of ill-being, alongside the possible determinants of well-being from the appropriate theoretical approaches.

Providing an explanation about the differences between ill-being and well-being, Headey and colleagues (1984) indicated that, originally, the study of ill-being centered on the review of the psychiatric

epidemiology literature on neurosis and depression, establishing a basis very distinct from that of the study of happiness and human potential in the well-being tradition. This traditional approach to the study of ill-being has emphasized different related variables such as socioeconomic status, sex and personality traits such as low self-esteem, introversion and neuroticism (e.g., Pearlin, Lieberman, Menaghan, & Mullan, 1981; Henderson, Byrne, & Duncan-Jones, 1981). Headey and colleagues (1984) examined the correlates and the causes of ill-being, evaluated through the measurement of negative affects, worry and somatic complaints, and concluded that social background variables - specifically socioeconomic status - had a notable impact on ill-being, with low socio-economic status related to ill-being. Moreover, the same study showed that personal competence, defined as the feeling that one can control and organize one's life, was also strongly and negatively correlated to experiences of ill-being. Regarding life concerns, bad health was shown to be a major worry, and dissatisfaction with health was the strongest correlate of the index of ill-being. Finally, dissatisfaction with material concerns, such as one's job and standard of living, also had a notable impact on people's ill-being.

In the sport psychology literature, the complex construct of ill-being has been evaluated in many different ways. Possibly one of the most commonly used indicators of ill-being in the last years has been the athletes' perceptions of burnout (e.g., Adie et al., 2008; Quested & Duda, 2011). Many studies have dealt with the measurement of negative affects (e.g., Gagné, Ryan, & Bargmann, 2003), somatic complaints or physical symptoms (e.g., Reinboth, Duda, & Ntoumanis, 2004), depression (e.g., Felton & Jowett, 2014), or eating disorders (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Quiles-Marcos et al., 2011).

Athletes' burnout is the indicator of ill-being used in this thesis, and this concept was therefore examined in the different studies conducted in this thesis. Athletes' burnout is conceptualized in terms of players' feelings of emotional and physical exhaustion, a reduced sense of accomplishment, and an uncaring and cynical attitude towards sport participation (Raedeke & Smith, 2001). People engaged in sports organizations, the media, researchers and practitioners in the field of sport have argued that burnout represents a significant problem in sport (Cresswell & Eklund, 2007; Gould, Tuffey, Udry, & Loehr, 1996).

Outside the context of sport psychology, one of the first psychologists to study the construct of burnout was Freudenberger (1974), who defined it as a worker's feeling of failure and exhaustion, mainly due to an overload of demands on his or her energy, personal resources and spiritual force. Thereafter, Maslach and Jackson (1981) provided one of most widely used conceptualizations of burnout, considering it as a multidimensional disorder characterized by emotional exhaustion, depersonalization and a reduced sense of accomplishment.

Among the different explanations for the causes of burnout, there is a consensus on the importance of the perception of a negative situation, maintained over an extended period of time. The first works examining the cause of athletes' burnout proposed that this maintained negative state could be attributed to a chronic exposure to psychosocial stress (Smith, 1986). In this regard, athletes' burnout was considered to result from a chronically perceived imbalance between the demands and the resources (Smith, 1986). Smith (1986) suggested that this perceived imbalance, maintained over a prolonged period of time, could lead to perceptions of low accomplishment, low perceived control, and,

potentially, to a state of learned helplessness. Moreover, he argued that the behavioral result of burnout would involve a decreased efficiency and a psychological, if not physical, withdrawal from the activity.

Along the same lines as Maslach and Jackson (1981), but focusing on the context of sport, Raedeke (1997) suggested that athletes who perceive that they must maintain their sport involvement, even though they no longer have any desire to continue participating, might have an elevated risk of experiencing burnout. Thus the author argued that athletes' burnout was a consequence of the intense demands of training and competitions, and unmet expectations of the athlete or of others. This consequently results in a psychological syndrome reflecting emotional and physical exhaustion, a reduced sense of accomplishment and the sport devaluation leading to a lack of interest in participation.

1.2. MOTIVATIONAL BACKGROUND OF WELL- AND ILL-BEING

A contemporary theoretical model that has deepened in the study of well- and ill-being in different contexts is termed self-determination theory (SDT, Deci & Ryan, 1985, 2000). SDT is an approach to human motivation and personality using empirical methods and represents an organismic meta-theory that highlights the importance of humans' evolved inner resources for personality development and behavioral self-regulation (Ryan, Kuhl, & Deci, 1997). In this sense, one of the main aims of this theory is the examination of a person's inherent growth tendency, and the consideration of the innate psychological needs that are the basis for a person's self-motivation and personality integration, as well as the consideration of the specific social conditions required to foster those positive processes (Ryan & Deci, 2000a).

Regarding the conceptualization of well-being, SDT principally embraces the eudaimonic approach of well-being, and considers psychological well-being as an optimal functioning, encompassing the experiences and attempts to specify what it means to actualize the self and the way in which this can be accomplished (Ryan & Deci, 2001). In this sense, Deci and Ryan (2000) define well-being as more than just personal experiences of positive affect and low experiences of negative affective states. Rather, Deci and Ryan refer to “an organismic function in which the person detects the presence or absence of vitality, psychological flexibility and a deep inner sense of wellness” (p. 243). Focusing on the context of sport, this means that an athlete who exhibits a high degree of well-being is fully functioning and experiences personal growth alongside desire fulfillment through their sporting achievement (Ryan et al., 2008).

The theory maintains that this well-being is only possible when the three basic psychological needs for competence, autonomy and relatedness are satisfied. As these three needs will be further analyzed in the next part of this chapter, we will briefly mention them here. The need for competence refers to the feeling that one can effectively bring about desired effects and outcomes (White, 1959). The need for autonomy refers to the degree to which individuals feel volitional and responsible for the initiation of their own behavior (deCharms, 1968). And the need for relatedness represents the degree to which individuals feel a secure sense of connectedness and belongingness to others (Baumeister & Leary, 1995).

Although SDT embraces the eudaimonic perspective of well-being, it also defends that satisfaction of the three basic psychological needs similarly fosters subjective well-being (Ryan & Deci, 2001).

Furthermore, SDT has historically dealt not only with growth and well-being but also with the undermining, alienating and pathogenic effects of needs thwarting contexts and their influence on people's experiences of ill-being (Ryan & Deci, 2000a).

It is notable that SDT has also focused on the study of means to reduce human alienation and malevolence (Ryan & Deci, 2000a). In this sense, SDT is concerned with people's anxieties, insecurities or ego involvements, considered as threats to their basic psychological needs, which help to explain those phenomena which express the darker sides of human nature, such as depression, hate, violence or the degradation of self and others. Further, scientific research based in SDT has provided considerable examples and explanations of how the psychological needs, the social conditions that support or thwart them, and the resulting motivational processes and emotions are implicated in the etiology of negative forms of adjustment and mental illnesses.

1.2.2. BASIC PSYCHOLOGICAL NEEDS THEORY

Basic psychological needs theory (BPNT, Deci & Ryan, 2000) is the mini-theory within the self-determination theory framework particularly relevant to well- and ill-being, and it thus forms the basis of this thesis.

BPNT is an organismic-dialectical meta-theory that proposes the existence of three basic psychological needs; namely competence, autonomy and relatedness. The need for competence refers to the feeling that one can effectively bring about desired effects and outcomes in one's pursuits (White, 1959). The first formulation of this need is attributed to White (1959), although he referred to it as a motive and a

primary propensity to seek for competence. In line with BPNT, he described it as the propensity to influence or to have an effect on the environment, in order to attain valued outcomes within it. He argued this tendency was a manifestation of a deeply structured effectance-focused motivation, a consideration that is similar to the understanding of the need for competence as defended within BPNT. Furthermore, satisfaction of the need for competence has been shown to be particularly relevant for the experience of intrinsic motivation. In this regard, it was defended that events such as positive feedback, that were related with effectance, promoted the satisfaction of the need for competence and subsequently intrinsic motivation, whereas the negative feedback relating to ineffectance tend to thwart the need for competence and hindered intrinsic motivation (Deci & Ryan, 1985).

The need for autonomy refers to the degree to which individuals feel volitional and responsible for the initiation of their own behavior and to their experience of psychological freedom (deCharms, 1968). When a person feels that his or her need for autonomy is satisfied, this person experiences the possibility to choose and the ownership of behavior. Thus, this behavior will be perceived to emanate from the self and to be in accordance with personal values and interests. Although the importance and the universality of the need for autonomy has been widely studied, some authors have questioned the importance of this need in contexts such as Eastern countries, lower social classes or impoverished people. Some refutations of the universality of the need for autonomy may appear as a consequence of differences in the definition of the need for autonomy. More specifically, it may be the case that, in a cultural relativist's approach, autonomy is conceptualized as individualism, independence and uniqueness, whereas from the SDT

approach it refers rather to the experience of being the initiator of one's own actions and choices (Vansteenkiste, Niemiec, & Soenens, 2010). Thus, when the conceptualization of autonomy is not in line with SDT but rather understood as independence, it may be expected that some authors erroneously argue that it would be conflicting or irrelevant to Eastern cultures (Markus & Kitayama, 2003). Moreover, BPNT has defended that, although the need for autonomy is an essential requirement for experiencing well-being for every person and in every culture, there may be differences regarding how the needs are satisfied and their specific importance for well-being.

Finally, the need for relatedness refers to the degree to which an individual feels securely connected to others and a sense of belongingness with others, with particular emphasis on the experience of reciprocal care and concern for important others (Baumeister & Leary, 1995). In this sense, relatedness refers to the desire to love and care for others, and to be loved and cared for by them (Baumeister & Leary, 1995). As Deci and Ryan did (2000), Baumeister and Leary (1995) argued that the need for relatedness is a fundamental need; thus there exists an inherent tendency or desire to feel related to others.

The theory defends that these three needs are the essential nutriment required for the facilitation of people's optimal functioning, growth, integrity and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000a). It emphasizes the importance of social context in satisfying these needs and thus facilitating or undermining the natural organismic processes and integrative propensities that coordinate them. Another important consideration of this theory is that these needs are innate, universal and developmentally persistent, meaning that a person pursues the satisfaction of these needs from the very beginning of his or

her infancy and throughout his or her entire life, and they are necessary regardless of age, gender, social class or culture.

Furthermore, the theory argues that some natural processes such as the progress towards well-being will operate optimally only to the extent that the individual experiences satisfaction of these nutriments, or, alternatively, to the extent that the individual has inner resources to find or construct the necessary nourishment (Deci & Ryan, 2000). On the other hand, when these organismic processes are undermined by non-favorable contextual conditions, for example an excessively controlling context or an over-challenging or rejecting context, it is argued that these needs will be supplanted by alternative and often defensive or self-protective processes. These alternative processes have functional utility in these negative contextual conditions, although they do not lead to an optimal development. Specifically, these alternative processes, as presented under conditions where needs are not satisfied or are thwarted, lead to non-adaptive psychological functioning, as well as the tendency to withdraw concern for others and focus primarily on oneself, to withdraw from psychological engagement in activities, or, in the most extreme cases, to engage in antisocial activities.

Thus, this mini-theory emphasizes the importance of the satisfaction of the three basic psychological needs, as an essential requirement for obtaining health and personal growth. It is considered that these basic psychological needs for competence, autonomy and relatedness refer to the structure of the human psyche, and to innate and lifelong tendencies to strive for effectiveness, connectedness, and coherence (Deci & Ryan, 2000).

Specifically, one of the most important assumptions of BPNT is that the satisfaction of the three basic psychological needs constitutes the central psychological process through which well-being, growth and optimal development, amongst other positive consequences, are more likely to be enhanced (Deci & Ryan, 2000). On the other hand, aside from psychological growth and well-being, BPNT also recognizes that people can display affective, cognitive and behavioral patterns that represent the non-optimal or the darker side of human existence.

From the beginning of the theory, the authors of BPNT recognized the negative consequences of the thwarting of basic psychological needs in increasing people's ill-being (Deci & Ryan, 2000). However, there has been very little research in the sport context which takes into account this darker side of human nature. The study of the thwarting of athletes' basic psychological needs was only recently incorporated (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). This has happened primarily due to the fact that previous sports research has generally equated low scores on existing measures of needs satisfaction with the presence of psychological needs thwarting. However, nowadays both concepts are clearly differentiated, and there is a general consensus supporting different assessments of both psychological processes (i.e., satisfaction and thwarting of the basic psychological needs) in order to better capture the multiple impacts of sport participation on the athletes' responses of psychological and physical well- and ill-being. Indeed, taking into account both the satisfaction and the thwarting of basic psychological needs provides a more comprehensive examination of the athletes' psychological experiences in the sport environment and enables researchers to better predict the variability in health-related outcomes. The theory defends

that basic psychological needs satisfaction is strongly related to positive experiential states and will more strongly predict well-being, whereas needs thwarting directly taps the negative experiential state and is thus a better predictor of athletes' experiences of diminished functioning and ill-being.

The fact that these needs are considered innate and not learned offers a motivational content to life. Furthermore, in specifying that psychological needs are essential nutrients for health and well-being, it is implied that a social environment that affords competence but fails to nurture the need for relatedness can result in an impoverish sense of well-being, and, similarly, a context that actively thwarts any or all of the needs will directly increase the experiences of ill-being (Ryan & Deci, 2000b).

Focusing on the context of interest in this thesis (i.e., grassroots soccer) and entering in the postulates of BPNT, it is argued that young soccer players can experience satisfaction of their needs mainly as a consequence of an autonomy supportive social context. Thus, an appropriate social context could favor the satisfaction of the athletes' basic psychological needs and encourage that they perceive themselves as competent, autonomous and well-related to others. A soccer player perceives that his or her need for competence is satisfied when he or she feels skilled at playing soccer, and when the player perceives he or she is performing well at matches or training sessions. Players will perceive that their need for autonomy is satisfied when they feel free to express their ideas and opinions, when they feel that they have the opportunity to take part in decision-making concerning the strategies to be used in training sessions and games, and when they feel free to do

things their own way. Finally, satisfaction of the need for relatedness is experienced when a player feels supported, understood and valued by his or her teammates and the coach.

As previously mentioned, low needs satisfaction was long equated - erroneously - to needs thwarting. When we say, for example, that an athlete presents a low satisfaction of their need for competence, this indicates that an athlete feels a low degree of competence because he or she did not perform well. However, this differs from the experience of thwarting of their need for competence; this would mean that the athlete experiences a context which actively makes him or her feel incompetent, thereby preventing the athlete from fulfilling this need.

Focusing on the athletes' experiences of needs thwarting, we know that there are situations in a specific context, such as the training sessions, that can actively undermine and thwart the athletes' basic psychological needs, with subsequent negative consequences for health and well-being (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). When players perceive a situation in which they are made to feel incapable or they are told things that make them feel incompetent, it contributes to the thwarting of their need for competence. Secondly, players experience that their need for autonomy is thwarted when they feel pushed to behave in certain ways during training and matches, or when they feel prevented from making any decision regarding the way they train. Thirdly, there might be situations in which the players feel disliked or rejected by the teammates or the coach, or they feel that others in the team are envious of their success. This will undoubtedly thwart their need for relatedness.

There are some similarities and some differences in the way in which BPNT and other theories define the needs. According to Deci and Ryan (2000) there is a relative agreement in the way that Murray (1938) and the SDT consider the needs, as both approaches consider them to be psychological and not physical. However, in contrast to BPNT, Murray argues that these psychological needs are learned throughout life, rather than innate. Besides, Hull (1943) defends that the needs are indeed innate, but, in contrast to BPNT, this author argues for the existence of physiological rather than psychological needs, which lead to well-being when satisfied, and to ill-being when unsatisfied or undermined. From this perspective, when the needs are not satisfied, it results in a physiological deficit which disrupts the organism's quiescence, and consequently pushes the organism to behave in certain ways, in order to recover the satisfaction of the needs and thus return to quiescence. According to Deci and Ryan (2000), one of the main ideas of drive theories is the assumption that the basis of the human organism is quiescence, and that need satisfaction is the process that restores its deficiencies, aiming to recover the optimal state of calm. These theories thus show an important difference from BPNT, whereas the drive theory defended by Hull considers a person as merely passive, only acting when there is a disequilibrium, BPNT defends that humans are naturally oriented to act and engage in activities that interest them, and that move them towards their personal coherence and integrity.

Furthermore, BPNT argues that when people are in a context favorable to their basic psychological needs for competence, autonomy and relatedness, they will focus on goal achievement and engagement in interesting and enjoyable activities, which will consequently lead to well-being. However, if they experience that their needs are being

actively thwarted, non-optimal or dysfunctional consequences such as the aforementioned typically follow (Ryan & Deci, 2000a), but it is not the state of need thwarting which induces people to act.

Thus, from the perspective of drive theories it is considered that the functional aim of individuals' behavior can be interpreted as needs satisfaction. Whereas, within the BPNT it is considered that innate life processes and their accompanying behaviors occur naturally, without the pressure of a need deficit (Deci & Ryan, 2000). In order to sustain these innate life processes and to enable different positive consequences to occur, it is required that the nutriments (i.e., the basic psychological needs) are satisfied. However, BPNT does not view actions as a mere means to ensure the necessary needs satisfaction. There are indeed times in which people act specifically to satisfy their basic psychological needs, but normally these needs are not satisfied through delivery behaviors intended to attain needs satisfaction; rather they are satisfied when people engage in activities that they find enjoyable, interesting or important.

1.2.2.1. Social context

BPNT provides a framework through which the influence of the social context on people's satisfaction or thwarting of the three basic psychological needs for competence, autonomy or relatedness, and on their well- or ill-being can be examined. It is also postulated that the environmental conditions and individual differences that support satisfaction of the athletes' basic needs facilitate their natural growth processes, and are reflected on indicators as vitality and mental health,

whereas those conditions that forestall autonomy, competence, or relatedness are associated with poorer well-being and a greater ill-being (Deci & Ryan, 2000).

Specifically, BPNT focuses on the ways in which the social context facilitates or obstructs opportunities for fulfillment of the basic psychological needs and the subsequent well- or ill-being (Ryan & Deci, 2000a). In this sense, it is defended that the interpersonal style adopted by the significant persons during the interactions will have an important role favoring or undermining people's basic psychological needs. In the context of grassroots soccer, significant persons such as parents, peers and coaches are very important for the young athletes. In this thesis we will center specifically on the coaches, as it has been shown that they have an important influence in shaping the psychological experiences that athletes derive from their sport participation (Reinboth et al., 2004; Smoll & Smith, 2002). Thus, coaches' behaviors are related with the degree of well- and ill-being of the athletes (Amorose, 2007; Duda & Balaguer, 2007).

From the beginning, self-determination theory has defended that the behaviors of significant other could be interpreted as autonomy supportive or controlling. Following this classification, Vallerand and Losier (1999) suggested that in the sport context the coaches could be classified as exerting two interpersonal styles, namely autonomy supportive and controlling interpersonal style, and they offered examples of possible behaviors of each style.

Coaches that support the athletes' autonomy encourage choice and the use of initiative and self-directed behaviors (Black & Deci, 2000; Reeve et al., 1999). More specifically, autonomy supportive coaches provide as much choice as possible within the specific limits and rules

they impose to the athletes. They provide a rationale for the tasks, the limits and the rules, and they try to acknowledge the athletes' feelings and to allow them opportunities where they can take initiatives and do independent work. Autonomy supportive coaches try to provide non-controlling competence feedback, to avoid overt control and guilt inducing criticisms. They also try to avoid the use of controlling statements and tangible rewards and they also prevent ego-involvement from taking place in their teams (Mageau & Vallerand, 2003).

The perceived coach autonomy supportive interpersonal style is the dimension that has attracted the majority of attention within the BPNT-grounded research. Specifically, it has been defended that when a coach supports their athletes' autonomy, his or her athletes are more likely to experience satisfaction of their basic psychological needs (Adie et al., 2008; Gagné et al., 2003). In addition, perceptions of autonomy support and subsequent psychological needs satisfaction positively predict outcomes such as athlete enjoyment, vitality, and positive affect (Adie et al., 2008; Álvarez, Balaguer, Castillo, & Duda, 2009; Gagné et al., 2003).

On the other hand, the coaches who exhibit a controlling interpersonal coaching style tend to behave in a coercive, pressuring and authoritarian way in order to impose a specific and preconceived way of thinking, feeling, and behaving to their athletes (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2010). We know that when coaches exert this control they can achieve their objectives in the short term. For example, the controlling coaches can force their players to behave in the way they want them to behave. However, the controlled players do not internalize these behaviors and therefore these behaviors won't last for

a long time (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2009). More specifically, it is defended that the players perceived that an external pressure is moving them to act in a particular manner, and as soon as this pressure disappears their behavior disappears too.

One of the main contributions to the controlling coaching interpersonal style was the research conducted by Bartholomew and her colleagues (2009), who did an exhaustive review of motivational controlling strategies of the coaches within the self-determination perspective (Bartholomew et al., 2009). In their work, the authors presented a preliminary taxonomy of six controlling strategies. These categories included the tangible rewards, controlling feedback, excessive personal control, intimidation behaviors, promoting ego-involvement, and conditional regards. This taxonomy of controlling behaviors subsequently contributed to the development of the Controlling Coach Behaviors Scale (CCBS, Bartholomew et al., 2010), in which the authors differentiated four dimensions: controlling use of rewards, conditional regard, intimidation and excessive personal control.

BPNT defends that when coaches behave in a controlling way and they pressurize their athletes, they actively thwart their basic psychological needs for autonomy, competence and relatedness. This, in turn, results in a variety of negative consequences for the athletes, which are expected to contribute to the detriment of the athletes' well-being and to increased ill-being.

In conclusion, as shown in Figure 1, BPNT defends that coaches' autonomy supportive behaviors enhance athletes' basic psychological needs and therefore promote their well-being and prevent their ill-being. Whereas, on the other side, coaches' controlling behaviors will

increase athletes' needs thwarting and thus enhance their ill-being and diminish their well-being. Consequently, athletes exhibiting a high degree of well-being and a low degree of ill-being will be fully functioning and, in turn, they will experience personal growth (Ryan et al., 2008).

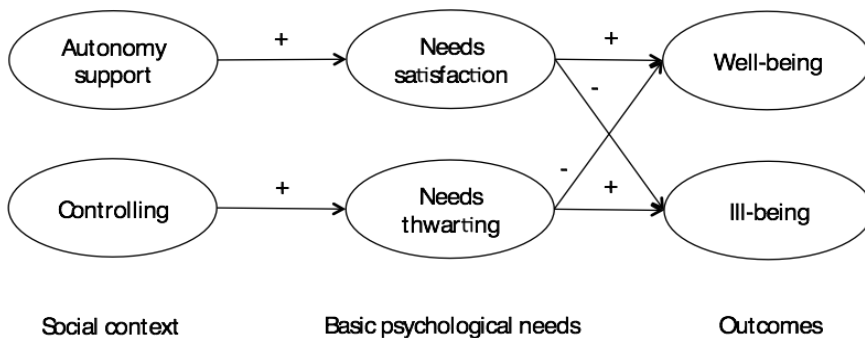


Figure 1. Representation of the central tenets of basic psychological needs theory

1.3. REVIEW OF THE LITERATURE

In order to delve into the postulates of BPNT examined within the studies embedded in this thesis, we have conducted a review of the scientific literature published during the recent decades. The review focused mainly in the context of sport, but it also considered some studies in the field of dance and physical education. All of the studies reviewed were grounded in BPNT and they captured at least some of the principal features of the social environment (i.e., perceptions of autonomy supportive or controlling style of the coach or the teacher),

the satisfaction or thwarting of the basic psychological needs of the athletes, dancers or students, and their indicators of well-being (principally positive affect, self-esteem and subjective vitality) and ill-being (principally burnout).

Research centered on the sport context and based on the BPNT framework, could be divided into two periods. During the first period, the researches have centered mainly on the autonomy supportive coaching interpersonal style and have analyzed its relation with the satisfaction of athletes' basic psychological needs and with their well- and ill-being indicators. At the beginning of this period the studies have presented mainly cross-sectional approaches to achieve their objectives (e.g., Adie et al., 2008; López-Walle et al., 2012), whereas at the end of this period the studies already incorporate longitudinal approaches (e.g., Coatsworth & Conroy, 2009; Reinboth & Duda, 2006). Moreover, the study of the mediational role of basic psychological needs is also present in this last stage and it is included in several works (e.g., Adie, Duda, & Ntoumanis, 2012; Quested & Duda, 2011). On the other hand, there is important progress that marks the second period in the sport scientific literature based on BPNT, as it incorporates the darker side of BPNT. Consequently some works appear introducing both coaching interpersonal styles (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Pelletier, Fortier, Vallerand & Briere, 2001), and more specifically one of these studies tests different models introducing the brighter and the darker side of BPNT (i.e., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

A considerable number of studies grounded in BPNT have been published during the first period. These studies were conducted with athletes ranging from youth to adult age groups involved in different

disciplines as, cricket, hockey, rugby, soccer, or volleyball. These works have shown empirical support to the theoretically postulated relations between the athletes' perceptions of autonomy support provided by their coach, the satisfaction of their basic psychological needs and different indices of well- and ill-being (e.g., Adie et al., 2008; López-Walle et al., 2012).

Specifically, the results showed that athletes' perceptions of their coach autonomy supportive interpersonal style positively predicted the satisfaction of their basic psychological needs, either taking each need separately (e.g., Adie et al., 2008; Amorose & Anderson-Butcher, 2007) or analyzing the three needs together (e.g., Álvarez et al., 2009). However, there are some studies that did not find complete support for the relationships defended by BPNT (e.g., Balaguer, Castillo, & Duda, 2008; Reinboth et al., 2004). For instance, Balaguer et al. (2008), in their study with athletes from different sports, showed that the athletes' perceptions of autonomy support positively predicted athletes' satisfaction of their needs for autonomy and relatedness, but a non-significant effect was found on satisfaction of their need for competence. On the other hand, the results from the study from Reinboth et al. (2004) with British athletes showed that athletes' perceptions of their coach autonomy supportive interpersonal style positively predicted the satisfaction of the athletes' need for autonomy, whereas need for competence and relatedness were related to other features of the social context (specifically, with mastery focus climate and perceived social support from the coach, respectively).

Focusing on the relationships between the satisfaction of basic psychological needs and the indices of well- and ill-being, in general results showed support for the positive relationship between the

satisfaction of the needs and well-being, as well as to the negative relationship between the needs and the ill-being indicators. Specifically, in the study conducted by Adie and colleagues (2008) the results showed that the satisfaction of the athletes' basic psychological needs positively predicted subjective vitality; whereas in the study conducted by Reinboth and colleagues (2004) with young cricket and soccer players, athletes' subjective vitality was only positively predicted by satisfaction of their needs for competence and autonomy. Besides, focusing on the athletes' experiences of ill-being, some studies have indicated that satisfaction of the three basic psychological needs negatively predicted athletes' global burnout (Hodge, Lonsdale, & Ng, 2008; Perreault, Gadreau, Lapoint, & Lacroix, 2007), and the same occurred when only some of the dimensions of global burnout was used (e.g., athletes' emotional and physical exhaustion in Adie et al., 2008). Additionally, athletes' physical symptoms such as headache and stomachache have also been negatively linked to satisfaction of their need for competence (Reinboth et al., 2004).

All the previously mentioned studies analyzed the sequence autonomy supportive interpersonal style - basic psychological needs - well- or ill-being, and were conducted through a cross-sectional methodology. However, the use of cross-sectional studies is subject to many methodological concerns and limitations (Schmidt & Teti, 2005). For instance, cross-sectional studies do not provide information about changes over time or inter-individual differences in intra-individual change (Miller, 1998; Wohlwill, 1973). Moreover, cross-sectional studies cannot answer questions about the stability of a characteristic or a process over time (Miller, 1998).

A popular solution to some shortcomings of the cross-sectional research strategy appears to be the use of a longitudinal research design. As Campbell (1988, p. 43) noted, "...there are few issues that evoke greater agreement among social scientists than the need for longitudinal as opposed to cross-sectional studies." In this sense, longitudinal designs are useful as well as necessary because they allow the possibility to focus on intra-individual change, developmental sequences, and co-occurring social and environmental change that enable researchers to obtain explanations about specific questions (McCall, 1977). Besides, longitudinal studies help to explore the causes of intra-individual change because this methodology meets one necessary, although not sufficient, criterion for making causal inferences: time ordering (Baltes & Nesselroade, 1979; Campbell, 1988). Therefore, this approach would enable researchers to examine antecedents and consequences and to make some reasonable speculations about causality.

In response to the limitations of cross-sectional designs lies the final stage of the first period of research on BPNT, where some authors in the context of sport and dance began to incorporate longitudinal approaches to their studies. In these studies researchers still focused on the effect of autonomy supportive interpersonal styles to needs satisfaction and athletes' or dancers' well- and ill-being. The results from these longitudinal studies showed general support for the postulates of the theory and have shown positive relationships between the athletes' (e.g., Adie et al., 2012), dancers' (e.g., Quested & Duda, 2011) or physical education students' (e.g., Standage & Gillison, 2007) perceptions of autonomy support and their satisfaction of their three basic psychological needs. There have also been some discrepancies in

the results of other works. For instance, the longitudinal study conducted by Gagné and colleagues (2003) with young female gymnasts, who completed diary forms before and after 15 practices over four weeks during a noncompeting period, only showed positive correlations between perceptions of coach autonomy support and gymnasts' satisfaction of their needs for autonomy and relatedness.

Besides, results concerning the relationship between the satisfaction of the athletes' basic psychological needs and their well-being (e.g., Gagné et al., 2003) and ill-being (Amorose et al., 2009) also found general support with little exception. Focusing on one of the indices of well-being, positive affect was positively correlated with the satisfaction of the three basic psychological needs in the study with gymnasts of Gagné and colleagues (2003), whereas small discrepancies were found in the study with dancers of Quested, Duda, Ntoumanis, and Maxwell (2013). Specifically, the latter authors found some differences depending on the context of study (i.e., class, rehearsal and performance). These authors informed that in the class context, daily changes in the satisfaction of the need for competence and relatedness positively predicted changes in the dancers' positive affect. Whereas in the context of rehearsal it was daily changes in satisfaction of the need for autonomy and relatedness what positively predicted positive affect. Finally, in the context of performance daily changes in the satisfaction of the need for autonomy and competence positively predicted positive affect.

Regarding experiences of self-esteem in the context of sport, Gagné and colleagues (2003) found positive relations between satisfaction of the three basic psychological needs and self-esteem, whereas Amorose and colleagues (2009) found that only satisfaction of

the needs for competence and autonomy positively predicted this well-being indicator within the volleyball players participating in their study. Moreover, in the studies from Coatsworth and Conroy (2009) with young swimmers and in the study from Standage and Gillison (2007) with young physical education students, only satisfaction of the need for competence positively predicted self-esteem.

Past studies including the evaluation of subjective vitality as in the study of Gagné et al. (2003) have indicated that experiences of this indicator of well-being were positively correlated with satisfaction of the three basic psychological needs. However, Reinboth and Duda (2006) found that only satisfaction of the needs for autonomy and relatedness positively predicted athletes' experiences of subjective vitality.

Secondly, results of previous studies including indices of ill-being have also supported the BPNT postulates, with little discrepancies. For instance, Amorose and colleagues (2009) found that post-season satisfaction of the three basic psychological needs negatively predicted post-season experiences of burnout within the athletes; whereas the results presented by Gagné and colleagues (2003) did not find any significant relation between these variables.

Regarding negative affect another widely used indicator of ill-being in the sport- and dance-based literature, Quested, Duda et al. (2013) found different results depending on the dance context analyzed. Results of this study showed that in the class context daily changes in satisfaction of the needs for autonomy, competence and relatedness negatively predicted negative affect. Whereas changes in the satisfaction of the need for competence was the only need that negatively predicted negative affect in the context of rehearsal and performance.

One tenet of BPNT is the proposition that the three basic psychological needs mediate the relation between the perceptions of the social context (e.g., perceptions of the coaches' behaviors) and the athletes' experiences of well- and ill-being (Ryan & Deci, 2000a). Going one step further in the review of the literature, a number of studies in the context of sport and dance have included the analyses of the mediational role of satisfaction of the three basic psychological needs in the relationship between the athletes' perceptions of the coach or the teacher autonomy supportive interpersonal style and the athletes' and dancers' well- and ill-being.

The cross-sectional study from López-Walle and colleagues (2012) with Mexican athletes found support for the mediational role of the satisfaction of the three basic psychological needs in the relation between the athletes' perceptions of the coach autonomy supportive style and the athletes' well-being, measured through indicators of subjective vitality and life satisfaction. Whereas a longitudinal study with young soccer players (Adie, Duda, & Ntoumanis, 2012) found support only for the mediational role of the satisfaction of the basic psychological needs for competence and relatedness in the relationship between the perceptions of autonomy support from the coach and the players' subjective vitality.

Finally, a longitudinal study conducted in the dance context found support for the mediational role of the three basic psychological needs in the relationship between changes in the dancers' perceptions of an autonomy supportive interpersonal style of their teacher and changes in dancers' burnout (Quested & Duda, 2011).

Entering in the second period of the research in BPNT, attention was given to the importance of avoiding the conditions that could directly thwart people's basic psychological needs because of the significant negative consequences that this could have for their ill-being (Deci & Ryan, 2000). However, only recently attention has been given to these negative conditions (e.g., controlling interpersonal styles) in the sport context, as well as to its underpinning effects on the psychological needs. Besides, it has also been recently that the scientific literature has focused in the study of the role of basic psychological needs thwarting and their antecedents and consequences (Vallerand, Pelletier, & Koestner, 2008). As we have mentioned previously in this thesis, the small account of research on the direct causes and consequences of psychological needs thwarting is possibly due to the fact that generally previous works have erroneously equated low scores of needs satisfaction with the presence of psychological needs thwarting.

Centering on the social contextual conditions, in this thesis we defend that it is important to incorporate both interpersonal styles simultaneously in the scientific works. We consider that the evaluation of these two aspects (i.e., the autonomy supportive and the controlling coaching interpersonal style) will help to reflect a more comprehensive and realistic situation of the features of the social environment, which may impact upon the athletes' experiences of needs satisfaction and needs thwarting (Bartholomew, 2011). Consequently, the scientific works that incorporate both autonomy support and control will help to determine the particular social conditions that facilitate versus underpin psychological and physical well- and ill-being among young athletes.

It was only recently that some works grounded in BPNT began to incorporate the study of the controlling interpersonal style in the context of sport. One of the first studies including both interpersonal styles was conducted by Pelletier et al. (2001). These authors focused on a sample of young swimmers and their coaches to analyze the relationship between both coaching interpersonal styles and the athletes' motivational regulations. Some years later, Blanchard, Amiot, Perreault, Vallerand, and Provencher (2009) also incorporated the coaches' controlling interpersonal style in their study and found a negative relationship between the athletes' perceptions of the coach control and their basic psychological needs. The results of this study also showed significant, but relatively small, negative associations between the athletes' perceptions of their coach autonomy support and control indicating that both interpersonal styles may not be polar ends of the same continuum. Finally, Bartholomew et al. (2009) presented an exhaustive study about the controlling coaching behaviors used within the sport context, and they developed the Controlling Coach Behaviors Scale (CCBS, Bartholomew et al., 2010).

Besides, focusing on the darker side of basic psychological needs, there was a need in the current scientific literature to develop an instrument to measure the degree to which basic psychological needs are thwarted. Bartholomew, Ntoumanis, Ryan, and Thøgersen-Ntoumani (2011) made a significant contribution and developed the Psychological Need Thwarting Scale (PNTS). With this work, the authors deepen in the explanation of the differences between satisfaction and thwarting of the basic psychological needs, and they also provide a useful tool to capture the negative experiential state that occurs when athletes perceive their needs for competence, autonomy and relatedness to be actively undermined.

Results of cross-sectional work in the context of sport concurrently evaluating the darker and the brighter side of BPNT has revealed that athletes' perceptions of autonomy support provided by the coach positively predicted athletes' basic psychological needs satisfaction and negatively predicted their needs thwarting. On the other hand, athletes' perceptions of coach controlling behaviors positively predicted athletes' needs thwarting (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Moreover, in the longitudinal diary study embedded in the work of Bartholomew, Ntoumanis, Ryan, Bosch, and colleagues (2011) results also showed that perceptions of coach control negatively predicted athletes' basic psychological needs satisfaction.

Regarding the consequences of basic psychological needs satisfaction and thwarting, previous research considering these two aspects showed that athletes' basic psychological needs satisfaction positively predicted indices of well-being such as subjective vitality (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011) and positive affect (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), and negatively predicted ill-being indices such as negative affect and burnout (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). On the other hand, athletes' basic psychological needs thwarting positively predicted global burnout or some of their dimensions (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011), as well as other indices of ill-being such as depression, disordered eating, negative affect and physical symptoms (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Further, athletes' needs thwarting negatively predicted subjective vitality (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011).

Lastly, it is noteworthy that all the previously mentioned research has been conducted at an individual level. This means that researchers have been focusing and examining the interrelations encompassed in BPNT from the individual level using cross-sectional as well as longitudinal methodology. This individual level approach helps us to understand how the athletes' individual perceptions of the interpersonal coaching style of their coaches influence their own basic psychological needs, and their well- and ill-being. Analyzing the data at this individual level does not capture the real situation in which the athletes are nested within teams and may not accurately reflect how belonging to a team influences different social and cognitive factors. Thus, it is important that we combine the use of individual as well as team level studies in research conducted in the sport context, as it will help us to understand how a specific climate created in a team, perceived and shared by its different players, influences their needs and other outcomes.

1.4. OBJECTIVES

As it was previously stated, BPNT has consistently defended that player's well-being is promoted through adaptive social contexts where the significant persons predominantly exert an autonomy supportive interpersonal style which in turn influences players' basic psychological needs satisfaction (Deci & Ryan, 2000). On the other hand, it has been also defended that players' ill-being increases when the coaches exert a controlling interpersonal style which, in turn, thwarts players' basic psychological needs (Deci & Ryan, 2000).

Empirical studies in the context of sport, dance and physical education have supported the tenets of BPNT with youth (e.g., López-Walle et al., 2012) and adult (e.g., Adie et al., 2008) athletes competing in different disciplines such as cricket, hockey, soccer, rugby or volleyball; as well as with young vocational dancers (e.g., Quested & Duda, 2011) and with high school physical education students (e.g., Standage & Gillison, 2007). Generally, the previous works have shown that perceptions of an autonomy supportive interpersonal style promoted basic psychological needs satisfaction (e.g., López-Walle et al., 2012), and decreased basic psychological needs thwarting (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). On the other hand, perceptions of a controlling interpersonal style increased basic psychological needs thwarting, and only decreased needs satisfaction at the within person level (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Moreover, basic psychological needs satisfaction positively predicted athletes' well-being (e.g., López-Walle et al., 2012) and negatively predicted dancers' ill-being (e.g., Quested & Duda, 2011). On the other hand, athletes' basic psychological needs thwarting positively predicted ill-being (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) and negatively predicted well-being (e.g., Felton & Jowett, 2014).

To date the majority of the studies have examined the positive side of the theory (i.e., the influence of autonomy support on basic psychological needs satisfaction and on well-being indicators). The negative side (i.e., the influence of control on basic psychological needs thwarting and on ill-being) has been incorporated recently, and the studies examining these relationships were mainly cross-sectional. Therefore, it is important to advance the sport scientific literature conducting longitudinal studies including the brighter and the darker side of BPNT simultaneously.

In this sense, in this thesis we will analyze in detail the aspects that favor young athletes' optimal development and factors that impede their ill-being considering the influence of the athletes' perceptions of autonomy supportive and controlling styles of their coaches, and the impact of the coaching style on athletes' basic psychological needs satisfaction or thwarting. To this end, different methodological approaches are used to pursue this objective, including the use of longitudinal studies, testing invariance over time, and over different samples whilst incorporating the use of a multilevel methodology.

1.4.1. MAIN AND SPECIFIC OBJECTIVES

In line with the theoretical postulates of BPNT and previous scientific literature presented in this introduction, the main objective of this doctoral work was to analyze whether the perceptions of the interpersonal style of the coach influences soccer players' basic psychological needs and their well- and ill-being. We also examined whether the satisfaction and thwarting of the athletes' basic psychological needs acted as a mediational mechanism in the relationship between the coaching interpersonal style and the athletes' well- and ill-being.

In order to achieve the aforementioned main objective, a set of specific objectives were planned and distributed across five different empirical studies:

- Specific objective 1: To analyze the relationship between the perceptions of autonomy support, satisfaction of the basic psychological needs and different well-being indicators (i.e., positive affect and subjective vitality) adopting a cross-sectional

approach. To analyze whether basic psychological needs satisfaction mediated the relationship between perceptions of autonomy support and youth's well-being. And to examine the invariance of these relationships across two different samples (i.e., young soccer players and young dancers) (Study 1).

- Specific objective 2: To analyze the relationship between the soccer players' perceptions of a controlling coaching interpersonal style, the thwarting of their basic psychological needs, and their perceived ill-being from a cross-sectional approach (Study 2).
- Specific objective 3: To analyze the relationships between the changes in the athletes' perceptions of the coaching interpersonal style (i.e., autonomy support and control), the changes in their basic psychological needs satisfaction and thwarting and the changes in their well-being (subjective vitality and self-esteem) and ill-being (burnout) using a longitudinal approach. And to examine the mediational role of basic psychological needs and concurrently analyzing both sides of the theory (Studies 3 and 4).
- Specific objective 4: To extend the previous objective by expanding the time frame to two competitive soccer seasons and to analyze the invariance over time of the sequence defended by BPNT and the mediational role of basic psychological needs (Study 4).
- Specific objective 5: To incorporate a multilevel longitudinal approach in order to examine the relationship between the athletes' shared perceptions of the interpersonal coaching style

in their teams, their basic psychological needs satisfaction and thwarting, and their well- and ill-being (i.e., subjective vitality and burnout, respectively), examining the meditational role of the basic psychological needs (Study 5).

CAPÍTULO 2

APOYO A LA AUTONOMÍA, SATISFACCIÓN DE LAS NECESIDADES PSICOLÓGICAS Y BIENESTAR: INVARIANZA DE UN MODELO ESTRUCTURAL EN FUTBOLISTAS Y BAILARINES

González, L., Castillo, I., García-Merita, M., & Balaguer, I. (en prensa). Apoyo a la autonomía, satisfacción de las necesidades psicológicas y bienestar: Invarianza de un modelo estructural en futbolistas y bailarines [Autonomy support, psychological needs satisfaction and well-being: invariance of the structural model in soccer players and dancers]. *Revista de Psicología del Deporte*, 24(2).³

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2.1. RESUMEN

La teoría de las necesidades psicológicas básicas (Deci y Ryan, 2000) defiende que en los contextos sociales en los que se apoya la autonomía se promueve el bienestar a través de la satisfacción de las necesidades psicológicas básicas. En base a este marco teórico, el objetivo del presente trabajo fue triple: primero, poner a prueba un modelo en el que se analizaba la secuencia: percepción del apoyo a la autonomía ofrecido por el profesor/entrenador - satisfacción de las necesidades psicológicas básicas - bienestar; segundo, examinar el papel mediador de las necesidades, y tercero, estudiar la invarianza del modelo entre dos poblaciones. Participaron 197 bailarines ($M_{\text{edad}} = 18,65 \pm 3,73$) y 434 futbolistas ($M_{\text{edad}} = 13,90 \pm 0,66$) que respondieron a las variables de interés. Los resultados del SEM mostraron que la percepción de apoyo a la autonomía predecía positivamente la satisfacción de las necesidades de competencia, autonomía y relación de los bailarines y los futbolistas, lo que a su vez predecía positivamente su vitalidad subjetiva y sus afectos positivos; los análisis de la mediación mostraron que la satisfacción de las tres necesidades medió de forma total la relación entre la percepción de apoyo a la autonomía y ambos indicadores de bienestar. Finalmente, los análisis multi-grupo revelaron la invarianza de las relaciones hipotetizadas entre los bailarines y los futbolistas. Los resultados enfatizan la importancia de promover climas de apoyo a la autonomía para facilitar el bienestar de los jóvenes bailarines y futbolistas.

Palabras clave: apoyo a la autonomía, necesidades psicológicas básicas, vitalidad subjetiva, afecto positivo, invarianza

Abstract

Basic psychological needs theory (Deci & Ryan, 2000) holds that social contexts that are autonomy supportive promote well-being through satisfaction of basic psychological needs. Based on this theoretical framework, the objective of the present study was threefold: first, to test a model in which we analyse the sequence: perception of autonomy support provided by the teacher/coach - basic psychological needs satisfaction - well-being; second, to examine the mediational role of basic needs; and third, to study the invariance of the model between two populations. Participants were 197 dancers ($M_{age} = 18,65 \pm 3,73$) and 434 soccer players ($M_{age} = 13,90 \pm 0,66$) who completed the variables of interest. Results of SEM revealed that perceptions of autonomy support positively predicted dancers and players satisfaction of their needs for competence, autonomy and relatedness, which in turns positively predicted their subjective vitality and positive affects; the mediational analyses showed that satisfaction of the three needs totally mediated the relation between perceptions of autonomy support and both well-being indicators. Finally, multi-group analyses revealed the invariance of the hypothesized relations among dancers and soccer players. Results emphasize the importance of promoting autonomy supportive climates to facilitate young dancers' and soccer players' well-being.

Key words: autonomy support, basic psychological needs, subjective vitality, positive affect, invariance

2.2. INTRODUCCIÓN

La Comisión Europea ha defendido el papel del deporte juvenil como un importante vehículo para el fomento de la actividad física (European Commission, 2007), considerada por la OMS como una herramienta clave para la promoción de la salud física y mental (OMS, 2010). En apoyo de estos presupuestos, resultados de investigaciones previas han señalado que la participación deportiva está relacionada positivamente con mayor frecuencia de actividad física y con indicadores de bienestar, sobre todo en chicas (e.g., Wold et al., 2013); sin embargo, otros autores han indicado que la participación deportiva no es en sí misma promotora del bienestar psicológico, sino que es la calidad de la experiencia deportiva, favorecida por los ambientes sociales creados por los otros significativos (como los profesores o entrenadores) lo que tiene importantes implicaciones para el desarrollo del bienestar de las personas (e.g., Duda y Balaguer, 2007). En esta línea, el principal objetivo de este trabajo es analizar los antecedentes del bienestar psicológico de los jóvenes físicamente activos centrándonos en dos grupos con actividades diferentes, uno de bailarines vocacionales y otro de futbolistas. En concreto, en un primer objetivo, exploramos las implicaciones de las percepciones del ambiente social que crean sus profesores y/o entrenadores sobre la satisfacción de sus necesidades psicológicas básicas y de éstas sobre su bienestar.

Desde la teoría de las necesidades psicológicas básicas (BPNT; Deci y Ryan, 2000) se defiende que la creación de climas de apoyo a la autonomía por las figuras de autoridad (e.g., profesor o entrenador) favorece la satisfacción de las necesidades psicológicas básicas de competencia (sentimiento de ser capaz de interactuar de forma eficaz

con el ambiente; White, 1959), autonomía (sentimiento de tener elección y ser el iniciador de las propias acciones; deCharms, 1968) y relación (sentirse conectado y valorado por los otros; Baumeister y Leary, 1995), y que esto a su vez repercute en un mayor bienestar. Los profesores o entrenadores promueven un estilo interpersonal de apoyo a la autonomía cuando animan a sus deportistas a tener iniciativa, fomentan y valoran la toma de decisiones, proponen actividades interesantes explicándoles para qué sirven, y se ponen en su lugar para entenderles, sin juzgarles y siendo flexibles con ellos (Deci y Ryan, 1985; Mageau y Vallerand, 2003).

Los indicadores de bienestar utilizados en este estudio han sido la vitalidad subjetiva y el afecto positivo. La vitalidad subjetiva es un indicador de bienestar eudaimónico definido como una experiencia psicológica consistente en poseer entusiasmo y ánimo que lleva a la persona a sentirse realmente viva (Ryan y Frederick, 1997). Por otra parte, el afecto positivo es un indicador de bienestar hedónico, que refleja el grado en el que una persona se siente entusiasta, activa y alerta (Watson, Clark y Tellegen, 1988).

Estudios previos han encontrado apoyo a la secuencia defendida por la BPNT entre la percepción de apoyo a la autonomía, la satisfacción de las necesidades psicológicas básicas y la vitalidad subjetiva en jóvenes implicados en diferentes deportes (e.g., Adie, Duda y Ntoumanis, 2008, 2012; López-Walle, Balaguer, Castillo y Tristán, 2012), y el afecto positivo en bailarines (e.g., Quested, Duda, Ntoumanis y Maxwell, 2013) y deportistas (e.g., Bartholomew, Ntoumanis, Ryan, Bosch y Thøgersen-Ntoumani, 2011). En algunos de estos estudios (Adie et al., 2008, 2012; López-Walle et al., 2012) se ha encontrado un apoyo general al papel mediador de las necesidades psicológicas básicas

entre el estilo de apoyo a la autonomía y la vitalidad subjetiva. Concretamente, en el estudio presentado por López-Walle et al. (2012) la satisfacción de las tres necesidades psicológicas básicas actuaba como mediador parcial de esta relación en participantes de diferentes deportes, mientras que en los dos estudios de Adie y sus colaboradores (2008, 2012) se encontraron resultados diferentes en cuanto a las necesidades que actuaron como mediadoras. Por una parte, en el estudio con adultos de diferentes deportes se vio que las necesidades de competencia y autonomía mediaron de forma parcial la relación entre el apoyo a la autonomía ofrecido por el entrenador y la vitalidad subjetiva de los deportistas (Adie et al., 2008); mientras que en el estudio con jóvenes futbolistas de élite fueron las necesidades de competencia y relación las que actuaron como mediadores parciales (Adie et al., 2012).

En el presente estudio, en base a los postulados teóricos e investigaciones previas, estudiamos la secuencia defendida por la BPNT, poniendo a prueba su premisa de universalidad a través del análisis de la invarianza del modelo en una muestra de bailarines y futbolistas. Con tal objetivo hipotetizamos que: (1) la percepción de apoyo a la autonomía ofrecido por el profesor o entrenador predecirá de forma positiva la satisfacción de las necesidades de competencia, autonomía y relación; (2) la satisfacción de sus necesidades de competencia, autonomía y relación actuará como predictor positivo de la vitalidad subjetiva y el afecto positivo; (3) la satisfacción de las tres necesidades psicológicas básicas mediará la relación entre la percepción de apoyo a la autonomía y los dos indicadores de bienestar; y (4) estas relaciones se mantendrán invariantes en las dos muestras (ver Figura 1).

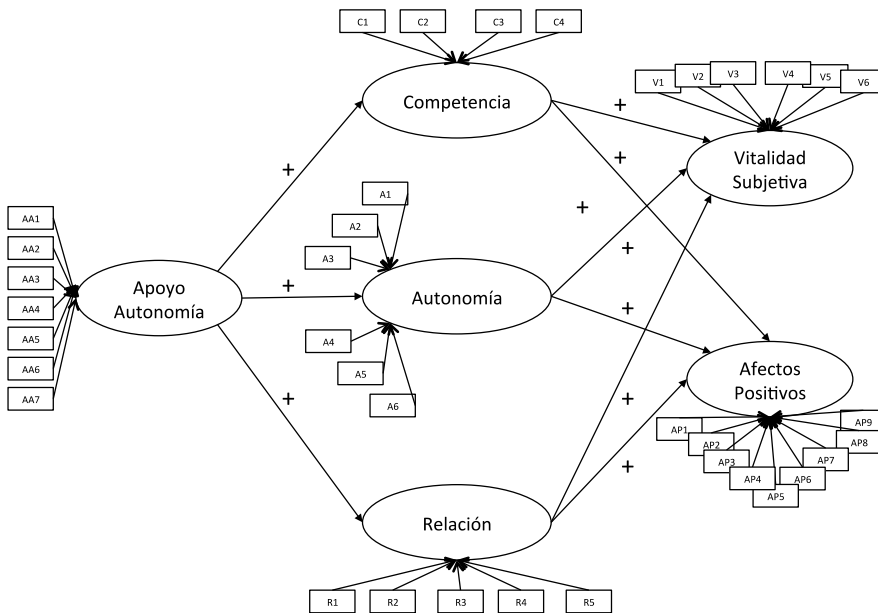


Figura 1. Modelo estructural hipotetizado de antecedentes y consecuencias de las necesidades psicológicas básicas

2.3. MÉTODO

Participantes

En el estudio participaron 197 bailarines vocacionales (33 hombres y 154 mujeres) ($M_{\text{edad}} = 18,65 \pm 3,73$) procedentes de 11 escuelas de danza de las provincias de Valencia y Málaga; y 434 futbolistas varones ($M_{\text{edad}} = 13,90 \pm 0,66$) procedentes de 24 equipos de fútbol de la Comunidad Valenciana.

Los análisis se basaron en 621 deportistas. El porcentaje de datos perdidos fue inferior al 5%, por lo que no resultó un problema para el análisis (Graham y Hofer, 2000).

Instrumentos

El apoyo a la autonomía se evaluó mediante la versión española (Balaguer, Castillo, Duda y Tomás, 2009) del Cuestionario de Clima en el Deporte (Sport Climate Questionnaire, n.d.). Las respuestas se recogen en una escala tipo Likert que oscila desde 1 (*totalmente en desacuerdo*) a 7 (*totalmente de acuerdo*). Un ejemplo sería: "Siento que mis profesores me ofrecen distintas opciones y la posibilidad de elegir".

La satisfacción de la necesidad de competencia se evaluó con la versión española (Balaguer, Castillo y Duda, 2008) de la subescala de competencia percibida del Inventario de Motivación Intrínseca (McAuley et al., 1989). La escala de respuesta tipo Likert oscila desde 1 (*totalmente en desacuerdo*) a 7 (*totalmente de acuerdo*). Un ejemplo sería: "Creo que soy bastante bueno en el fútbol". La satisfacción de la necesidad de autonomía se evaluó con la versión española (Balaguer et al., 2008) de la Escala de Autonomía Percibida en el Deporte (Reinboth y Duda, 2006) con una escala tipo Likert desde 1 (*nada cierto*) a 7 (*totalmente cierto*), con ítems como "Me siento libre para expresar mis ideas y opiniones". La satisfacción de la necesidad de relación se evaluó con la versión española (Balaguer et al., 2008) de la subescala de aceptación de la Escala de Necesidad de Relación (Richer y Vallerand, 1998). El rango de respuesta oscila de 1 (*totalmente en desacuerdo*) a 5 (*totalmente de acuerdo*) en danza y desde 1 (*totalmente en desacuerdo*) a 7 (*totalmente de acuerdo*) en fútbol con ítems como "entendido".

La vitalidad subjetiva se evaluó con la versión española (Balaguer, Castillo, García- Merita y Mars, 2005) de la Escala de Vitalidad Subjetiva (Ryan y Frederick, 1997), a través de una escala tipo Likert que oscila desde 1 (*no es verdad*) a 7 (*verdadero*). Un ejemplo sería "Me siento vivo y vital".

El afecto positivo se evaluó mediante la versión española de la subescala de Afecto Positivo de la Escala de Afecto Positivo y Negativo (Watson, Clark y Tellegen, 1988). La escala de respuesta tipo Likert oscila desde 1 (*nada*) a 5 (*extremadamente*). Un ejemplo sería “emocionado”. La subescala se tradujo al castellano siguiendo el procedimiento de *back-translation* (Muñiz y Hambleton, 2000).

Procedimiento

Se contactó con los directores de las escuelas de danza y fútbol para explicarles el objetivo de la investigación y solicitar su participación. Recibido el consentimiento de los directores se concertó un día para la administración de cuestionarios. Tras una clase de danza o durante una sesión de entrenamiento, se les explicó a bailarines y futbolistas en qué consistía el estudio y se les pidió su consentimiento firmado para participar libre y anónimamente en el mismo. Al menos un investigador estuvo presente durante la recogida de la información.

2.4. RESULTADOS

Análisis preliminares

Los estadísticos descriptivos se muestran en la Tabla 1. Los resultados informan que tanto los bailarines como los futbolistas están de acuerdo en que sus profesores y entrenadores crean un clima de apoyo a la autonomía, y que tienen satisfechas sus necesidades de competencia, autonomía y relación. Asimismo, informan sentirse con vitalidad y con afecto positivo.

Los índices de asimetría y curtosis se encuentran próximos al valor cero y por debajo del valor 2, lo que indica semejanza con la curva normal (Bollen y Long, 1993).

Tabla 1

Estadísticos descriptivos de las variables del estudio

	Bailarines N = 197			Futbolistas N = 434		
	<i>M (DT)</i>	Asimetría	Curtosis	<i>M (DT)</i>	Asimetría	Curtosis
Apoyo Autonomía	5,44 (1,06)	-1,10	1,79	5,14 (1,10)	-0,63	0,19
Competencia	4,59 (1,14)	-0,54	0,01	5,51 (1,02)	-0,64	0,89
Autonomía	4,45 (1,22)	-0,27	-0,45	5,13 (1,12)	-0,50	0,22
Relación	3,81 (0,89)	-0,49	-0,45	5,78 (1,06)	-0,98	1,28
Vitalidad	5,08 (1,17)	-0,60	-0,36	5,43 (1,17)	-0,68	0,16
Afectos Positivos	3,46 (0,71)	-0,18	-0,40	3,88 (0,70)	-0,55	0,39

Nota. Rango de 1 a 7 excepto Relación en Bailarines y Afectos Positivos cuyo rango es de 1 a 5.

Se calculó la consistencia interna de las escalas a través del alfa de Cronbach, obteniéndose fiabilidades adecuadas (véase Tabla 2). No obstante, en ambas muestras, el ítem 5 “No puedo bailar muy bien” y “No puedo jugar muy bien al fútbol” de la escala de Necesidad de Competencia, y el ítem 6 “Por lo general me he sentido alerta” de la escala de Afectos Positivos correlacionaban con la escala total por debajo de .30, por lo que se eliminaron para aumentar la fiabilidad de las escalas. El análisis de correlaciones mostró que todas las variables se relacionaban de forma positiva y significativa entre sí (véase Tabla 2).

Tabla 2

Correlaciones bivariadas y fiabilidad de las variables

	1	2	3	4	5	6
1.A. Autonomía	-	,18*	,57**	,50**	,31**	,36**
2.Competencia	,25**	-	,29**	,22**	,34**	,41**
3.Autonomía	,58**	,37**	-	,56**	,42**	,38**
4.Relación	,56**	,39**	,57**	-	,24**	,34**
5.Vitalidad	,28**	,28**	,36**	,39**	-	,59**
6.Afectos Positivos	,26**	,29**	,37**	,44**	,49**	-
Alpha Bailarines	,84	,89	,83	,89	,89	,88
Alpha Futbolistas	,88	,84	,86	,92	,85	,83

Nota. * $p < ,05$; ** $p < ,01$. En la diagonal superior aparecen las correlaciones del grupo de bailarines y en la diagonal inferior las de los futbolistas.

Invarianza factorial de los instrumentos

Para examinar la estructura factorial de las escalas, se realizaron análisis factoriales confirmatorios multimuestra con el programa LISREL 8.54 (Jöreskog y Sörbom, 2003) utilizando el método de Máxima Verosimilitud. Los índices de ajuste empleados fueron la raíz del promedio del error de aproximación (RMSEA), el índice de ajuste no normativo (NNFI), y el índice de ajuste comparativo (CFI). Valores de RMSEA por debajo de ,08 y de NNFI y CFI superiores a ,90 indican un ajuste aceptable de los datos (Hu y Bentler, 1995), sobre todo al analizar modelos complejos con indicadores múltiples (Marsh, Hau y Wen, 2004). El contraste de invarianza factorial se inició con el examen de la bondad de ajuste de la estructura de cada instrumento en cada una de las muestras (línea base). A continuación se examinó la invarianza configural (Modelo 1), la equivalencia en las cargas factoriales (Modelo 2), y la equivalencia en los interceptos (Modelo 3). Si al comparar los índices de los Modelos 2 y 3 con los obtenidos en el Modelo 1, la diferencia entre los valores NNFI y CFI no excedía el valor criterio de ,01, se consideraba como un indicador de diferencias prácticas no significativas dando por bueno el modelo restringido y por tanto el cumplimiento de la hipótesis de invarianza factorial (Cheung y Rensvold, 2002). Los resultados muestran que todas las escalas del estudio poseen índices de ajuste satisfactorios, obteniéndose invarianza de la estructura factorial en bailarines y futbolistas (véase Tabla 3).

Tabla 3

Análisis multi-muestra de invarianza del modelo de medida

Modelos	χ^2	<i>gl</i>	RMSEA	NNFI	CFI	Δ NNFI	Δ CFI
<i>Apoyo a la autonomía</i>							
Línea base Danza	25,06*	14	0,077	0,971	0,984		
Línea Base Fútbol	14,74*	14	0,027	0,998	0,999		
Invarianza Configural	76,34*	26	0,080	0,975	0,985		
Invarianza Cargas Factoriales	85,50*	33	0,073	0,978	0,983	0,003	0,002
Invarianza Interceptos	85,54*	37	0,066	0,982	0,984	0,007	0,001
<i>Necesidad Competencia</i>							
Línea base Danza	16,65*	5	0,075	0,927	0,934		
Línea Base Fútbol	11,26*	5	0,055	0,989	0,995		
Invarianza Configural	48,77*	10	0,064	0,950	0,975		
Invarianza Cargas Factoriales	77,65*	15	0,075	0,945	0,968	0,005	0,007
Invarianza Interceptos	76,12*	17	0,080	0,952	0,967	0,002	0,008

* $p < ,01$.

Tabla 3 (Continuación)

Análisis multi-muestra de invarianza del modelo de medida

Modelos	χ^2	<i>gl</i>	RMSEA	NNFI	CFI	Δ NNFI	Δ CFI
<i>Necesidad Autonomía</i>							
Línea base Danza	15,93*	7	0,082	0,974	0,988		
Línea Base Fútbol	8,43*	7	0,046	0,994	0,998		
Invarianza Configural	43,60*	14	0,068	0,957	0,975		
Invarianza Cargas Factoriales	67,94*	20	0,080	0,963	0,975	0,006	0,000
Invarianza Interceptos	113,05*	25	0,081	0,947	0,968	0,01	0,007
<i>Necesidad Relación</i>							
Línea base Danza	15,38*	5	0,072	0,930	0,965		
Línea Base Fútbol	12,39*	5	0,059	0,978	0,989		
Invarianza Configural	40,55*	10	0,079	0,971	0,981		
Invarianza Cargas Factoriales	62,78*	15	0,083	0,975	0,981	0,004	0,000
Invarianza Interceptos	60,52*	17	0,085	0,979	0,982	0,008	0,001

* $p < ,01$.

Tabla 3 (Continuación)

Análisis multi-muestra de invarianza del modelo de medida

Modelos	χ^2	<i>gl</i>	RMSEA	NNFI	CFI	Δ NNFI	Δ CFI
<i>Vitalidad Subjetiva</i>							
Línea base Danza	26,09*	9	0,057	0,966	0,979		
Línea Base Fútbol	26,26*	9	0,079	0,918	0,951		
Invarianza Configural	54,29*	18	0,059	0,943	0,960		
Invarianza Cargas Factoriales	69,29*	24	0,063	0,950	0,960	0,007	0,000
Invarianza Interceptos	86,36*	27	0,071	0,953	0,961	0,01	0,001
<i>Afectos Positivos</i>							
Línea base Danza	92,33*	35	0,077	0,932	0,947		
Línea Base Fútbol	30,34*	35	0,042	0,972	0,978		
Invarianza Configural	155,14*	70	0,076	0,947	0,958		
Invarianza Cargas Factoriales	159,90*	80	0,079	0,952	0,957	0,005	0,001
Invarianza Interceptos	198,95*	87	0,071	0,958	0,959	0,011	0,001

* $p < ,01$

Invarianza factorial del modelo estructural

Los índices de ajuste empleados en el análisis del modelo fueron los mismos que en el análisis de la invarianza del modelo de medida (véase apartado anterior). Como paso inicial, el modelo estructural fue puesto a prueba en bailarines y futbolistas individualmente (línea base). Los índices obtenidos fueron satisfactorios (véase Tabla 4). Seguidamente, se puso a prueba el Modelo de la Invarianza Configural analizando la invarianza de la estructura factorial sin poner restricciones en los parámetros y se usó como línea base para compararlo con el Modelo de la Invarianza Total, donde se supone la restricción de igualdad en todos los parámetros en las dos muestras. Los resultados mostraron que los modelos comparados presentaban índices de ajuste aceptables, no existiendo diferencias significativas entre el modelo sin restricciones y el modelo con restricción total, lo que apoya la existencia de invarianza del modelo en ambos grupos (véase Tabla 4 y Figura 2).

Tabla 4

Análisis multi-muestra de invarianza del modelo estructural

Modelos	χ^2	gl	RMSEA	NNFI	CFI	Δ NNFI	Δ CFI
Línea base Danza	1771,92	620	,055	,903	,909		
Línea Base Fútbol	971,88	620	,085	,976	,977		
Modelo Sin restricciones	4160,23	1272	,077	,934	,937		
Modelo Invarianza Total	4218,78	1318	,082	,936	,937	,002	,000

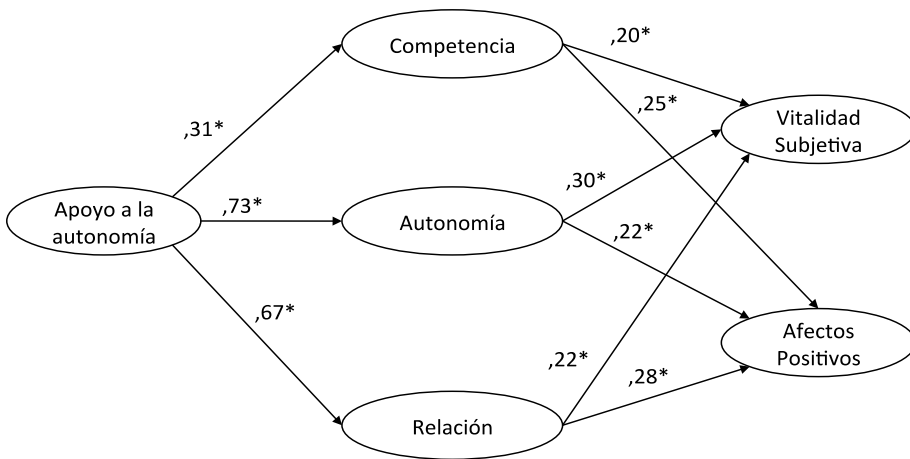


Figura 2. Solución estandarizada de la Invarianza del Modelo estructural de antecedentes y consecuencias de las necesidades psicológicas básicas $*p < ,01$.

Invarianza factorial de la mediación de las necesidades psicológicas básicas

El análisis multimuestra para comprobar la invarianza de la mediación de las necesidades psicológicas básicas entre el apoyo a la autonomía y la vitalidad y los afectos positivos, parte del modelo de invarianza total al que se introdujo un parámetro entre el apoyo a la autonomía y la vitalidad y otro entre el apoyo a la autonomía y los afectos positivos. Los índices de ajuste fueron satisfactorios: χ^2 (1316, N = 621) = 4216,58, $p < ,01$; NNFI = 0,936; CFI = 0,937; RMSEA = 0,08. Ninguno de los parámetros fue significativo y la diferencia entre los valores NNFI y CFI respecto al modelo sin restricciones (véase Tabla 4) no excedió el valor de ,01, lo que confirma la invarianza de la mediación total de las necesidades psicológicas básicas en bailarines y futbolistas.

2.5. DISCUSIÓN

En línea con los postulados teóricos, los resultados obtenidos apoyan las hipótesis planteadas en los tres objetivos de este estudio, mostrando la importancia que tiene el ambiente social para satisfacer las necesidades psicológicas básicas de los jóvenes, y así promover su bienestar. Además, en apoyo al postulado de universalidad de la BPNT, se ha visto cómo estas relaciones se mantienen invariantes en las dos muestras analizadas.

Los resultados confirman la primera hipótesis mostrando que la percepción de apoyo a la autonomía ofrecido por el profesor/entrenador predice de forma positiva la satisfacción de las necesidades de competencia, autonomía y relación de los bailarines y futbolistas. Estos resultados son congruentes con los encontrados en estudios previos en los que se ha visto cómo en diferentes edades, en diferentes deportes y en diferentes países el apoyo a la autonomía ofrecido por el entrenador favorecía la satisfacción de las necesidades psicológicas básicas de sus deportistas (Adie et al., 2008, 2012; López-Walle et al., 2012). Esto resalta la importancia de que los profesores y entrenadores animen a los jóvenes a participar en la toma de decisiones en su deporte, que les expliquen por qué son importantes y para qué sirven las actividades que les piden que realicen y que se pongan en el lugar de sus futbolistas y/o bailarines sin juzgarles. De esta forma conseguirán que los jóvenes se sientan más competentes en las actividades que realizan, con más autonomía y con una mejor relación en sus clases o equipos.

La segunda hipótesis en la que se defendía que la satisfacción de las tres necesidades psicológicas básicas de los jóvenes predeciría su vitalidad subjetiva y sus afectos positivos, encontró apoyo tanto en bailarines como en futbolistas. Estos resultados están en consonancia con los obtenidos en estudios previos en los que la satisfacción de las necesidades predecía positivamente la vitalidad subjetiva (Adie et al., 2008, 2012; López-Walle et al., 2012) y el afecto positivo (Bartholomew et al., 2011; Quested et al., 2013). Además son acordes a la BPNT mostrando que cuanto más competente se sienta una persona a la hora de realizar una tarea, cuando sienta que decide por sí misma y cuando tenga una buena relación con la gente que le rodea, experimentará un mayor bienestar.

Otro de los objetivos del presente estudio fue examinar el papel mediador de la satisfacción de las necesidades psicológicas básicas entre el contexto social y los indicadores de bienestar en los jugadores y los bailarines. A diferencia de otros estudios en los que solo se encontró mediación parcial (López-Walle et al. (2012) o que solo la satisfacción de dos de las necesidades actuaron como mediadoras (Adie et al., 2008, 2012), en el presente estudio se confirmó la mediación total de la satisfacción de las tres necesidades psicológicas básicas entre la percepción del apoyo a la autonomía y los indicadores de bienestar, apoyando la tercera hipótesis. Así, tal como defiende la BPNT, observamos que las necesidades psicológicas básicas tienen un papel central en el desarrollo óptimo de las personas, y que aunque el contexto social sea importante para promover el bienestar, su impacto dependerá del grado en el que facilite que los jóvenes se sientan competentes en lo que hacen, más autónomos en lo que deciden hacer y con una mejor relación con sus compañeros y con las figuras de autoridad.

Por último, en relación a la cuarta hipótesis, los resultados confirmaron la invarianza de las relaciones analizadas en ambas muestras, apoyando el supuesto de universalidad de las necesidades psicológicas básicas defendido desde la BPNT. De momento no conocemos ningún otro estudio que haya analizado específicamente la invarianza del modelo defendido por la BPNT en diferentes poblaciones en el ámbito de la actividad física y el deporte, aunque existen estudios que han dado apoyo a estas relaciones en personas de diferentes edades, países y participantes en actividades distintas (e.g., Adie et al., 2008, 2012; Bartholomew et al., 2011; López-Walle et al., 2012; Quested et al., 2013), lo que apoya el postulado teórico.

Es necesario tener en cuenta que los datos analizados en este estudio han sido obtenidos a través de medidas autoinformadas, y sería interesante complementarlos con medidas objetivas, por ejemplo a través de la filmación y codificación del estilo interpersonal del entrenador. Además, hubiera sido preferible que, igual que ocurre en la muestra de danza, en la muestra de fútbol hubieran estado representados ambos géneros. Futuros estudios podrían incluir el análisis del estilo interpersonal controlador, sobre la frustración de las necesidades y diferentes índices de malestar (véase Balaguer et al., 2012; Bartholomew et al., 2011).

Destacamos la contribución teórica que supone la confirmación de la invarianza del modelo defendido por la BPNT en las dos poblaciones estudiadas, con el consecuente apoyo al supuesto de universalidad defendido por la teoría. Asimismo, los resultados tienen grandes implicaciones en el mundo aplicado enfatizando la importancia de apoyar la autonomía de los participantes para contribuir al desarrollo de su bienestar, independientemente de que se trate de un

deporte como el fútbol o de una actividad artística como la danza, e independientemente de que se trate de jóvenes varones futbolistas o de chicos y chicas bailarines; en ambos casos ofrece información sobre cómo es preferible que se comporten las figuras de autoridad, bien sean profesores de danza o entrenadores de fútbol base.

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CAPÍTULO 3

ESTILO INTERPERSONAL CONTROLADOR DEL ENTRENADOR, FRUSTRACIÓN DE LAS NECESIDADES PSICOLÓGICAS BÁSICAS, Y BURNOUT EN FUTBOLISTAS INFANTILES

Castillo, I., González, L., Fabra, P., Mercé, J., & Balaguer, I. (2012). Estilo interpersonal controlador del entrenador, frustración de las necesidades psicológicas básicas, y *burnout* en futbolistas infantiles [Controlling coach interpersonal style, basic psychological need thwarting, and burnout in young soccer players]. *Cuadernos de Psicología del Deporte*, 12(1), 143-146.⁴

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3.1. RESUMEN

En el presente trabajo, basado en la Teoría de las Necesidades Psicológicas Básicas (BPNT; Deci y Ryan, 2000), se puso a prueba un modelo con la siguiente secuencia: Estilo interpersonal controlador del entrenador \Rightarrow Frustración de las necesidades psicológicas básicas \Rightarrow Burnout. Participaron 725 futbolistas varones de la categoría infantil con edades comprendidas entre los 11 y los 13 años ($M = 12.6$; $DT = .54$) que completaron los instrumentos que evaluaban las variables de interés. Los resultados del análisis de ecuaciones estructurales informaron que la percepción del estilo controlador del entrenador actuaba de predictor positivo de la frustración de las tres necesidades y que cada una de estas tres últimas, se asociaba positivamente con el burnout.

Palabras clave: estilo controlador del entrenador, frustración de las necesidades psicológicas básicas, burnout, futbolistas infantiles.

Abstract

Based on the basic psychological needs theory (BPNT; Deci & Ryan, 2000), in the present study a model with the following sequence was tested: controlling interpersonal coaching style \Rightarrow basic psychological need thwarting \Rightarrow burnout. Participants were 725 young male soccer players from category under 14 years old (*Infantil*), aged between 11 and 13 ($M = 12.6$; $SD = .54$) that completed the questionnaires tapping the variables of interest. Results of structural equation analyses informed that perception of a controlling interpersonal coaching style was a positive predictor of need thwarting for competence, autonomy and relatedness; thwarting for these three needs were positively associated with burnout.

Key words: controlling coaching style, basic psychological need thwarting, burnout, young soccer players.

3.2. INTRODUCCIÓN

La Teoría de las Necesidades Psicológicas Básicas (BPNT; Deci y Ryan, 2000), una de las mini-teorías de la Teoría de la Autodeterminación (SDT; Deci y Ryan, 2000) defiende que las necesidades de competencia (sensación de dominio/maestría mediante la interacción eficaz con el entorno), autonomía (sensación de que uno es el origen o la fuente de la propia acción) y relación (sensación de estar conectado a los demás, sentir afecto hacia y desde otros) juegan un importante papel en el desarrollo del bienestar psicológico y del funcionamiento óptimo (Deci y Ryan, 2000). También postula que los contextos sociales pueden facilitar este desarrollo o dificultarlo, a través de la satisfacción o frustración de estas necesidades. En concreto, en aquellos contextos en los que se apoya la autonomía se favorece la *satisfacción de las necesidades psicológicas* (sensaciones que se producen cuando se percibe que se tienen cubiertas las necesidades psicológicas) y el bienestar; mientras que en los entornos controladores se promueve la frustración de las necesidades (sensaciones que se producen cuando las personas perciben que sus necesidades psicológicas son mermadas por otros) y el malestar (Bartholomew, Ntoumanis, Ryan, Bosch y Thøgersen-Ntoumani, 2011; Ryan y Deci, 2000).

Adaptándolo al contexto deportivo, la SDT sugiere que cuando los entrenadores tienen un estilo interpersonal de apoyo a la autonomía (el entrenador apoya activamente las iniciativas de los deportistas y crea condiciones para que experimenten un sentido de volición, elección y desarrollo personal) se favorecerá la satisfacción de las necesidades y el bienestar psicológico, mientras que cuando establezcan

un estilo controlador (el entrenador actúa de manera coercitiva y autoritaria para imponer a los deportistas su forma de pensar y actuar) se facilitará la frustración de las necesidades y se propiciará el malestar (Bartholomew, Ntoumanis y Thøgersen-Ntoumani, 2010).

Hasta la fecha, la investigación en el contexto deportivo se ha centrado predominantemente en estudiar las relaciones entre la percepción del estilo interpersonal de apoyo a la autonomía del entrenador sobre la satisfacción de las necesidades psicológicas básicas y de éstas últimas sobre el bienestar o el malestar de los deportistas; obteniéndose apoyo general para los postulados de la BPNT (Balaguer, 2007; 2010). Sin embargo, poco se conoce en la actualidad sobre las consecuencias negativas del estilo interpersonal controlador sobre el malestar, y menos todavía sobre las relaciones secuenciales postuladas por la BPNT en esta ruta en la que se dificulta el funcionamiento psicológico: estilo interpersonal controlador del entrenador \Rightarrow la frustración de cada una de las necesidades psicológicas básicas \Rightarrow malestar (véase Balaguer et al., en prensa; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). De ahí que nuestro objetivo en el presente trabajo se centre en el estudio de esta secuencia tomando como indicador del malestar el burnout, constructo que ha sido considerado como un síndrome psicosocial que se caracteriza por la presencia de agotamiento emocional y físico, devaluación deportiva y disminución del sentido de logro en la actividad en cuestión (Raedeke y Smith, 2004).

En las pocas investigaciones realizadas hasta la fecha en las que se han estudiado las relaciones entre la percepción del estilo

controlador del entrenador, la frustración de las necesidades psicológicas y el burnout, tanto a nivel transversal (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), como longitudinal (Balaguer et al., en prensa) la frustración de las necesidades se ha evaluado a nivel global y los resultados han ofrecido apoyo general a los efectos negativos de este estilo interpersonal del entrenador sobre el funcionamiento psicológico.

En el presente trabajo, a diferencia de los dos anteriores, se estudiaron a nivel independiente las relaciones de la frustración de cada una de las necesidades psicológicas básicas con los antecedentes y consecuentes de la BPNT. En concreto se puso a prueba un modelo con la siguiente secuencia: Estilo interpersonal controlador del entrenador \Rightarrow Frustración de cada una de las necesidades psicológicas básicas \Rightarrow Burnout. Se hipotetizó que el estilo interpersonal controlador del entrenador actuaría como predictor positivo de la frustración de cada una de las necesidades (competencia, autonomía y relación) y que cada una de estas últimas variables se asociaría positivamente con el burnout.

3.3. MÉTODO

Participantes

La muestra estuvo compuesta por 725 futbolistas varones de la categoría infantil pertenecientes a 42 equipos de fútbol base de la provincia de Valencia, con edades comprendidas entre los 11 y los 13 años ($M = 12.6$; $DT = .54$) que entrenaban una media de 2.26 días a la semana ($DT = 1.63$).

Instrumentos

La *percepción del estilo interpersonal controlador del entrenador* se evaluó con la versión española (Castillo et al., 2010) de la escala de Conductas Controladoras del Entrenador (CCBS, Bartholomew et al., 2010), compuesta por 15 ítems divididos en cuatro subescalas (uso controlador de recompensas, atención condicional negativa, intimidación, excesivo control personal). Cada ítem se inicia con la frase: “En mi equipo de fútbol” y las respuestas se recogen en una escala tipo Likert que oscila desde *totalmente en desacuerdo* (1), a *totalmente de acuerdo* (7). Para el presente estudio se utilizó la puntuación media en la escala total.

La *frustración de las necesidades psicológicas básicas* se evaluó mediante la versión española (Balaguer et al., 2010) de la Escala de Frustración de las Necesidades Psicológicas (PNTS; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011). La escala tiene 12 ítems agrupados en tres subescalas que evalúan el grado en el que los deportistas perciben que se frustran sus necesidades de competencia, de autonomía y de relación. Cada ítem se inicia de la siguiente forma: “En mi equipo de fútbol...”. Las respuestas se recogen en una escala tipo Likert de 7 puntos con un rango que oscila desde *totalmente en desacuerdo* (1) a *totalmente de acuerdo* (7).

La *percepción de burnout* se evaluó mediante la versión española (Balaguer et al., 2011) del Cuestionario de Burnout Deportivo (ABQ; Raedeke y Smith, 2001). Los 15 ítems del cuestionario se dividen en tres subescalas de cinco ítems cada una (cansancio físico y emocional, devaluación del deporte, y disminución del sentido del logro). Las respuestas se recogen en una escala tipo Likert que oscila desde *casi nunca* (1) a *casi siempre* (5). En este estudio se utilizó la puntuación media en la escala total.

Investigaciones previas han confirmado una adecuada fiabilidad de los instrumentos utilizados: *CCBS* (Bartholomew et al., 2010; Castillo et al., 2010), *PNTS* (Balaguer et al., 2010; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011) y *ABQ* (Balaguer et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011; Raedeke y Smith, 2001).

Procedimiento

Los jugadores cumplieron los instrumentos transcurrido un mes y medio desde el inicio de la temporada con el objeto de tener tiempo suficiente para una adecuada percepción del estilo interpersonal del entrenador y durante una sesión de entrenamiento para evitar los efectos potenciales de la competición en las respuestas. Todos los jugadores firmaron el consentimiento para participar en el estudio. Durante la recogida de la información, al menos un investigador estuvo presente y en todo momento se respetó el anonimato de los participantes.

3.4. RESULTADOS

Descriptivos y Fiabilidad de las Escalas

Los descriptivos y los coeficientes de fiabilidad (alfa de Cronbach) de las medidas del estudio se presentan en la Tabla 1. Todos los coeficientes de fiabilidad cumplen el criterio mínimo de .70 determinado para las escalas del dominio psicológico (Nunnally, 1978), oscilando el rango entre .70 y .88.

Tabla 1. *Descriptivos y consistencia interna de las variables del estudio*

<i>Variable</i>	Rango	Media	<i>DT</i>	α
Estilo Controlador	1-7	2.43	.92	.80
Frustración Competencia	1-7	2.65	1.33	.75
Frustración Autonomía	1-7	3.23	1.31	.70
Frustración Relación	1-7	2.56	1.36	.73
Burnout	1-5	1.93	.71	.88

Modelo de Ecuaciones Estructurales

El modelo estructural hipotetizado se ha puesto a prueba utilizando el método de máxima verosimilitud del LISREL 8.54 (Jöreskog y Sörbom, 2003). Los resultados mostraron un adecuado ajuste de los datos: $\chi^2 (161) = 370.14, p < .01$; CFI = .97; NNFI = .96; RMSEA = .063. Los parámetros de la solución estandarizada se presentan en la Figura 1.

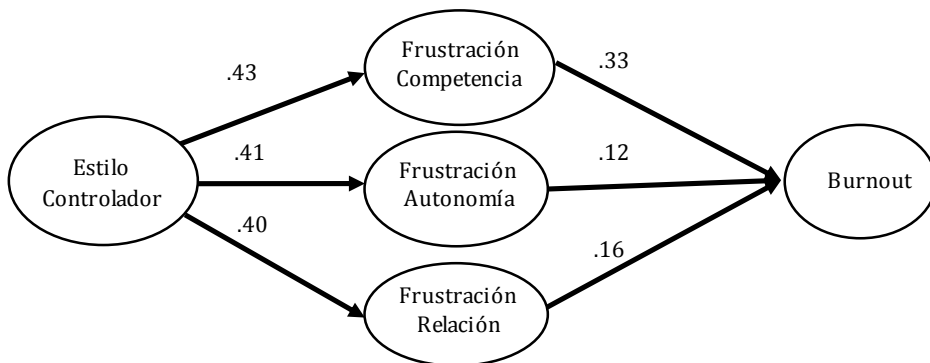


Figura 1. Solución estandarizada del modelo estructural hipotetizado de la asociación entre el estilo controlador, la frustración de las necesidades psicológicas básicas y el burnout

Nota. Todos los coeficientes son significativos ($p < .01$).

Los resultados informaron que la percepción del estilo controlador del entrenador actuaba de predictor positivo de la frustración de las necesidades de competencia, de autonomía y de relación; y que estas tres últimas a su vez se asociaban positivamente con el burnout. El modelo explicó un 34% de la varianza del burnout.

3.5. DISCUSIÓN

En el presente estudio se puso a prueba un modelo a la base de los postulados de la BPNT (Deci y Ryan, 2000) en el que se analizó el poder predictivo de la percepción del estilo controlador del entrenador sobre la frustración de cada una de las necesidades psicológicas básicas, y el de estas últimas sobre un indicador de malestar (burnout).

En la misma línea que en estudios previos, transversales (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) y longitudinales (Balaguer et al., en prensa), en los que se operacionalizó la frustración de las necesidades a nivel global, en este trabajo se ha visto que el estilo controlador tiene un poder predictivo significativo sobre la frustración de cada una de las necesidades psicológicas básicas y que cada una de éstas a su vez actuó como predictor positivo del burnout.

En conclusión, en este trabajo se muestra que la creación de estilos interpersonales controladores por parte de los entrenadores tiene implicaciones negativas sobre las experiencias psicológicas de los jóvenes futbolistas y enfatiza la importancia de formar a los entrenadores en la creación de entornos positivos (<http://www.projectpapa.co.uk/>).

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CAPÍTULO 4

COACHES' INTERPERSONAL STYLE, BASIC PSYCHOLOGICAL NEEDS AND THE WELL- AND ILL-BEING OF YOUNG SOCCER PLAYERS: A LONGITUDINAL ANALYSIS

Balaguer, I., González, L., Fabra, P., Castillo, I., Mercé, J., & Duda, J. L. (2012). Coaches' interpersonal style, basic psychological needs and the well- and ill-being of young soccer players: A longitudinal analysis. *Journal of Sports Sciences*, 30(15), 1619-1629. doi: 10.1080/02640414.2012.731517⁵

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4.1. ABSTRACT

This study entailed a longitudinal test of basic psychological needs theory, a sub-theory in the self-determination framework (Deci & Ryan, 2000), in young soccer players. We examined whether changes in soccer players' perceptions of the coaches' interpersonal style (autonomy supportive and controlling) predicted changes in the players' need satisfaction/need thwarting, and in turn, variability in their reported subjective vitality and burnout over the course of a season. Young male soccer players ($M = 12.58 \pm 0.54$ years) completed a questionnaire at two time points in the season [$n(T1) = 725$; $n(T2) = 597$]. Changes in the players' perceptions of an autonomy supportive environment significantly predicted changes in psychological need satisfaction (positively) and in psychological need thwarting (negatively). Changes in psychological need satisfaction positively predicted changes in subjective vitality and negatively related to cross-time variation in global burnout scores. In contrast, changes in the players' perceptions of a controlling coach-created environment were positively associated with changes in psychological need thwarting that corresponded to increases in player burnout. Finally, results provided support for the assumed mediational roles of psychological need satisfaction and need thwarting in the social environment to well- and ill-being relationships.

Key words: autonomy support, controlling style, self-determination theory, subjective vitality, burnout.

4.2. INTRODUCTION

Sport participation is considered to be an inherently rewarding activity that contributes to psychological well-being (Ryan & Frederick, 1997). However, when competition is involved, children and adolescents do not always receive the potential benefits of practicing sport. On some occasions, participating in sport requires intense physical demands and high psychological pressures that some athletes perceive as a struggle to handle, potentially leading to negative consequences.

Variations in the psychological environment created by significant others (such as the coach) and their impact on athletes' motivational processes are key determinants of the quality of sport engagement and whether participation leads to positive and/or maladaptive outcomes. Basic psychological needs theory, a sub-theory of the self-determination framework (Deci & Ryan, 2000), provides a conceptual lens by which we can explore the social environmental and motivation-related antecedents of experiences of well-being and ill-being in athletes. The present work is grounded in basic psychological needs theory and centres on predicting the quality of participation in a large sample of young soccer players through two indicators, namely, players' feelings of subjective vitality and reported burnout.

Heightened subjective vitality is one's conscious experience of possessing energy and aliveness (Ryan & Frederick, 1997) and is assumed to characterise individuals who are experiencing well-being (Ryan & Deci, 2001). Athlete burnout is defined in terms of players' feelings of emotional and physical exhaustion, reduced sense of

accomplishment, and an uncaring and cynical attitude towards sport participation, and is a key indicator of ill-being in athletes (Raedeke & Smith, 2001).

According to self determination theory, such positive as well as negative outcomes can be better understood by considering the degree to which the environment satisfies versus thwarts people's basic psychological needs (Deci & Ryan 2000; Ryan & Deci 2000b). These needs – the need for competence (concerns an individual's need to feel that he/she can meet the demands of the activity), autonomy (feelings that one is the perceived origin of one's action) and relatedness (feelings of being connected to and being accepted by significant others) are considered innate and universal for psychological growth and optimal functioning (Deci & Ryan, 2000; Ryan & Deci, 2000a). In contrast, self determination theory proposes that when the needs are not satisfied or are thwarted, ill-being and dysfunction are likely to be witnessed (Ryan & Deci 2000b).

Self determination theory (Deci & Ryan, 2000), and in particular basic psychological needs theory, postulates that people function and develop more successfully as a consequence of social environmental support for their basic psychological needs. With respect to social environmental factors that are assumed to be important for need satisfaction and ensuing well-being (Ryan & Deci, 2000b), emphasis has been placed on the degree of autonomy support (Deci & Ryan, 1987) provided by significant others. Basic psychological needs theory also considers the potential impact of controlling interpersonal styles on diminished or even frustrated need satisfaction and resulting ill-being (Ryan & Deci 2000b).

Previously, when sport researchers have explored the degree to which the environment satisfies or frustrates participants' basic psychological needs and the ensuing consequences for well-being/ill-being, it was assumed that low need satisfaction is equivalent to a thwarting of the psychological needs (see Bartholomew, Ntoumanis, Ryan, & Thogersen-Ntoumani, 2011, p. 78). However, low need satisfaction is not the same as having one's psychological needs actively frustrated. In the former, athletes feel that their needs are not satisfied (e.g., athletes have low satisfaction of autonomy because they are not feeling they have much input in decision making on the team). With respect to need thwarting, athletes perceive that their need satisfaction has been actively impeded (e.g., athletes feel without autonomy because they feel pushed to behave in certain ways).

Assuming that need satisfaction and need thwarting are separate (albeit inversely related) concepts allows us to explore different antecedents and consequences of each of these constructs. Specifically, we can examine the assumptions that need satisfaction is the key mechanism that links positive dimensions of the social environment to indices of well-being and optimum development, while need thwarting is a central process linking negative dimensions of the social environment to compromised functioning (Ryan & Deci, 2000b; Bartholomew, Ntoumanis, Ryan, Bosch & Thogersen-Ntoumani, 2011).

Coaches' Interpersonal Styles and Implications for Athletes' Basic Psychological Needs

Two dimensions of coaches' behaviours have been considered in the literature; namely, the autonomy supportive and controlling features of their interpersonal style. Autonomy supportive coaches are

more likely to consider the athlete's or team's perspective, offer a rationale, promote choice and encourage decision-making (Deci & Ryan, 1985, 1987; Mageau & Vallerand, 2003). It is assumed that this interactive style will lead to greater satisfaction of psychological needs. Coaches manifesting a controlling interpersonal style behave in a coercive, pressuring, and authoritarian way to impose a specific and preconceived way of thinking and behaving upon their athletes. Controlling coaches actively impede their athletes' experience of the basic needs (Bartholomew, Ntoumanis, & Thogersen-Ntoumani, 2010; Deci & Ryan, 1985). In these situations, athletes are likely to exhibit negative affective, cognitive and behavioural responses (Deci & Ryan, 2000).

Regarding the implications of coaches' interpersonal style, basic psychological needs theory -grounded research in the sport domain has predominantly explored the consequences of autonomy supportive coach behaviours on need satisfaction (e.g., Adie, Duda, & Ntoumanis, 2008; Álvarez, Balaguer, Castillo, & Duda, 2009; Amorose & Anderson-Butcher, 2007; Balaguer, Castillo, & Duda, 2008; Gagné, Ryan, & Bargmann, 2003; Mageau & Vallerand, 2003). This line of work, involving samples of youth through adult age athletes, has revealed a positive association between coach-provided autonomy support and the satisfaction of the need for autonomy (e.g., Reinboth, Duda, & Ntoumanis, 2004), the needs for autonomy and relatedness (e.g., Balaguer et al., 2008), and for the three basic psychological needs (e.g., Adie et al., 2008) or for a composite measure of need satisfaction (Álvarez et al., 2009; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Until recently, sport research has not concurrently addressed the implications of both coach autonomy supportive and controlling styles to athletes' psychological need satisfaction as well as need thwarting. In two cross-sectional studies, Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011) revealed perceptions of an autonomy supportive atmosphere to be a positive predictor of need satisfaction and a negative predictor of need thwarting. A perceived controlling style emerged as a positive predictor of need thwarting. In the current research, we extend the work of Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011) by testing relationships between both dimensions of coaches interpersonal style and psychological needs satisfaction and needs thwarting over one competitive season.

Need Satisfaction/Need Thwarting and Athletes' Subjective Vitality/Burnout

Aligned with the tenets of basic psychological needs theory (Deci & Ryan, 2000), sport research has provided evidence for a positive link between psychological need satisfaction and reported subjective vitality in athletes (e.g., Adie et al., 2008; Gagné et al., 2003; Reinboth et al., 2004; Reinboth & Duda, 2006). In the present study, we examined the degree to which young soccer players' feelings of personal energy and aliveness are predicted by their degree of need satisfaction when participating in their sport over the course of one season.

Basic psychological needs theory (Ryan & Deci, 2000b) has been considered to be a promising conceptual lens in which to explore the possible antecedents of athletes' burnout symptoms (i.e., Hodge, Lonsdale, & Ng, 2008; Perreault, Gaudreau, Lapointe, & Lacroix, 2007). Raedeke (1997) proposed that a lack of autonomy contributes to athlete

burnout, and Cresswell and Eklund (2006) argue that low satisfaction of the need for competence is a determinant of a reduced sense of accomplishment, a key element of the burnout experience. Relatedness has been also deemed to be involved in the development of athlete burnout, but is assumed to hold a less important role than autonomy and competence (Hodge et al., 2008). In a study of young Canadian athletes, the three psychological needs negatively predicted global burnout (Perreault et al., 2007). In longitudinal research on vocational dancers, increases in global burnout scores were negatively predicted by changes in satisfaction of the three needs (Questaed & Duda, 2011).

Bartholomew and her colleagues (Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), utilising a cross-sectional design, tested the consequences of psychological needs satisfaction and needs thwarting on athletes' reported well-being and ill-being. In one study, they found young athletes' feelings of vitality to be positively predicted by need satisfaction and negatively related to need thwarting. However, reported frustration of the psychological needs emerged as the only (and positive) significant predictor of emotional and physical exhaustion (the unique dimension of burnout included in that study). In a second study in which global burnout was assessed, need thwarting positively and need satisfaction negatively predicted this indicator of ill-being. A third investigation involving female athletes revealed need satisfaction to be a positive predictor of athletes' subjective vitality. However, the results indicated that need thwarting was not significantly related to this indicator of well-being. Thus, the limited results to date are inconsistent regarding the implications of need thwarting for experiences of well-being and the role of need satisfaction in predicting

ill-being. As this design provides more powerful information regarding prediction and allows for analysis of change over time, we conducted a longitudinal study to examine the links between youth soccer players' degree of satisfaction and thwarting of the three psychological needs and their reported vitality and global burnout.

In sum, the present study extended the literature by adopting a longitudinal methodology and determining whether changes in subjective vitality and global burnout co-varied with changes in our hypothesised antecedents, namely, players' perceptions of the coaches' interpersonal style (i.e. the autonomy support and controlling aspects) and the degree to which players' perceived their psychological needs to be satisfied and/or thwarted. We also tested whether need satisfaction and need thwarting served as mediators in the relationships between the two dimensions of the coach interpersonal style and players' subjective vitality and global burnout.

We hypothesised that: (1) changes in the players' perceptions of autonomy support and psychological needs satisfaction would positively predict changes in subjective vitality and negatively relate to changes in reported burnout, over time; (2) changes in the players' perceptions of controlling behaviours and psychological needs thwarting would positively predict changes in reported burnout and negatively correspond to changes in subjective vitality, over time; (3) changes in perceptions of autonomy support would negatively predict changes in need thwarting, while changes in perceptions of controlling style would be a negative predictor of changes in need satisfaction; (4) we also expected any relationship between changes in the targeted

dimensions of coaches' interpersonal styles and indicators of young players' well- and ill-being to be mediated by changes in psychological needs (i.e., their satisfaction as well as thwarting).

4.3. METHOD

Participants

The participants were at time one (T1), 725 male soccer players aged between 11 and 14 years old ($M = 12.57$, $SD = 0.54$), representing 27 different soccer schools from the Valencian Soccer Federation. Five hundred and ninety-seven of these initial participants completed the questionnaire pack at time two (T2; $M = 12.58$ years, $SD = 0.54$). Using dummy-coding (stay vs. dropout) to test for possible differences among those athletes who took part in the second data collection (T2) and those who did not, we conducted a one-way MANOVA with coaches' interpersonal styles, need satisfaction, need thwarting and our targeted indices of well-/ill-being as the dependent variables. No significant differences emerged ($F(6, 718) = 0.24$, $p > 0.10$). The overall sample is representative of the *Infantil* soccer division from the Valencian Community Youth Soccer League in Valencia, Spain. On average, participants had played competitively with their respective club development programmes for 3 years.

After selecting the teams randomly by area within the Valencian Community from the list provided by the Valencian Soccer Federation, we sent a letter to the sports director of the soccer schools, informing them about the goals of the investigation and requesting their collaboration. All the schools contacted expressed interest in

participating in the investigation. All participants and their parents were provided with verbal information about the investigation and provided informed consent before data collection. The questionnaires were responded to anonymously and voluntarily, and were completed by the players at the different soccer schools during a 45-minute interval, before beginning their normal training session, in a room made available for this purpose. The questionnaires were administered by at least one investigator simultaneously to all the team members who participated in the investigation. Neither the coach nor the sports director of the club was present at any time during questionnaire administration. Players were encouraged to answer honestly and ask the investigator present if they had any questions. The Time 1 questionnaire pack was administered when approximately the first two months of the season had passed, so the players had enough time to develop their views regarding their coaches' prevailing interpersonal styles. Time 2 questionnaires were completed at the end of the season. At each time point, players were requested to answer in terms of how they were perceiving the situation/feeling at that point in time.

Instruments

Coach autonomy support. Players' perceptions of the degree of autonomy support provided by their coach were assessed via the 15 item Spanish version (Balaguer, Castillo, Duda, & Tomás, 2009) of the Sport Climate Questionnaire (<http://www.psych.rochester.edu/SDT/>). Each item starts with the phrase: "On my soccer team..." and the responses are rated on a 7-point Likert scale ranging from 1 (*not at all true*) to 7 (*very true*). An example item is "I feel that my coach provides

me choices and options.” Previously, researchers have confirmed the internal reliability of this instrument in the case of young sport participants (e.g., Álvarez et al., 2009; Reinboth et al., 2004).

Coach controlling interpersonal style. Players’ perceptions of the degree to which their coach manifested a controlling style was measured using the Spanish version (Castillo et al., 2010) of the Controlling Coach Behaviours Scale (Bartholomew et al., 2010). The 15-item scale is comprised of 4 sub-dimensions (controlling use of rewards, conditional regard, intimidation, and excessive personal control). Players provided their responses, on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), in terms of how they viewed their coach. Examples items from each of the subscales are “My coach tries to motivate me by promising to reward me if I do well” (controlling use of rewards), “My coach is less friendly with me if I don’t make the effort to see things his/her way” (conditional regard), “My coach shouts at me in front of others to make me do certain things” (intimidation), and “My coach expects my whole life to center on my sport participation” (excessive personal control). Consistent with Bartholomew and colleagues (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), a composite coach controlling behaviour variable was created.

Psychological need satisfaction. To assess the satisfaction of the need for competence, we used the Spanish version (Balaguer et al., 2008) of the 5-item subscale of Perceived Competence from the Intrinsic Motivation Questionnaire (McAuley, Duncan, & Tammen, 1989). An example item is “I think I’m pretty good at soccer.” Satisfaction of the need for autonomy was assessed using the Spanish version (Balaguer et al., 2008) of the 10 items used by Reinboth and

Duda (2006). A sample item is “When I play soccer, I feel I can give a lot of input into deciding what activities/skills I want to practice”. Responses to these two scales were provided on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). To assess the satisfaction of the need for relatedness, we used the Spanish version (Balaguer et al., 2008) of the 5-item Acceptance subscale of the Need for Relatedness Scale (Richer & Vallerand, 1998). An example item is “When I play soccer, I feel supported.” The responses were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Aligned with previous work (e.g., Alvarez et al., 2009), the three need satisfaction subscales were used as indicators of a general need satisfaction variable.

Psychological need thwarting. Psychological need thwarting was measured using the Spanish version (Balaguer et al., 2010) of the Psychological Need Thwarting Scale (Bartholomew, Ntoumanis, Ryan, & Thogersen-Ntoumani, 2011). The 12-item instrument is divided into three 4-item sub-scales assessing the perceived thwarting of personal feelings of autonomy, competence and relatedness in the sport setting. Examples of items of each subscale are “I feel forced to follow training decisions made for me” (autonomy), “There are times when I am told things that make me feel incompetent” (competence), and “I feel I am rejected by those around me” (relatedness). Referring to how they typically experienced playing on their soccer team, players provided their responses on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). For this study and aligned with the analytic approach adopted by Bartholomew, Ntoumanis, Ryan, and Thogersen-Ntoumani, 2011, an overall psychological need thwarting variable was created.

Subjective vitality. Players' feelings of positive energy were assessed with a Spanish version (Balaguer, Castillo, Álvarez, & Duda, 2005) of the six-item version of the Subjective Vitality Scale (Ryan & Frederick, 1997). An example item is, "I feel alive and full of vitality". Responses were provided on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Burnout. To assess reported burnout symptoms, we used a Spanish version of the 15-item Athlete Burnout Questionnaire (Raedeke & Smith, 2001) modified for the population. The instrument contains three 5-item subscales that measure players' perceived emotional and physical exhaustion (e.g., "I feel overly tired from my soccer participation"), degree of devaluation ("I am not into soccer like I used to be") and reduced sense of accomplishment ("I am not achieving much in soccer"). Responses were provided on a 5-point scale ranging from 1 (*almost never*) to 5 (*almost always*). For this study, we used a composite scale score reflecting global burnout.

Analytic strategy

Analyses were based on 597 respondents who had reasonably completed data for the study variables, in that they had missing values for no more than 1 of the items on each of the scales. The percentage of missing data was very small (0.5%).

To examine the hypothesised model, we followed the two-step approach recommended by Anderson and Gerbing (1988). First, confirmatory factor analyses with LISREL (Version 8.54; Jöreskog & Sörbom, 2003) were performed in regard to the hypothesised measurement model to determine whether the indicators were related

to the latent factors in a satisfactory manner. Second, after a satisfactory fit was achieved for the measurement model, we tested the fit of the structural model.

To determine the fit of the model, we considered different indices of fit that included chi-square (χ^2), the nonnormative fit index (NNFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Values of CFI and NNFI higher than 0.90 indicate an acceptable fit (Hu & Bentler, 1995). For RMSEA, values between 0.05 and 0.10 are considered acceptable, equal to or lower than 0.08 is optimal (Cole & Maxwell, 1985).

On account of the number of parameters in the proposed model (see Figure 1), mean scores were employed as indicators of the targeted variables and a path model was tested. As was the case in examining the factor structure of each scale, the examination of the goodness of fit of the model was done considering various indices. As our focus was on change in the targeted variables, we controlled Time 1 values for each variable in our hypothesised model by including paths between the Time 2 variables and their corresponding Time 1 measure.

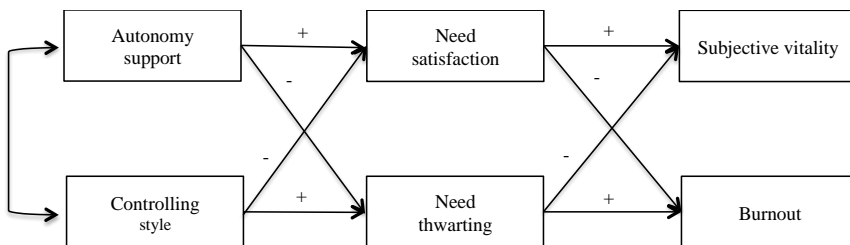


Figure 1. Hypothesized structural model of the associations between perceptions of autonomy support and controlling style, need satisfaction, need thwarting, vitality and burnout.

A further objective was to determine whether the association between changes in coaches' interpersonal style (i.e., the autonomy supportive and controlling features) and indices of players' welfare (subjective vitality and burnout) were mediated by changes in psychological need satisfaction and thwarting over the soccer season. Accordingly, the procedural recommendations of Holmbeck (1997) were employed to test the total mediating effect of the needs (satisfaction and thwarting).

4.4. RESULTS

All the scales had satisfactory fit indices (CFI range = 0.93-0.99, NNFI = 0.91-0.98; RMSEA = 0.03-0.08), and adequate factor loadings. The Cronbach internal reliability coefficients of all scales/sub-scales were satisfactory (α range = 0.77-0.92).

Mean scores indicated that, at Time 1, the players perceived their coaches to offer relatively high autonomy support. On average, the players indicated that they experienced relatively high psychological need satisfaction and subjective vitality. At Time 1, the participants perceived their coaches to exhibit a low controlling style, and reported low psychological need thwarting and low levels of burnout. When comparing means scores at the end of the season (Time 2), perceptions of autonomy support provided by the coach were higher than the perceived controlling style manifested ($t = 35.72, p < 0.01$, Cohen's $d = 2.36$). Players perceived more need satisfaction than need thwarting ($t = 34.27, p < 0.01$, Cohen's $d = 2.29$) and their well-being was higher than their ill-being ($t = 54.44, p < 0.01$, Cohen's $d = 2.43$).

When comparing the responses of the participants over time, repeated measures multivariate analysis of variance (MANOVA) ($F(591, 6) = 17.901, p < 0.001, \eta^2 = 0.15$) indicated that the players perceived their coaches to offer less autonomy support over the course of the season. The players' reported satisfaction of the psychological needs also significantly decreased, whereas reported global burnout increased over the season (see Table 1).

Table 1

Mean scores, standard deviations for all study variables at Time 1 and Time 2

	Range	Time 1		Time 2		$F(6, 591)$
		M	SD	M	SD	
Autonomy Support	1-7	5.35	.95	4.97	1.10	101.42***
Controlling Style	1-7	2.42	.92	2.45	1.04	.57
Need Satisfaction	1-7	5.42	.78	5.32	.87	10.21***
Need Thwarting	1-7	2.77	1.17	2.86	1.25	2.95
Subjective Vitality	1-7	5.47	1.00	5.43	1.13	.83
Burnout	1-5	1.89	.70	1.98	.75	10.51***

*** $p < .001$

At Time 1 and Time 2, autonomy support was positively correlated with psychological need satisfaction and subjective vitality. These three variables were negatively related with burnout. A perceived controlling style was positively related with need thwarting and burnout. Subjective vitality and burnout were negatively related, and this negative relationship also was observed in the case of the autonomy support and controlling style dimensions, and psychological need satisfaction and need thwarting (see Table 2).

Table 2

Correlations between study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Autonomy Support T1	-											
2. Autonomy Support T2	.61**	-										
3. Controlling Style T1	-.24**	-.22**	-									
4. Controlling Style T2	-.19**	-.30**	.49**	-								
5. Need Satisfaction T1	.55**	.40**	-.10*	-.10*	-							
6. Need Satisfaction T2	.37**	.57**	-.11**	-.17**	.61**	-						
7. Need Thwarting T1	-.23**	-.30**	.49**	.36**	-.29**	-.28**	-					
8. Need Thwarting T2	-.24**	-.40**	.40**	.45**	-.24**	-.36**	.53**	-				
9. Subjective Vitality T1	.29**	.14**	.04	.01	.44**	.27**	-.02	-.01	-			
10. Subjective Vitality T2	.24**	.30**	.05	.00	.36**	.48**	-.05	-.14**	.50**	-		
11. Burnout T1	-.24**	-.23**	.38**	.32**	-.34**	-.30**	.53**	.46**	-.16**	-.16**	-	
12. Burnout T2	-.20**	-.33**	.37**	.40**	-.28**	-.38**	.44**	.59**	-.13**	-.19**	.58**	-

** $p < .01$; * $p < .05$

The hypothesised model (see Figure 1) presented an adequate fit to the data. Specifically, $\chi^2(43) = 122.79$, $p < 0.01$, $\chi^2/df = 2.85$, RMSEA = 0.07, NNFI = 0.94, and CFI = 0.95. The parameters of the standardised solution are displayed in Figure 2. Changes in the players' perceptions of an autonomy supportive environment were a significant predictor of changes in psychological need satisfaction (positively) and in psychological need thwarting (negatively). This change in psychological need satisfaction significantly predicted changes in subjective vitality (positively) and in global burnout (negatively). Results also indicated that changes in the players' perceptions of a controlling style significantly and positively predicted the changes in psychological need thwarting that, in turn, positively predicted changes in global burnout over the course of the season (see Figure 2). Results from the proposed model significantly predicted 48% of the variance in changes in psychological need satisfaction, 35% of the variability in change in psychological need thwarting, 38% of the variance in changes in subjective vitality and 42% of the variability in change in reported burnout over the season.

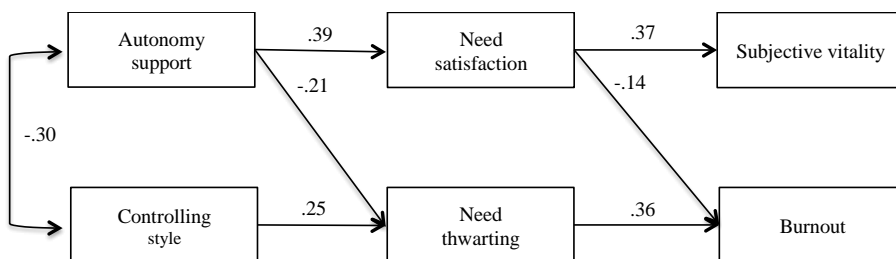


Figure 2. Structural model of the associations between perceptions of autonomy support and controlling style, need satisfaction, need thwarting, vitality and burnout at Time 2 while controlling for corresponding Time 1 values.

Note. All coefficients are standardized and significant ($z > 1.96$)

In order to determine whether the association between changes in coaches' interpersonal style and indicators of players' welfare were mediated by changes in psychological need satisfaction and thwarting over the course of the season, we first tested a model estimating the direct path from coach interpersonal style (autonomy support and controlling style) to subjective vitality and burnout. The model provided a good fit to the data: $\chi^2 (15) = 53.21, p < 0.01$; CFI = 0.95; NNFI = 0.94; RMSEA = 0.07. The first mediation criterion is evidenced in the significant direct paths between perceptions of autonomy support and controlling style with subjective vitality ($\beta = 0.26, p < .01$ and $\beta = -0.08, p < 0.05$, respectively), and between perceptions of autonomy support and controlling style with burnout ($\beta = -0.16, p < 0.01$ and $\beta = 0.19, p < 0.01$, respectively).

The next step in testing mediation was to confirm the fit of the constrained model (Holmbeck, 1997). As reported earlier (see Figure 2), significant relationships were evident between autonomy support and psychological need satisfaction and thwarting, between controlling style and need thwarting, between need satisfaction and both outcomes (subjective vitality and burnout) and between need thwarting and burnout. The path from need thwarting to subjective vitality was not significant ($p > .05$). Therefore, it was only possible to test the mediational effects of need satisfaction from autonomy support to both outcomes, need thwarting from autonomy support to burnout, and need thwarting in terms of the relationship between perceptions of a controlling interpersonal style and burnout.

The third and final step was to examine an unconstrained model by adding a direct path from autonomy support and controlling style to subjective vitality and burnout (as established in the first model). Similar to the constrained model, the fit of the unconstrained model was good: $\chi^2(35) = 108.86, p < 0.01$; CFI = 0.96; NNFI = 0.95; RMSEA = 0.08. It should be noted that in the unconstrained model however, the paths from autonomy support to subjective vitality and to burnout were non-significant ($\beta = 0.07$ and $\beta = -0.01, p > 0.05$, respectively). The same results occurred with the observed paths from controlling style to subjective vitality and to burnout being non-significant ($\beta = 0.01$ and $\beta = 0.02, p > 0.05$, respectively). These results provided evidence of a total mediation effect in the case of need satisfaction and need thwarting.

Finally, the χ^2 difference test indicated that the unconstrained model did not offer a superior representation of the data to the mediation model (χ^2 difference = 13.93, $p = 0.15$). The indirect effects indicated that autonomy support positively influenced subjective vitality ($\beta = 0.14, p < 0.05$) through psychological need satisfaction and negatively influenced burnout ($\beta = -0.13, p < 0.05$) through psychological need satisfaction and need thwarting. Moreover, a perceived controlling interpersonal style had a positive effect on burnout ($\beta = 0.09, p < 0.05$) through psychological need thwarting.

4.5. DISCUSSION

Extending the literature, this study entailed a longitudinal test of basic psychological needs theory and examined changes in perceptions of coach-provided autonomy support, need satisfaction, and indicators

of well- and ill-being in a large group of young soccer players across one competitive season. Furthermore, as this is another key dimension of (leader) interpersonal highlighted within self-determination theory (Deci & Ryan, 1985, 1987, 2000), we considered players' views of the degree to which their coaches were controlling.

In previous studies (for two exceptions, see Bartholomew, Ntoumanis, Ryan, & Thogersen-Ntoumani, 2011; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), need satisfaction was the sole variable assumed to be a proximal predictor of variability in athletes' reported well-being and ill-being. In the current work, we added to the recent extension evident in basic psychological needs theory -based research in sport by including both need satisfaction and need thwarting in the longitudinal model tested in the case of young soccer players.

Four hypotheses were formulated to test the proposed model, which predicted a basic psychological needs theory - based motivational sequence between changes in athletes' perceptions of their coaches' autonomy supportive and controlling behaviours, need satisfaction and thwarting, and the targeted indicators of the athletes' welfare. First, the expected association between perceived provision of autonomy support by the coach and psychological need satisfaction emerged and was aligned with previous research on athletes (Adie et al., 2008; Álvarez et al., 2009; Amorose & Anderson-Butcher, 2007; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011) and vocational dancers (Quested & Duda, 2010, 2011). Our results indicated that when coaches were deemed to encourage players' opportunities for input and decision making, provide a rationale for their requests and recommendations,

and consider the players' perspectives the players' reported psychological need satisfaction was enhanced.

In line with our hypotheses, we found that increases in autonomy support and need satisfaction predicted positive changes in subjective vitality and negatively changes in burnout from the beginning to the end of the season. These results are consonant with past cross-sectional sport (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) and longitudinal research involving vocational dancers (Quested & Duda, 2011), and suggest that young soccer players' burnout risk is exacerbated when coaches do not foster and sustain an autonomy supportive interpersonal style.

We expected that changes in the soccer players' perceptions of coaches' controlling style and psychological needs thwarting would positively predict changes in reported burnout and correspond negatively to changes in subjective vitality over the course of the youth soccer season. We found increases in coach controlling style and need thwarting to be associated with increases in burnout during the season but not be significantly related to changes in players' feelings of vitality. These results regarding the concomitants of changes in need thwarting over the season and player well-being are not completely in accordance with findings reported by Bartholomew, Ntoumanis, Ryan and Thogersen-Ntoumani (2011). In their cross-sectional study, a weak, negative but significant path emerged between athletes' perceptions of the active countering of their psychological needs by their coaches and subjective vitality. However, the present findings stemming from a longitudinal analysis are in line with the theorising of Deci and Ryan (2000) and Bartholomew and colleagues (Bartholomew et al., 2010; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), who suggested that

coach controlling behaviours would be particularly relevant to indicators of compromised health and functioning in athletes. Our findings suggest that when we consider changes in need thwarting and player burnout in contrast to feelings of vitality over time, this seems to be the case.

It was also proposed that changes in perceptions of autonomy support would negatively predict changes in need thwarting, while changes in perceptions of controlling style would be a negative predictor of changes in need satisfaction. Results provided evidence for the expected relationships in the case of autonomy support and its associations with both need satisfaction and need thwarting. In terms of the predicted relationships between perceptions of controlling coach behaviours and psychological need satisfaction and need thwarting (negative and positive, respectively), only the latter path was significant. These results are in accordance with the two cross-sectional studies conducted recently by Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011). However, in the research of Bartholomew, Ntoumanis, Ryan, Bosch et al., the path values from autonomy support to need satisfaction were considerably larger (i.e., $\beta = .66 - .69$) than the observed paths between autonomy support and need thwarting (i.e., $\beta = -.22 - .31$). This was not the case in our study as the absolute value of these two paths were less discrepant (i.e., $\beta = .39 - -.21$, for autonomy support - need satisfaction and autonomy support - need thwarting, respectively). Also in the present research, the values of the coefficients for the paths between each of the targeted dimensions of coaches' interpersonal style to need thwarting were quite similar in strength (albeit different in direction, see Figure 2). Our results suggest that when soccer coaches behave in a coercive, pressuring and autocratic manner, players are

more like to feel oppressed, inadequate, and/or rejected. The findings also imply that, in a controlling environment, players would be prone to feel like their basic psychological needs are being actively obstructed rather than not being appeased. Moreover, results indicate that not only the presence of a controlling interpersonal style predicts need thwarting in young soccer players. It seems that when such youth sport athletes perceive their coaches to engage in limited autonomy supportive behaviours, they also tend to feel their needs are impeded.

These results reflecting differential prediction, and the observed low negative correlations between soccer players' perceptions of the autonomy supportive and controlling features of their coaches' interpersonal style at both Time 1 and Time 2 (i.e., 6 – 9% shared variance), imply that these two social environmental dimensions may be inversely related but are not two ends of one continuum. Drawing from our findings, and in line with previous research (e.g., Bartholomew et al., 2010, Pelletier, Fortier, Vallerand, & Brière, 2001), it seems important in future studies for researchers to consider both the autonomy supportive and controlling behaviours of the coach when we want to study how the coach-created social context shapes both the positive and negative experiences of athletes.

In accordance with our fourth hypothesis, changes in psychological need satisfaction mediated the association between changes in perceptions of autonomy support and the targeted indicators of well-and- ill being. Consonant with these predictions, changes in need thwarting mediated the association between changes in perceptions of both dimensions of coaches' interpersonal style and global burnout. Consonant with what has been argued in recent work (Bartholomew et al., 2010; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), the

present findings point to the relevance of incorporating need thwarting as a different and separate variable than need satisfaction in our models of motivation-related processes. The inclusion of both need satisfaction and need thwarting allows us to better understand and differentiate the mechanisms by which the social atmosphere created by coaches can impact the experiences of well-being and/or ill-being in their athletes.

When reflecting upon the observed mean values, our results indicate that over the course of the season, the soccer players sampled perceived that their coaches interacted with them using both interpersonal styles (i.e., they were viewed as exhibiting both autonomy supportive and controlling behaviours with autonomy support being the predominant environmental characteristic). The young soccer players also indicated greater need satisfaction than need thwarting and their reported levels of well-being were elevated when compared to levels of ill-being. Therefore, as a group, this large sample of youth soccer players was characterized by positive emotional health and functioning and tended to view the coach created environment as relatively adaptive. However, it is important to note that there was variation in the responses provided by these young athletes. Furthermore, and aligned with the work of Quested and Duda (2011) on vocational dancers, the findings revealed an overall decline in indicators of optimal environmental conditions and player functioning as the season progressed. Specifically, we found that the young athletes' perceptions of coach-provided autonomy support and need satisfaction decreased and reported burnout increased over time. Such findings fuel concerns for the optimal development and sustained engagement of such young players. In future work, it would be interesting to explore whether this is a time related change associated with the length of

season (e.g., the players feel and coaches behave differently at the end of a season perhaps due to fatigue, etc.) or whether there are particular pressures or demands at the end of the season (e.g., league championships) that contribute to the observed differences in coaches' interpersonal style, players' feelings of competence, autonomy, and relatedness as well as their feelings of being burned out.

When the expected mediation between coach interpersonal style and positive and negative indices of athletes' overall welfare was tested, the present findings gave a more prominent mechanistic role to need satisfaction over need thwarting. This is because the former emerged as a complete mediator between autonomy support and players' reported feelings of energy and reported burnout. Need thwarting only mediated the relationship between perceptions of both dimensions of coaches' interpersonal style and burnout. However, the path between need thwarting and global burnout was stronger than the path between need satisfaction and reported burnout symptoms. Thus, aligned with Bartholomew, Ntoumanis, Ryan, Bosch, et al. (2011), it seems important to consider the active frustration of basic needs when we seek to better understand contributors to "the dark side" of sport participation. In contrast, variability in player need satisfaction appears relevant in terms of whether players experience optimal or debilitated functioning in soccer in a much broader sense.

From an applied perspective, our findings underline the importance for coaches to work toward using more autonomy supporting strategies, such as providing a rationale for their requests, seeking players' input into decision making where and when possible, allowing some choice in terms of training activities, and acknowledging how players are feeling in practice and competitive situations. Through

the creation of such more adaptive environments, soccer coaches can potentially have a wider effect regarding the promotion of well-being and prevention of ill-being in their players. The results also point to the value of coaches aiming to curtail the use of controlling behaviours, with an eye towards attenuating the risk of young players burning out and possibly dropping out.

In the context of youth soccer, the present study provided a longitudinal test of basic psychological needs theory and accounted for variations in the variables of interest in order to predict changes in players' reported well- and ill- being. The focus was on changes in individual players' views on their coaches' behaviours and their thoughts and feelings in football over the course of the season. However, it is important to consider in future work that players participate in teams and this nesting effect could be tested (e.g., using multi-level analysis which considers team and individual level variables). While in the present study we have use composite indicators of coaches' controlling interpersonal style, need satisfaction, need thwarting, and burnout, it would be informative in subsequent research to consider the role of specific controlling behaviours, particular needs (whether satisfied and/or thwarted) and also aim to predict the different sub-dimensions of burnout (e.g., reduced accomplishment, physical and emotional exhaustion; Quested & Duda, 2011). Such work would provide further insight into the inter-relationships between motivationally-relevant aspects of the coach-created environment, players' needs, and hallmarks of their psychological, emotional and physical health in youth sport settings.

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CAPÍTULO 5

ATHLETES' PERCEPTIONS OF COACH BEHAVIORS AND THEIR IMPLICATIONS ON THEIR WELL- AND ILL-BEING: TESTING THE INVARIANCE OVER TIME OF BASIC PSYCHOLOGICAL NEEDS THEORY

González, L., García-Merita, M., Castillo, I., & Balaguer, I. Athletes' perceptions of coach behaviors and their implications on their well- and ill-being: testing the invariance over time of basic psychological needs theory.^{6,7}

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5.1. ABSTRACT

Grounded on basic psychological needs theory (Deci & Ryan, 2000) this study examines: 1) the sequence athletes' perceived coaching interpersonal style - basic needs - well-ill-being 2) the mediational role of basic needs, and 3) the model invariance over two consecutive seasons. 360 young male athletes completed a questionnaire package at four time points. In both seasons, autonomy support positively predicted needs satisfaction which positively predicted self-esteem; autonomy support and control negatively and positively - respectively - predicted needs thwarting which positively predicted burnout and negatively self-esteem. In the first season, needs satisfaction negatively predicted burnout. Results supported the mediational role of basic needs and the invariance over time of the model. The socio-psychological consequences of well- and ill-being are discussed.

Key words: Coach interpersonal style; basic psychological needs; self-esteem; burnout; young soccer players

5.2. INTRODUCTION

Although sport participation is considered to be an inherently rewarding activity that contributes to well-being of participants (Ryan & Frederick, 1997), sometimes this participation results in athletes' experiences of ill-being (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011). Previous research in the sport domain (e.g., Duda & Balaguer, 2007) has indicated that sport participation is not positive or negative by itself, rather it is defended that the social context influences how athletes experience their participation, and that positive experiences will result in the promotion of well-being, while negative experiences will result in higher ill-being. In this sense, the main objective of this study was to explore a theoretical model based on the basic psychological needs theory (BPNT, Deci & Ryan, 2000), which allows us to determine the antecedents of young athletes' well- and ill-being.

The conceptualization of well-being has resulted in two primary approaches named hedonia and eudaimonia (Deci & Ryan, 2008). The hedonic approach is linked to the conceptualization of subjective well-being (SWB; Diener, 1984), considering subjective happiness as the experience of pleasure attainment and the avoidance of pain (Kahneman, Diener, & Schwartz, 1999; Waterman, 1993). Besides, the eudaimonic perspective is linked to the consideration of psychological well-being, and defines well-being as the self-realization in the pursuit of fulfilling valued human potentials and advancing one's purpose in life (Deci & Ryan, 2008; Waterman, 1993). The self-determination theory (SDT, Deci & Ryan, 1985; 2000) has embraced the eudaimonic conceptualization defending self-realization as a central definitional

aspect of well-being (Ryan & Deci, 2001). On the other hand, ill-being results from experiences such as worry, somatic complaints or negative affects that derive from a low sense of personal competence, a feeling that one cannot control and plan one's life, and from unfavorable socio-economic and family circumstances (Heady, Holmström, & Wearing, 1983). For this study we specifically used a widely studied indicator of psychological well-being in the Psychology literature (e.g., Felton & Jowett, 2013), named self-esteem, defined as an overall evaluation of oneself (Marsh, Parker, & Barnes, 1985). On the other side, to evaluate ill-being, we used athletes' burnout, defined as a psychosocial syndrome reflecting emotional and physical exhaustion, a reduced sense of accomplishment and an uncaring and cynical attitude towards sport participation (Raedeke & Smith, 2001).

Since well- and ill-being are distinct domains and not the poles of a continuum, the knowledge about the causes and correlates of one of them does not necessarily extrapolate to the other (Diener, Suh, Lucas, & Smith, 1999). Thus, in order to promote healthy sport participation, it is important to understand the factors that contribute to optimal well-being, as well as to compromised functioning. Earlier research based on BPNT, a mini-theory of SDT, has found coaches to be a significant figure with the potential to influence athletes' psychological well- and ill-being (e.g., Adie, Duda, & Ntoumanis, 2008; Quested & Duda, 2011).

Basic psychological needs theory

BPNT postulates that features of the social environment are related to individual's well- and ill-being and that this relationship is mediated by the satisfaction or thwarting of the three basic psychological needs for autonomy, competence and relatedness. These

needs, considered innate, universal and developmentally persistent, are viewed as nutriments essential to growth, integrity and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000). The need for autonomy is defined as the experience of choice and feeling like the initiator of one's own actions (deCharms, 1968), the need for competence is considered as the experience that one can effectively bring about desired effects and outcomes (White, 1959), and the need for relatedness is described as the feeling that one is securely connected to and understood by others (Baumeister & Leary, 1995).

When evaluating the satisfaction of these needs, athletes report the degree to which each need is more or less satisfied. For example, a soccer player may express satisfaction of the need for competence by saying: "I am pretty skilled at soccer". On the other hand, need thwarting is produced when these needs are obstructed or actively undermined within a given context (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). For example, a player may feel that there are situations, in which he or she is made to feel incapable, that contributes to the thwarting of his or her need for competence.

According to BPNT, satisfaction of the basic psychological needs constitutes the central psychological process through which well-being is promoted, while ill-being increases when needs thwarting rises (Ryan & Deci, 2000). Research conducted in the sport domain under BPNT has predominantly used needs satisfaction as the mediational mechanism in the relation between the social context and indicators of well- and ill-being (e.g., Adie, Duda, & Ntoumanis, 2012; López-Walle, Balaguer, Castillo, & Tristán, 2012; Quested & Duda, 2011), and only recently has psychological needs thwarting been introduced (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011).

Results showed small negative correlations between needs satisfaction and thwarting suggesting that these variables are not polar ends of the same continuum, but different variables with the potential to predict unique variance in the outcome indicators.

BPNT also postulates that people function and develop more or less successfully as a consequence of the social environmental support or thwart for their basic psychological needs (Ryan & Deci, 2000). Centering on the social context of young soccer players, coaches' behaviors can play a major role in nurturing or undermining their psychological needs for autonomy, competence and relatedness (Mallet, 2005). In the sport domain, emphasis has been mainly placed on two coaching interpersonal styles, namely autonomy supportive and controlling style.

When a coach behaves in an autonomy supportive manner, his or her athletes are more likely to experience satisfaction of their basic psychological needs (Deci & Ryan, 1987). On the other hand, when a coach behaves in a controlling way, his athletes will probably experience needs thwarting (Ryan & Deci, 2000). Autonomy supportive coaches encourage initiative and autonomous self-regulation, allow participation in decision making, offer choices relevant to athletes' goals and values, provide rationale for task engagement, acknowledge the athletes' feelings, are non-judgmental, and attempt to understand athletes' perspective before offering suggestions (Mageau & Vallerand, 2003). On the other hand, a coach who is controlling behaves in a coercive, pressuring, and authoritarian way in order to impose a specific and preconceived way of thinking and behaving upon their athletes (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2010). In these situations, athletes are likely to feel more pressured to participate and

perform, and although these controlling strategies could stimulate desired athletes' behaviours in the short term, they will thwart athletes' psychological needs and well-being in the long term.

Aligned with theoretical tenets, research in the sport domain at the between-person level has supported that coach autonomy support positively related to basic psychological needs satisfaction from a cross-sectional (e.g., Adie et al., 2008; Álvarez, Balaguer, Castillo, & Duda, 2009; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; López-Walle et al., 2012) and a longitudinal methodology (e.g., Adie et al., 2012; Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Quested & Duda, 2011), and negatively related to needs thwarting (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). On the other hand, the perceived coach controlling interpersonal style emerged as a positive predictor of needs thwarting (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Castillo, González, Fabra, Mercé, & Balaguer, 2012), as well as a negative predictor of needs satisfaction at the within-person level in a diary longitudinal study presented by Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011). Moreover, satisfaction of the needs for competence (Amorose, Anderson-Butcher, & Cooper, 2009; Coatsworth & Conroy, 2009) and for autonomy (Amorose et al., 2009) positively predicted self-esteem, while satisfaction of the three needs negatively predicted burnout (Balaguer et al., 2012; Quested & Duda, 2011). Finally, some previous studies showed that needs thwarting positively predicted burnout (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Castillo et al., 2012). Regarding the mediational role of basic psychological needs, previous studies within the sport and the dance contexts have confirmed that satisfaction of basic psychological needs

acted as a mediator in the relation between the perceived autonomy supportive coaching interpersonal style and indices of well- and ill-being. Specifically, López - Walle and colleagues (2012) supported the total mediation of the satisfaction of the three basic psychological needs in the relation between athletes' perceived autonomy support and their life satisfaction and subjective vitality, whereas Adie and colleagues (2012) supported the partial mediation of satisfaction of the need for competence and relatedness in the relation between athletes' perceived autonomy support and their subjective vitality. Besides, Quested and Duda (2011) found support to the total mediation of the satisfaction of the three basic psychological needs in the relation between dancers' perceived autonomy support and their burnout. When incorporating the study of the brighter and the darker side of BPNT, Balaguer and colleagues (2012) have confirmed the mediational role of needs satisfaction in the relation between perceived autonomy support and athletes' subjective vitality and burnout, as well as the mediation of needs thwarting between perceived autonomy support and controlling style and athletes' burnout. However, no studies were found including self-esteem in their analysis.

Present study

The aim of this study was to examine the theoretical model of BPNT from a longitudinal point of view and to analyse its invariance over two consecutive soccer seasons. To this end we study whether young soccer players experience well- or ill-being as a consequence of the social environmental support or thwart for their basic psychological needs (see Figure 1) and whether the athletes' basic psychological needs satisfaction and thwarting acted as mediators in the relation

between the social context and the resulting well- and ill-being. Besides, in addition to previous studies, one important contribution of the present work is having the opportunity of analysing the invariance of these relations across four time points over two seasons exploring the assumptions of developmental persistence of BPNT. And although previous scientific works may conduct us to expect that the relations embedded in a BPNT sequence would maintain invariant over time, a construct comparability across groups or time should never be naively assumed unless scientific evidence is demonstrated through the use of a proper empirical method (Wu, Li, & Zumbo, 2007).

To achieve these objectives we hypothesized that: (1) changes in athletes' perceptions of autonomy support provided by the coach will positively predict changes in needs satisfaction and negatively predict changes in needs thwarting; (2) changes in athletes' perceptions of controlling interpersonal style of the coach will positively predict changes in needs thwarting and negatively predict changes in needs satisfaction; (3) changes in needs satisfaction will positively predict changes in self-esteem and negatively predict changes in burnout; (4) changes in needs thwarting will positively predict changes in burnout and negatively predict changes in self-esteem; (5) changes in basic psychological needs satisfaction and thwarting will mediate the relation between the changes in perceived coaching interpersonal style and the changes in athletes' well- and ill-being; and (6) we also hypothesised that these relations will maintain invariant across time.

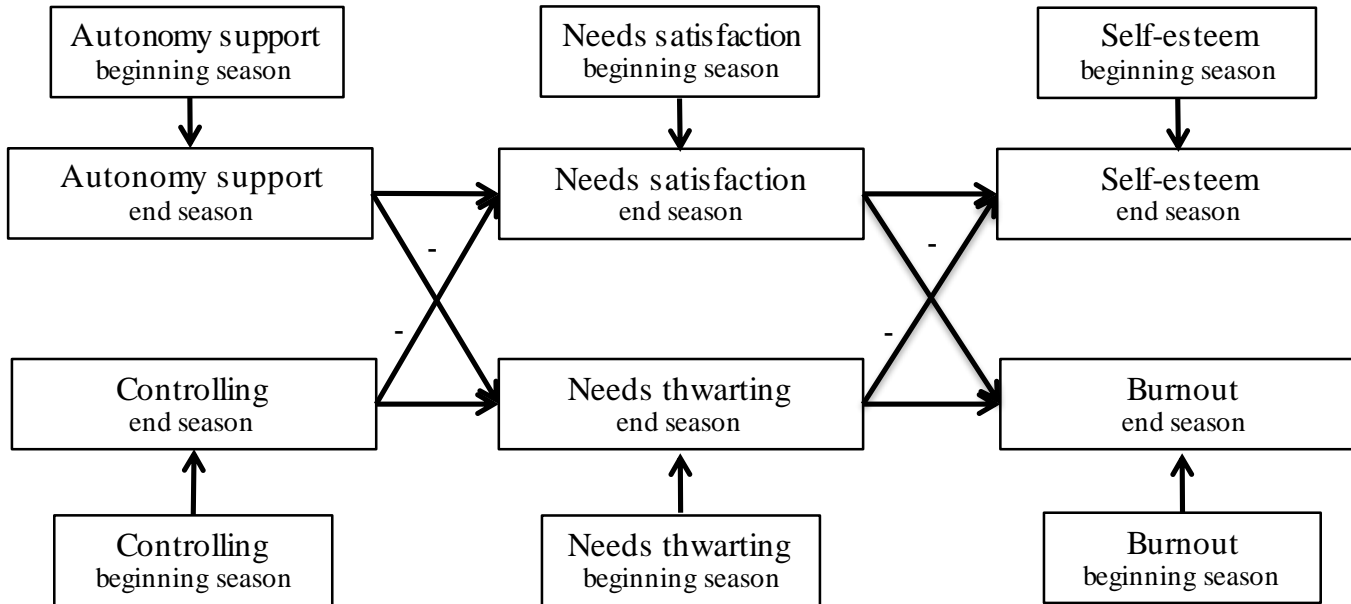


Figure 1. Hypothesized structural model of the associations between perceptions of autonomy support and controlling, needs satisfaction and thwarting, self-esteem and burnout.

5.3. METHOD

The participants of this study were 360 young male grassroots soccer players who completed the questionnaires package during four data collections over two consecutive seasons. In the first season, Time 1 data collection (October 2009) was completed by 725 players and in Time 2 (May 2010) 597 from the initial players completed the questionnaires. In the second season, Time 3 data collection (October 2010) was completed by 422 from the initial players and in Time 4 (May 2011) by 360 players. It represented a dropout rate of 50.34%. The 360 players who participated in the study were between 11 and 13 years old ($M = 12.6 \pm 0.53$ years) at Time 1 and they represented 24 soccer schools from the Valencian Community Soccer Federation in Spain.

Measures

Coach autonomy support. The Sport Climate Questionnaire (SCQ; <http://www.psych.rochester.edu/SDT/>) in its Spanish version (Balaguer, Castillo, Duda, & Tomás, 2009) was used to assess players' perceptions of autonomy support provided by their coaches. The scale is composed by 15 items, each one starting with the phrase: "On my soccer team..." and the responses are rated on a 7-point Likert scale ranging from 1 (*not at all true*) to 7 (*very true*). An example item is "my coach answers my questions fully and carefully". Evidence for the reliability and predictive validity of this instrument has been provided in previous sport based research (e.g., Adie et al., 2008; Balaguer et al., 2009).

Coach controlling style. The Spanish version (Castillo et al., in press) of the Controlling Coach Behaviors Scale (CCBS; Bartholomew et al., 2010) was used to assess players' perceptions of the coach

controlling style. The scale has 15 items divided into four sub-dimensions (controlling use of rewards, conditional regard, intimidation, and excessive personal control). Each item starts with the phrase: “On my soccer team...” and the responses are rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is “my coach tries to motivate me by promising to reward me if I do well”. For the present study, a composite scale score of the coach controlling interpersonal style was created. Recent sport research has shown internal consistency and predictive validity of this scale (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Psychological needs satisfaction. The Perceived Autonomy Scale (Reinboth & Duda, 2006) translated into Spanish (Balaguer, Castillo, & Duda, 2008) was used to assess players’ perceptions of satisfaction of the need for autonomy. It is a 10 item scale with a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Each item starts with the phrase “When I play soccer...” and an example item is “I feel free to express my ideas and opinions”.

The Spanish version (Balaguer et al., 2008) of the Subscale of Perceived Competence from the Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989) was used to assess perceptions of the players’ satisfaction of the need for competence. It is a 5 item scale answering in a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and with items such as “I think I am pretty good at soccer”.

The Acceptance subscale of the Need for Relatedness Scale (NRS; Richer & Vallerand, 1998) in its Spanish version (Balaguer et al., 2008) measured the extent to which players perceived their need for

relatedness to be satisfied in the team. It is a 5 item scale answering in a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Each item starts with the phrase “When I play soccer I feel...” and includes items such as “supported”.

Aligned with previous works where the instruments’ reliability and validity have been confirmed (e.g., Álvarez et al., 2009; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), the three needs satisfaction subscales were used as indicators of a general needs satisfaction variable.

Psychological needs thwarting. The degree to which players experienced their psychological needs to be thwarted was measured via the Spanish version (Balaguer et al., 2010) of the Psychological Need Thwarting Scale (PNTS; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). It is a 12 item scale answering in a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*) that includes three sub-scales (thwarting of autonomy, competence and relatedness) in the soccer setting. An example item is: “I feel pushed to behave in certain ways in soccer”. This scale internal reliability and predictive validity have been confirmed by recent studies in the sport context (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Self-esteem. The Spanish version (Balaguer et al., 2008) of the Self-esteem Subscale of Self-Description Questionnaire 3 (SDQ-III, Marsh, Richards, Johnson, Roche, & Tremoyne, 1994) was used to measure players’ self-esteem. It is a 12 item scale with a 6-point Likert scale ranging from 1 (*completely false*) to 6 (*completely right*). An example item is “Overall, I do lots of things that are important”. Previous research studies in the context of sport have confirmed this instrument’s reliability and validity (e.g., Balaguer et al., 2008; López-Walle, Balaguer, Castillo, & Tristán, 2011).

Burnout. The Spanish version (Balaguer et al., 2012) of the Athlete Burnout Questionnaire (Raedeke & Smith, 2001) modified for the soccer population was used to assess players' feelings of burnout. The scale has 15 items corresponding to three sub-dimensions (emotional and physical exhaustion, soccer devaluation and reduced sense of accomplishment). Responses are provided in a 5-point scale ranging from 1 (*almost never*) to 5 (*almost always*). An example item is "I feel overly tired from my soccer participation". For this study, we used a composite scale score reflecting global burnout. Evidence for the reliability and validity of this questionnaire has been previously provided in the sport context (e.g., Balaguer et al., 2012; Quedsted & Duda, 2011).

Procedure

A sample of grassroots clubs of Valencia and surroundings towns was randomly selected. After the selection, information letters were sent to all clubs, and a member of the research group spoke to their directors or representatives. After the clubs' directors had expressed interest in participating in the study, the players and their parents were provided with verbal information about the goals of the study and they gave informed consent before the start of the data collection.

The players who accepted to participate completed a multi-section inventory containing variables related to this study and other non-related ones. They did it anonymously with the rest of their team, normally in the club offices or in the changing-rooms during approximately 30-45 minutes. Athletes were asked to answer the questionnaire thinking about what generally happened to them during their sport participation.

Analytic strategy

In order to examine the hypothesized model, we followed a two-step approach. First, we tested the factorial structure of each scale via confirmatory factor analyses with LISREL (Version 8.8; Jöreskog & Sörbom, 2006) to determine whether the indicators were related to the latent factors in a satisfactory manner. Second, once satisfactory fit was achieved for the measurement of the latent factors, we tested the fit of the hypothesized model. To determine the fit of the model, we considered different indices of fit that included chi-square, the non-normative fit index (NNFI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). Values of CFI and NNFI higher than 0.90 indicate an acceptable fit (Hu & Bentler, 1995). For RMSEA and SRMR, values between 0.05 and 0.10 are considered acceptable, equal to or lower than 0.08 is optimal (Cole & Maxwell, 1985).

On account of the number of parameters in the proposed model (see Figure 1), mean scores were used as indicators of the targeted variables and a path model was tested. As with the factor structure of each scale, the examination of goodness of the fit of the model was done considering several indices. Six observable variables were included in the model: (a) coach autonomy support, (b) coach controlling style, (c) psychological needs satisfaction, (d) psychological needs thwarting, (e) self-esteem, and (f) burnout. Our main goal was to determine whether changes in perceptions of autonomy support and controlling style predicted changes in the soccer players' psychological needs satisfaction and thwarting, and in turn, in their self-esteem and burnout over the course of the soccer season. By replicating the approach of others (e.g., Quested & Duda, 2011), we have controlled Time 1 values

for each variable in Time 2, and Time 3 values for each variable in Time 4 of our hypothesized model. More specifically, we modelled Time 2 data as depicted in Figure 1 including paths between Time 2 variables and their corresponding Time 1 measures. Equally, we modelled Time 4 data including paths of the corresponding Time 3 values in a separate model.

A further objective was to determine whether the association between changes in coaches' interpersonal style and self-esteem and burnout were mediated by changes in psychological needs satisfaction and thwarting over the course of the season. Accordingly, the procedural recommendations of Holmbeck (1997) were employed to test the total mediating effect of the needs (satisfaction and thwarting). Differences not larger than .01 between NNFI and CFI values are considered an indication of negligible practical differences (Cheung & Rensvold, 2002). Chen (2007) suggests that when the RMSEA increases by less than .015, one can also claim support for the more constrained (parsimonious) model.

Testing for model invariance encompassed two hierarchically ordered steps addressed to test the invariance of the models across the two consecutive seasons. First, the a priori factor structure was separately fitted for each season in order to determine the extent to which the baseline model fitted the data for each season individually. Second, the Configural Invariance Model tested the invariance of the hypothesized relations of the model across seasons, but no invariance constraint was imposed in any parameters. This model was used as a baseline for fit comparisons against the later, more restricted model. Finally, a Total Invariance Model addressed the equality of all the parameters across the seasons. Thus, this model tested whether all the

relationships between the variables in the model held invariant across the two seasons. With the aim of assessing the fit for the models, a modeling rationale was used (Marsh, Hau, & Grayson, 2005). Differences not larger than .01 between NNFI and CFI values are considered an indication of negligible practical differences (Cheung & Rensvold, 2002). Chen (2007) suggests that when the RMSEA increases by less than .015 one can also claim support for the more constrained (parsimonious) model.

5.4. RESULTS

Score reliability, validity, and descriptive statistics

The proposed factorial structure adequately fitted the data for perceived autonomy support at the four different time points (RMSEA = .03-.05; SRMR = .02-.06; NNFI = .92-.99; CFI = .93-.99), perceived controlling style (RMSEA = .04-.06; SRMR = .04-.07; NNFI = .95-.99; CFI = .95-.99), athletes' needs satisfaction (RMSEA = .05-.08; SRMR = .04-.07; NNFI = .91-.98; CFI = .92-.98), needs thwarting (RMSEA = .06-.08; SRMR = .05-.08; NNFI = .93-.98; CFI = .94-.98), self-esteem (RMSEA = .07-.09; SRMR = .06-.09; NNFI = .91-.93; CFI = .93-.95), and burnout (RMSEA = .06-.08; SRMR = .05-.08; NNFI = .94-.98; CFI = .95-.98). The Cronbach internal reliability coefficients of all scales were satisfactory (α range = 0.79-0.91) (see Table 1).

Responses of the players over the two consecutive seasons showed that values on autonomy support provided by the coach, and players' needs satisfaction and self-esteem were above the mean value of the questionnaire, while perceptions of a controlling style of the

coach, and players' needs thwarting and burnout were under the mean value (see Table 1). When comparing the answers of the soccer players from Time 1 to Time 2, the repeated measures multivariate analysis of variance (MANOVA) showed that players' perceptions of autonomy support provided by their coaches significantly decreased over the first season. While comparison of the players' responses from Time 3 to Time 4 showed that perceptions of a controlling style of the coach and the players' burnout significantly increased over the second season, and their level of self-esteem significantly decreased (see Table 1).

Relationships between the study variables

In both seasons all the study variables were significantly correlated in the expected direction, except for the relation between perceptions of a controlling style provided by the coach and the need satisfaction in Time 1 that was not significant (see Table 2). With this exception, autonomy support, need satisfaction and self-esteem were positively correlated between each other while they were negatively correlated with controlling, need thwarting and burnout. Furthermore, the controlling interpersonal style of the coach, players' need thwarting and burnout were positively correlated between each other. In order not to extend the length of the article, the results of the correlations are not presented, but they are available upon request to the first author.

Table 1

Descriptive statistics and differences between times in all the study variables

	Range	Time 1			Time 2			<i>F</i> (6, 354)	Time 3			Time 4			<i>F</i> (6, 353)
		<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α		<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α	
Autonomy support	1-7	5.38	.92	.89	5.02	1.06	.91	64.49**	5.24	1.13	.93	5.16	1.04	.92	2.57
Controlling style	1-7	2.39	.90	.79	2.39	1.05	.88	.01	2.34	1.04	.89	2.49	1.17	.93	5.27**
Needs satisfaction	1-7	5.36	.76	.86	5.31	.81	.88	1.70	5.47	.77	.89	5.42	.83	.91	1.42
Needs thwarting	1-7	2.72	1.12	.87	2.78	1.22	.90	.99	2.72	1.22	.91	2.67	1.22	.92	.51
Self-esteem	1-6	4.75	.79	.82	4.76	.78	.83	.02	4.77	.78	.84	4.67	.82	.85	5.58**
Burnout	1-5	1.88	.70	.89	1.89	.70	.90	.08	1.85	.68	.89	2.01	.80	.92	13.30**

** $p < .01$

Path analyses

The hypothesized model for the first season in Time 2 controlling for Time 1 values ($\chi^2 (27) = 98.26; p < .01; RMSEA = .086; SRMR = .085; NNFI = .949; CFI = .979$) and the hypothesized model for the second season in Time 4 controlling for Time 3 values ($\chi^2 (27) = 92.99; p < .01; RMSEA = .082; SRMR = .080; NNFI = .949; CFI = .979$) presented an adequate fit to the data. The results showed that changes in perceptions of autonomy supportive coaching interpersonal style positively predicted changes in needs satisfaction and negatively predicted changes in needs thwarting in both seasons. During the same period, changes in the controlling coaching interpersonal style positively predicted changes in needs thwarting. In turn, these changes in needs satisfaction positively predicted changes in self-esteem in both seasons and negatively predicted changes in burnout in the first season only, while changes in needs thwarting positively predicted changes in burnout and negatively predicted changes in self-esteem in both seasons. Finally, the negative relation between the coach controlling interpersonal style and players' needs satisfaction (see Figure 2) was not significant in any season.

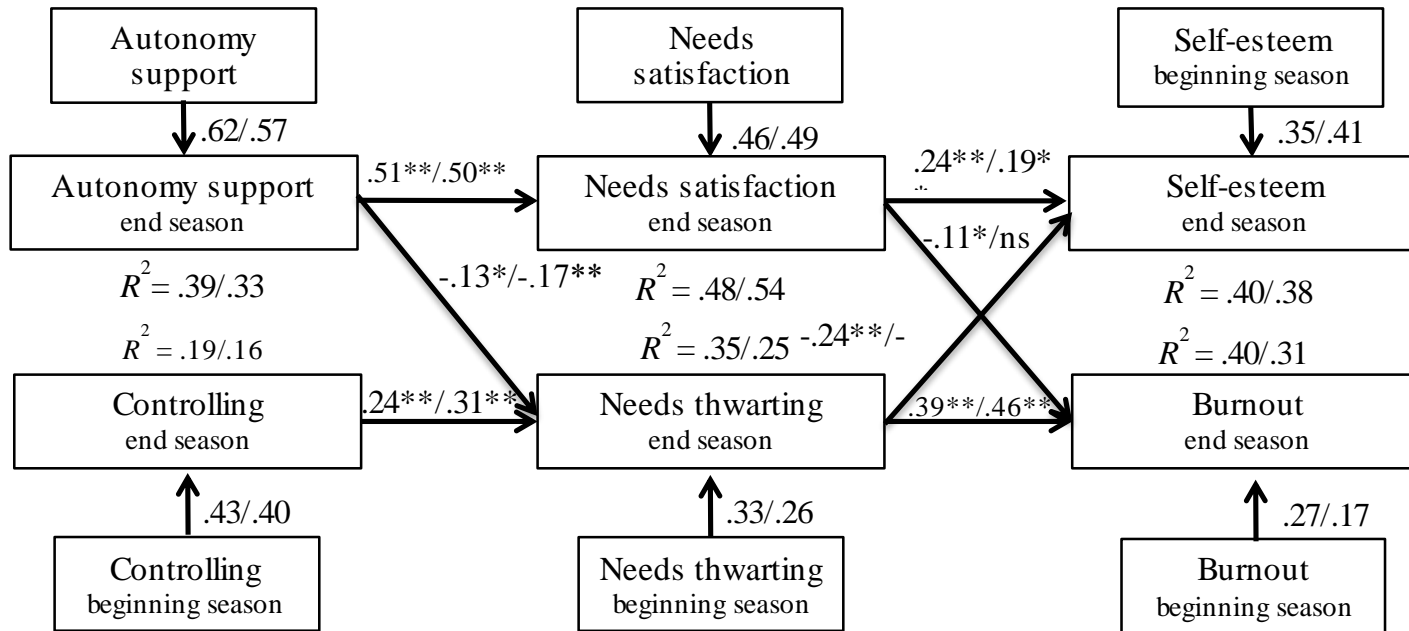


Figure 2. Structural equation model of the associations between perceptions of autonomy support and controlling, needs satisfaction and thwarting, self-esteem and burnout in the first season with Time 2 values (end of season) controlling for corresponding Time 1 values (beginning season), and in the second season with Time 4 values (end of season) controlling for corresponding Time 3 values (beginning season).

** $p < .01$; * $p < .05$; Values before the slash correspond to the first season and after it correspond to the second season

Mediational role of basic psychological needs satisfaction and thwarting

To examine whether the association between changes in coaches' interpersonal style and self-esteem and burnout were mediated by changes in psychological needs satisfaction and thwarting over the course of each season, we tested a model including a direct path from autonomy support and controlling style to self-esteem and burnout. The fit of the unconstrained model was good in the first season ($\chi^2(23) = 92.14, p < 0.01$; CFI = 0.980; NNFI = 0.942; RMSEA = 0.092, SMRM = .084), as well as in the second season ($\chi^2(23) = 74.03, p < 0.01$; CFI = 0.983; NNFI = 0.952; RMSEA = 0.079, SMRM = .077). It should be noted that in the unconstrained model, the paths from autonomy support to self-esteem and to burnout were non-significant ($\beta = -0.04$ and $\beta = 0.03, p > 0.05$ respectively in the first season, and $\beta = -0.04$ and $\beta = 0.07, p > 0.05$ respectively in the second season). However, different results occurred with the observed paths from controlling style to self-esteem and to burnout. In the first season, the path was non-significant between controlling style and self-esteem ($\beta = -0.02, p > 0.05$) and significant between controlling style and burnout ($\beta = 0.11, p < 0.05$). In the second season, the paths from controlling style to self-esteem and to burnout were significant ($\beta = -0.15$ and $\beta = 0.18, p < 0.01$ respectively). These results provided evidence of a total mediation effect of needs satisfaction and needs thwarting in the case of autonomy support and self-esteem and burnout in both seasons and partial mediation effect of needs thwarting in the case of controlling style and self-esteem and burnout in both seasons, except in the first season where needs

thwarting totally mediated the relation between controlling style and self-esteem. Finally, the RMSEA, CFI and NNFI differences non larger than .01 indicated that the unconstrained model did not offer a superior representation of the data to the mediation model.

Invariance of the model over the first and the second season

With regard to the multi-sample baseline model, the results showed that the fit was satisfactory ($\chi^2 (60) = 201.47; p < .01; RMSEA = .044; SRMR = .044; NNFI = .986; CFI = .994$). Thus, it can be concluded that the same pattern of relationships between variables was able to fit the data from each season. Consequently, this model was used as a baseline model to test the fit of the Total Invariance Model. The Total Invariance Model had an adequate fit ($\chi^2 (68) = 109.20; p < .01; RMSEA = .041; SRMR = .042; NNFI = .988; CFI = .994$) and supported the total invariance of all hypothesized relationships across the two seasons, except for the hypothesized negative relation between perceptions of the coach controlling interpersonal style and the players' needs satisfaction that was not significant in the baseline models (see Figure 3).



Figure 3. Structural model of the model invariance of the associations between perceptions of autonomy support and controlling style, needs satisfaction and thwarting, self-esteem and burnout over the two consecutive soccer seasons.

$^{**}p < .01$; $^*p < .05$

5.5. DISCUSSION

Based on BPNT, the aim of the present study was firstly to analyze the links of the athletes' perceived coaching interpersonal style on the satisfaction and thwarting of their basic psychological needs and, in turns, on their well- and ill-being, secondly to examine the mediational role of the needs satisfaction and thwarting in the relation between the perceived coaching interpersonal style and the well-ill-being, and finally to examine the invariance of these relationships over two consecutive soccer seasons. Following these objectives, our findings provided a general support to the hypothesized BPNT sequence in both seasons and its invariance over time.

When analyzing the responses of the players over the two seasons, the results indicated that players perceived their coaches to be more autonomy supportive than controlling, they experienced greater needs satisfaction than thwarting, and higher self-esteem than burnout. Despite this positive situation, it is important to take into consideration that perceived autonomy supportive behaviors of the coaches decreased over the course of the first season, while over the course of the second one, athletes' perceptions of controlling coaching behaviors and burnout increased whereas their self-esteem decreased. In our opinion, this might be due to different factors, such as the coaches' intentions to create a more positive and supportive environment and being full of energy at the beginning of the season and then becoming more controlling at the end of the season due to the increase of the demands for obtaining successful results or the tiredness got over time. It would be interesting to explore whether some variables (e.g. the established

achievement goals) would allow coaches to keep autonomy supportive through the course of the season.

Coach interpersonal styles and basic psychological needs

The results obtained in our study support the first hypothesis, which defends the relation between changes in athletes' perceived autonomy support and in their needs satisfaction (positively) and thwarting (negatively). These results are in accordance with previous studies conducted through cross-sectional and longitudinal methodology, that found that perceived autonomy support was positively related to needs satisfaction (e.g., Adie et al., 2008, 2012; Álvarez et al., 2009; Standage & Gillison, 2007) and negatively with needs thwarting (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). This emphasizes that when coaches offer players relevant choices of tasks they can complete during the trainings and explain them why it is important to do so and when they try to understand players' perspectives without judging them, this will result in athletes' greater perceptions that they are the initiators of their own actions, they will feel more competent and they will experience a higher quality relationship with the coaches and will also prevent their thwarting. Therefore, it is important to make coaches aware of this positive impact of adopting an autonomy supportive coaching style.

Centering on the second hypothesis, where we defended a relation between changes in perceived controlling style and psychological needs satisfaction (negatively) and thwarting (positively), our results only confirmed the positive relation between the perceptions of the controlling style and athletes' needs thwarting. These findings are in accordance with previous cross-sectional and

longitudinal works (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Castillo et al., 2012). In our knowledge, the unique previous work that informed of a negative relationship between perceived coach controlling style and athletes' needs satisfaction was the diary study conducted by Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011), in which they found a significant negative relation between athletes' daily perceptions of their coaches' controlling behaviors and their needs satisfaction at the within-person level. Our findings emphasize the risk of conducting controlling coaching behaviors, considering that when coaches behave in a pressuring, coercive and authoritarian manner, players might experience situations that make them feel incompetent, rejected by significant persons or pushed to behave in certain ways in which they do not want to behave.

Basic psychological needs and well-ill-being indicators

Centering in the third hypothesis, the results supported the positive relation between changes in players' needs satisfaction and in their self-esteem in both seasons, while the negative relation between changes in needs satisfaction and in their burnout was significant in the first season only. These results are partly consonant with previous longitudinal works that supported the positive relation between satisfaction of the needs for competence (Amorose et al., 2009; Coatsworth & Conroy, 2009; Standage & Gillison, 2007) and autonomy (Amorose et al., 2009; Coatsworth & Conroy, 2009) and self-esteem, as well as the negative relation between needs satisfaction and burnout (e.g., Balaguer et al., 2012; Quested & Duda, 2011). Thus, our findings show that when players feel competent in their contexts, when they feel valued and understood by the people surrounding them and when they feel they have the possibility to do what they want to do, this helps them

having a better concept of themselves. Regarding the inconsistency of the relation between changes in needs satisfaction and feelings of being burned out of soccer, our results support the assumptions of other authors (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), indicating that psychological needs satisfaction may be more relevant to predict indices of well- than ill-being, and that it is necessary to take into account the dark side of BPNT to understand players' reduced functioning.

These arguments are reinforced by the support of the fourth hypothesis, with the large positive relation (first season $\beta = .39$; second season $\beta = .46$) between changes in players' needs thwarting and burnout, which are in line with previous cross-sectional and longitudinal works (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Castillo et al., 2012). On the other hand, the negative relation between changes in athletes' needs thwarting and self-esteem was significant in both seasons, emphasizing the damaging consequences of athletes' needs impairment on their well-being. It seems understandable that when there are situations in soccer that make players' feel incompetent, with no autonomy to decide and feeling undervalued, this may have an unavoidable effect on their self-esteem. However, it seems important that researchers continue exploring the relationship between needs thwarting and well-being, as contradictory results have been found in previous studies depending on the well-being indicator. For example, there were no significant relations between athletes' needs thwarting and subjective vitality and positive affect (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011), but significant relations between athletes' autonomy and relatedness thwarting and life satisfaction (Felton & Jowett, 2014).

Mediational role of basic psychological needs

According to the examination of the mediational role of basic psychological needs contemplated in our fifth hypothesis, the results of this study showed a strong support to the total mediation of basic psychological needs satisfaction in the relation between perceived coach autonomy support and athletes' self-esteem and burnout, as well as to the mediational role of basic psychological needs thwarting in the relation between perceived autonomy supportive and controlling coaching style and the athletes' self-esteem and burnout. Regarding needs satisfaction, previous studies examining different indices of well- and ill-being have shown similar results, supporting the mediation of needs satisfaction between perceived autonomy support and athletes' life satisfaction and subjective vitality (e.g., Adie et al., 2012; Balaguer et al., 2012; López-Walle t al., 2012) and athletes' and dancers' burnout (Balaguer et al., 2012; Qusted & Duda, 2011). On other hand, our results about the mediational role of needs thwarting were in line with the results presented by Balaguer and colleagues (2012), which supported the mediation of needs thwarting between perceived autonomy supportive and controlling style and athletes' burnout.

In congruence with the theory, these results provide support to the important role of basic psychological needs and emphasize that the satisfaction of basic psychological needs for competence, autonomy and relatedness constitutes the central psychological process through which well-being is more likely to enhance and ill-being to decrease, whereas the opposite occurs with needs thwarting. In this sense, our results suggest that the young soccer players will have a higher self-esteem and will experience less emotional and physical exhaustion from their sport participation when their coaches help satisfying their needs and avoid thwarting them.

Invariance over time of BPNT

Finally, centering on the sixth hypothesis, this study provides evidence for the generalization of BPNT supporting the sequence social context - basic psychological needs - well-ill-being over four time points in two consecutive seasons in a youth soccer context. Our results confirmed the invariance over time of the relation between perceived coach autonomy support and athletes' needs satisfaction (positively) and thwarting (negatively), and between perceived coach control and athletes' needs thwarting (positively). As well as the invariance of the relation between athletes' needs satisfaction and self-esteem (positively) and burnout (negatively), and between needs thwarting and self-esteem (negatively) and burnout (positively).

Overall, these results extend the existent sport-scientific literature by testing the invariance of a BPNT-based model within a young soccer players sample over two competitive seasons. Although the universality and persistence of this BPNT sequence may have been expected by taking into account previous cross-sectional and longitudinal studies (e.g., Adie et al., 2008; Álvarez et al., 2009; Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011) conducted in the sport domain, we are aware that if the assumption of longitudinal invariance is not confirmed by a solid analytic strategy, the validity of any conclusion steaming from comparisons of manifest scale scores over time is compromised (Shadish, Cook, & Campbell, 2002).

Conclusions, future directions, limitations and implications for coaching practice

The results of the present study emphasize the importance of promoting autonomy supportive atmospheres and avoiding controlling styles to facilitate athletes' optimal psychological functioning. From an applied perspective, these findings underline that coach behaviors hold important implications for enhancing self-esteem and reducing burnout of their soccer players by supporting athletes' feelings of competence, autonomy, and relatedness through the creation of an autonomy supportive atmosphere. On the other hand, results also emphasize the importance of avoiding controlling behaviors among coaches, as these actively frustrate athletes' psychological needs and they consequently experience lower self-esteem and higher burnout. Therefore, interventions in sport settings should aim to train coaches in the creation of more autonomy supportive and less controlling environments during trainings and matches. In this sense, coaches could profit assisting to specific training or educational programs based on key principles of SDT, where they could learn about the implications that the motivational climate they create has on their athletes, as well as some practical examples of what coaches could do or say to promote more autonomy supportive climates (e.g., Duda, 2013).

Future studies could explore the lack of a negative relation between the controlling interpersonal coaching style and the needs satisfaction, as it was not reflected in either of the three tested models. Taking into consideration that the only study where a significant relation was found presented a within-person level longitudinal approach (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011), researches could incorporate the use of this methodology as well as the

use of a qualitative approach to go into detail about the implications of controlling behaviors in sport. It is also important to consider that players participate in teams or are involved in sport clubs with a concrete coaching philosophy that influences on the athletes' experiences in sport. This clustering effect could be tested using a multi-level methodology, considering team and individual level variables, to better understand the way in which all socio- and psychological variables interact in the real context.

In terms of the limitations of this study, attention has to be given to the fact that the sample is made up only of young male soccer players and it would be worthy to confirm the maintenance of these relationships in both genders. In addition to this, all the information of the study is obtained through self-reported measures. So, future sport psychology studies could try to include the use of some objective measures, as it could be the case of observational measures of the coach interpersonal style.

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CAPÍTULO 6

A TEST OF BASIC PSYCHOLOGICAL NEEDS THEORY IN SPANISH YOUNG SOCCER PLAYERS: A LONGITUDINAL MULTILEVEL APPROACH

González, L., Tomás, I., Duda, J. L., & Balaguer, I. A test of basic psychological needs theory in Spanish young soccer players: A longitudinal multilevel approach.^{8,9}

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6.1. ABSTRACT

In the framework of basic psychological needs theory (Deci & Ryan, 2000), longitudinal hierarchical linear modelling (HLM) approach was used for testing a multilevel mediation model, in which the relationship between perceptions of coaches' interpersonal styles (autonomy supportive and controlling) at team level, and individual indicators of athletes' well-being (subjective vitality) and ill-being (burnout), as mediated by individual athletes' basic psychological needs (satisfaction and thwarting) were examined. Participants were 597 Spanish male soccer players between 11 and 14 years old ($M = 12.57$, $SD = 0.54$) from 40 teams who completed a questionnaire in two different moments of a competitive season. Longitudinal HLM procedures revealed that shared perceptions of autonomy support at the team level predicted athletes' needs satisfaction and thwarting (positively and negatively, respectively). Needs satisfaction predicted athletes' subjective vitality and burnout (positively and negatively, respectively), and needs thwarting positively predicted their burnout. Moreover, needs satisfaction showed a partial mediational effect between shared perceptions of autonomy support and subjective vitality, and needs satisfaction and thwarting totally mediated the relation between shared perceptions of autonomy support and athletes' burnout. Results emphasize the implications of team shared perceptions of autonomy supportive coaching style on athletes' needs satisfaction and thwarting, as well as on their well- and ill-being.

Key words: perceived coach interpersonal style, subjective vitality, burnout, young athletes, multilevel

6.2. INTRODUCTION

Grassroots coaches have been considered a key figure in the context of youth sports, as the way in which they interact with their players during trainings and matches has a substantial impact on the promotion of the athletes' well- or ill-being. This interaction is highly influenced by the interpersonal style of the coach, which is present in how and what the coach communicates to the players, in all the goals that he or she sets for the team, and how the trainings and the matches are organized. In turns, all these aspects contribute to constitute the social atmosphere of a team.

In relation to the social atmosphere created by the coaches, there are two types of coaches' interpersonal styles that have been predominantly studied under the framework of self-determination theory (SDT; Deci & Ryan, 1985; 2000) and that conform the two styles used in this work: the autonomy supportive and the controlling. Coaches who are autonomy supportive tend to encourage initiative and autonomous self-regulation between their players, they allow and value participation in decision making, try to offer choices relevant to athletes' goals and values and to provide rationale for task engagement, they acknowledge athletes' feelings, are nonjudgmental and attempt to understand athletes' perspective before offering suggestions (Mageau & Vallerand, 2003). On the other hand, when a coach behaves in a controlling manner he or she tends to be coercive, pressuring and authoritarian, trying to impose a specific and preconceived way of thinking and behaving upon their athletes (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2010). In this sense, controlling coaches motivate their athletes by pressuring them in the way they have to think, feel and

behave in a coach-prescribed way (Reeve, 2009). These coaches interpersonal styles have important implications, and as it has been showed in the literature, autonomy supportive coaches favour athlete's well being and impede ill-being (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011) compared to controlling coaches.

Basic psychological needs theory (BPNT; Deci & Ryan, 2000), one of the mini theories of SDT, defends that the social context (e.g., coaches' interpersonal style) has important implications on peoples' well- and ill-being, as may be the case for the athletes within a team. BPNT also postulates that athletes' well- and ill-being do not occur as a direct consequence of coaches' behaviors. Rather, this relation is supposed to be mediated by the degree to which the interpersonal style of a coach satisfies or thwarts players' basic psychological needs for autonomy, competence and relatedness. These needs considered essential nutriments for peoples' health and well-being (Ryan, 1995) are the key psychological mechanism underpinning the relation between the social environment and well- and ill-being.

When the social environment provides the appropriate conditions it may facilitate satisfaction of peoples' basic psychological needs. Thus, a player may feel her/his need for autonomy to be satisfied as a result of being engaged in activities that are self-selected, self-regulated and personally endorsed (DeCharms, 1968). Satisfaction of the need for competence results from the players' feelings that she/he possesses the behavioural capability and efficacy to carry out targeted actions (White, 1959). And lastly, players' need for relatedness is more likely to be satisfied when they felt securely connected to and understood by others (Baumeister & Leary, 1995). On the other hand, needs thwarting is

produced when these needs are obstructed or actively undermined within a given context (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). For example, a player may feel that there are situations in which he or she feels pushed to behave in certain ways and is not able to take decisions regarding the way to train, what may increase her/his feelings of autonomy thwarting. If there are occasions where a player is made to feel incapable, this will contribute to the thwarting of his/her need for competence. And finally, feelings of relatedness thwarting will result from players' experiences of being rejected or dismissed by others.

Within this theoretical framework, satisfaction of basic psychological needs constitutes the central psychological process through which well-being is promoted, while ill-being is more likely to be experienced when the needs are thwarted (Ryan & Deci, 2000). Further, according to BPNT's postulates and previous scientific works (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), when a coach behaves in an autonomy supportive manner, his/her athletes are more likely to experience satisfaction of their basic psychological needs and less likely to experience its thwarting. Otherwise, when a coach behaves in a controlling way, his or her athletes will probably experience needs thwarting (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Ryan & Deci, 2000).

Specifically for this study we decided to evaluate athletes' well and ill-being through feelings of subjective vitality and burnout respectively. Aligned with the eudaimonic approach of well-being defended by SDT, subjective vitality is one of the indicators per excellence of psychological well-being (Ryan & Deci, 2001) and it has been largely used in the sport scientific literature (e.g., Adie, Duda, &

Ntoumanis, 2008; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Reinboth & Duda, 2006), and it has been defined as one's conscious experience of possessing energy and aliveness (Ryan & Frederick, 1997). Otherwise, athletes' feelings of burnout, the indicator we use to assess athletes' ill-being, as well as the indicator per excellence used in the current sport psychology literature based on SDT, has been defined as a psychosocial syndrome reflecting emotional and physical exhaustion, a reduced sense of accomplishment and an uncaring and cynical attitude towards sport participation (Raedeke & Smith, 2001).

The relation between the interpersonal style of the coach, athletes' basic psychological needs and its implications on their well- and ill-being has been widely studied. The main part of these studies have analysed and found support for the relation between individual perceptions of the coach autonomy support on athletes' basic psychological needs satisfaction and different indices of well- and ill-being through cross-sectional (e.g., Adie, Duda, & Ntoumanis, 2008) and longitudinal (e.g., Adie, Duda, & Ntoumanis, 2012) studies. In terms of the study of the darker side of the theory, the relations between the individual perceptions of a controlling coaching interpersonal style, the consequent athletes' basic psychological needs thwarting and the effects on their ill-being have been also recently demonstrated in the sport context (e.g., Castillo, González, Fabra, Mercé, & Balaguer, 2012).

Recent studies have included the relation between both dimensions of the perceived interpersonal style of the coach (i.e., autonomy supportive and controlling) and its implications on athlete's psychological needs' satisfaction and thwarting and different well- and ill-being indicators (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; González, García-Merita, Castillo, & Balaguer, under review).

In two of the three studies presented in Bartholomew, Ntoumanis, Ryan, Bosch and colleagues (2011) the positive and the negative side of the BPNT model was studied from a cross-sectional approach. Results showed that perceptions of autonomy support provided by the coach had a positive effect on athletes' needs satisfaction and a negative effect on their needs thwarting. On the other hand, perceptions of coach controlling style had a positive effect on athletes' needs thwarting. In turns, needs satisfaction predicted positively subjective vitality and positive affect and negatively burnout and negative affect, while needs thwarting positively predicted burnout, negative affect, depression and disordered eating. The third work presented by these authors was a longitudinal analyses based on a diary study in which they observed a negative effect of the perceived controlling style on athletes' needs satisfaction at the within-person level.

Following these results and with the aim of advancing in the understanding of youths' optimal development, Balaguer and colleagues (2012) and González and colleagues (under review) carried out two longitudinal studies within a four years research project conducted with young soccer players. Results of Balaguer and colleagues (2012) revealed that individual perceptions of autonomy support provided by the coach positively predicted needs satisfaction and negatively predicted needs thwarting, while the perceptions of coach controlling style positively predicted needs thwarting. Results also indicated that needs satisfaction positively predicted subjective vitality and negatively predicted burnout, while needs thwarting positively predicted burnout. These authors also found that basic psychological needs mediated the effect of perceived coach interpersonal style (coach autonomy support and coach controlling style) on the athletes' well- and ill-being

(subjective vitality and burnout). Specifically, needs satisfaction totally mediated the relationship between autonomy support and controlling styles with athletes' subjective vitality, and between autonomy support with burnout, while needs thwarting totally mediated the relationship between autonomy support and controlling styles with athletes' burnout. In a further step, González and colleagues (under review) in their two seasons longitudinal study, confirmed the aforesaid relationships between the perceived interpersonal style of the coach (autonomy supportive and controlling), basic psychological needs (satisfaction and thwarting) and burnout. In this study in which self-esteem was the indicator of well-being, it was found that needs satisfaction positively predicted self-esteem in the two consecutive seasons, and that needs thwarting negatively predicted self-esteem only in the first season. Moreover, results of a multisample invariance model integrating the two consecutive seasons showed that this BPNT sequence maintained invariant over time.

All the previous aforementioned research has been conducted from an individual level. In this sense, to date researches have been examining the interrelations encompassed in BPNT from an individual level using cross-sectional as well as longitudinal methodology. This approach helps us understanding how the athletes' individual perceptions of the interpersonal coaching styles influence their own basic psychological needs and in turn different outcomes. However, analysing the data at the individual level (i.e., the athlete) neglects the fact that the athletes are nested within teams and may not capture how belonging to a team influences social and cognitive factors. When we are interested in understanding how a specific climate created in a team, perceived and shared by its different players, influences on their needs

and other outcomes, we may need a different approach (i.e., multi-level approach). When using this multilevel approach we assume that although players' perceptions of the social atmosphere created in their teams originate within the individual level, they are shared within the members of the team, because they are exposed to the same coach, goals, environment and proximal influences, and this exposure results in a relatively homogenous experience of their team that is distinct from those of other teams. Thus, using hierarchical linear modeling (HLM) allow us to analyse the top-down influence of team-level constructs, such as the social atmosphere created by the coach, on individual-level constructs, and also to examine multilevel relationships (Zhang, Zyphur, & Preacher, 2009).

To capture the social atmosphere at the team level, we measured the perceived interpersonal style of the coach (i.e., coach autonomy support and controlling style) as the mean of the athletes within each team responses. The use of these mean responses to represent the team-level variables is justified only when a high degree of consensus among the perceptions of the team members is demonstrated (Chan, 1998).

So far, we do not know any study testing the BPNT from a multilevel approach. Thus, going one step further in the literature, one of the contributions of this work is the use of a multi-level methodology on the study of the perceived coaching interpersonal style of the teams (team level autonomy supportive and controlling style) on athletes' psychological needs and well- and ill-being outcomes (individual level).

Present study

The main objective of the present study was to test a multilevel mediation model considering variables measured in two different time points over a soccer season. The proposed model examined the mediator role of individual athletes' basic psychological needs (satisfaction and thwarting) in the relationship between the athletes' shared perceptions of their coaches' interpersonal styles (autonomy supportive and controlling) at team level and individual indicators of athletes' well-being (subjective vitality) and ill-being (burnout) (see Figure 1).

Based on BPNT and the aforementioned research evidence, we proposed the following hypotheses:

Hypothesis 1: players' shared perceptions of autonomy support provided by the coach will positively predict their needs satisfaction and negatively predict needs thwarting.

Hypothesis 2: players' shared perceptions of a controlling coaching interpersonal style will positively predict players' needs thwarting and negatively needs satisfaction.

Hypothesis 3: players' needs satisfaction will positively predict subjective vitality and negatively predict burnout.

Hypothesis 4: perceptions of players' needs thwarting will positively predict burnout and negatively predict subjective vitality.

Hypothesis 5: psychological needs (satisfaction and thwarting) will mediate the relationship between the perceived

interpersonal style of the coach and the well-being indicator (subjective vitality).

Hypothesis 6: psychological needs (satisfaction and thwarting) will mediate the relationship between the perceived interpersonal style of the coach and the ill-being indicator (burnout).

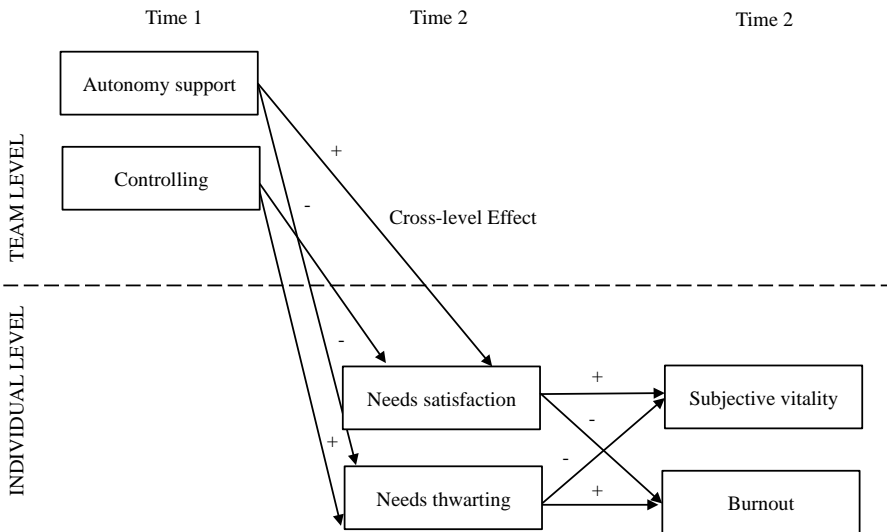


Figure 1. Hypothesized longitudinal multilevel mediation model of the associations between perceptions of autonomy supportive and controlling coaching style, players' needs satisfaction and thwarting, and players' subjective vitality and burnout.

6.3. METHOD

Participants

Seven hundred and twenty-five male soccer players aged between 11 and 14 years old ($M = 12.57$, $SD = 0.54$) from Spain completed a questionnaire package at the beginning of a competitive season (Time 1), and 597 ($M = 12.58$ years, $SD = 0.54$) from these initial players' repeated the questionnaires at the end of the same season (Time 2). These players represented 40 teams from 27 different soccer schools registered at the Valencian Community Soccer Federation. The sample used in the subsequent analyses in this study is composed by the 597 players who completed the measures at the two time points. This loss represented a dropout rate of 17,66%.

Instruments

Coach autonomy supportive style. The Spanish version (Balaguer, Castillo, Duda, & Tomás, 2009) of the Sport Climate Questionnaire (SCQ; (<http://www.psych.rochester.edu/SDT/>)) was used to assess players' perceptions of autonomy support provided by their coaches. This scale is composed by 15 items, each one starting with the phrase "On my soccer team..." and the responses are rated on a 7-point Likert scale ranging from 1 (*not at all true*) to 7 (*very true*). An example item is "my coach answers my questions fully and carefully". Evidence for the reliability and predictive validity of this instrument has been provided in previous sport based research (e.g., Adie et al., 2008).

Coach autonomy supportive style was considered at the team level and was operationalized by aggregating team members' scores from a consensus-based approach. We tested between team discrimination on coach autonomy supportive style by using one-way analysis of variance (ANOVA). Results ($F(39; 557) = 4.94, p < .01$) showed adequate between-teams discrimination. Additionally, within-team agreement was assessed by means of the Average Deviation Index ($AD_{Md(j)}$, ADI henceforth) (see Burke & Dunlap, 2002; Dunlap, Burke, & Smith-Crowe, 2003). Following Dunlap and colleagues (2003), a practical cut-off value for a Likert-type response scale with seven options was 1.17 or less. The average ADI value was 1.02 ($SD = .20$), suggesting that shared perceptions of coach autonomy support were apparent among the team members. Therefore we concluded that in our sample it was adequate to aggregate team members' coach autonomy support perceptions by using the average value of the team.

Coach controlling style. The Spanish version (Castillo et al., 2014) of the Controlling Coach Behaviors Scale (CCBS; Bartholomew et al., 2010) was used to capture players' perceptions of their coaches' controlling interpersonal style. The CCBS has 15 items divided into 4 sub-dimensions: controlling use of rewards, conditional regard, intimidation, and excessive personal control. Each item starts with the phrase "On my soccer team..." and the responses are rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is "my coach tries to motivate me by promising to reward me if I do well". For the present study a composite measure of the coach controlling interpersonal style was created. Recent sport research has shown internal consistency and predictive validity of this scale (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Castillo et al., 2014).

Coach controlling style was considered at the team level and was operationalized by aggregating team members' scores. The one-way ANOVA results ($F(39; 557) = 1.62, p < .05$) indicated an adequate between-team discrimination in average coach controlling style perceptions. Within-team agreement was assessed by ADI. The average ADI value for coach controlling style was 1.16 ($SD = .21$). Therefore, we concluded that it was adequate to aggregate individual scores to team level for responses on the coach controlling style scale.

Psychological needs satisfaction. Three previously validated scales adapted to the soccer population were used to assess the degree to which soccer players experienced satisfaction of their three basic psychological needs.

The Perceived Autonomy Scale (Reinboth & Duda, 2006) in its Spanish version (Balaguer, Castillo, & Duda, 2008) was used to assess players' perceptions of satisfaction of their need for autonomy. It is a 10 items scale with a 7 point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and with items like "When I play soccer I feel free to express my ideas and opinions".

The Spanish version (Balaguer et al., 2008) of the subscale of Perceived Competence from the Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989) was used to assess perceptions of the satisfaction of the players' need for competence. This subscale has 5 items that are answered in a 7 point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and with items as "I think I am pretty good at soccer".

The Acceptance subscale of the Need for Relatedness Scale (NRS; Richer & Vallerand, 1998) in its Spanish version (Balaguer et al., 2008) measured the extent to which players perceived their need for

relatedness to be satisfied. This subscale has 5 items that are answered in a 7-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). An example item is “When playing soccer I feel supported”.

Aligned with previous works in the sport domain where the instruments’ reliability and validity have been confirmed (e.g., Balaguer et al., 2012), the three needs satisfaction subscales were used as indicators of a general needs satisfaction variable.

Psychological needs thwarting. The Spanish version (Balaguer et al., 2010) of the Psychological Need Thwarting Scale (PNTS; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011) was used to measure the degree to which players experienced their psychological needs to be actively thwarted. PNTS is a 12 items scale answered in a 7 point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*) and includes three sub-scales: thwarting of autonomy, thwarting of competence and thwarting of relatedness. An example of item is “I feel pushed to behave in certain ways in soccer”. For the present study a composite value of players’ needs thwarting was used. Internal reliability and predictive validity of this scale have been confirmed by recent studies in the sport context (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Subjective Vitality. Players’ feelings of energy were assessed with the Spanish version (Balaguer, Castillo, García-Merita, & Mars, 2005) of the Subjective Vitality Scale (Ryan & Frederick, 1997). It is a six items scale answered in a 7 point Likert scale ranging from 1 (*not true*) to 7 (*true*). An example item is “I feel alive and full of vitality”. Previous research studies have tested this instrument’s reliability and validity (e.g., Balaguer et al., 2012).

Burnout. The Spanish version (Balaguer et al., 2012) of the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) modified for the soccer population was used to measure players' feelings of burnout due to their soccer participation. This scale has 15 items corresponding to 3 different sub-dimensions: emotional and physical exhaustion, soccer devaluation, and reduced sense of soccer accomplishment. Responses are provided in a 5-point scale ranging from 1 (*almost never*) to 5 (*almost always*). An example item is "I feel overly tired from my soccer participation". For the present study a composite value of global burnout was used. Evidence for the reliability and validity of this questionnaire has been previously provided in the sport context (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Procedure

University ethics committee for human studies provided approval for conducting the study. Thereafter, 27 soccer schools from the Valencian Community were randomly selected from a list provided by the Valencian Soccer Federation. We sent a letter to the sports director of each school, informing them about the goals of our study and requesting their collaboration. Once the directors expressed interest in participating, the players and their parents were provided with verbal information about the investigation and they expressed informed consent before the first data collection took place.

Players completed the questionnaires at the different soccer schools before one of their training sessions during a 45-minute interval. Before each data collection participants were reminded that the questionnaires were anonymous and voluntary, and they were encouraged to answer honestly and ask any questions they had. Neither

the coach nor the sports director of the school was present at any time during questionnaire administration. First data collection (Time 1) was conducted at least one month after the beginning of the season in October 2009 and the second data collection (Time 2) near the end of the competitive season in May 2010.

Analysis

With the purpose of testing the proposed multilevel mediation model and providing support for our six hypotheses, longitudinal HLM with LISREL 8.8 (PRELIS) (Jöreskog & Sörbom, 2006) was performed, in which the perceived coaching interpersonal style (i.e., perceptions of coach autonomy support and control) was aggregated at the group-level, based on the results of the Average Deviance Indexes ($AD_{M(j)}$). Needs satisfaction, needs thwarting, subjective vitality and burnout were taken into account as individual-level variables. Following Zhang, Zyphur, and Preacher (2009), the proposed model is a 2-1-1- model, in which a Level-2 antecedent (motivational climate) influences a Level-1 mediator (needs satisfaction and needs thwarting) which then affects a Level-1 outcome (subjective vitality and burnout).

Before the models were tested, the independent variables were centered. Following Zhang, Zyphur and Preacher (2009) recommendation for a 2-1-1- model, needs satisfaction and needs thwarting (level 1 predictors) were centered at their group mean. Coaches' interpersonal styles (autonomy supportive and controlling) (level 2) were centered at their grand mean.

Sequences of hierarchical longitudinal linear models were run in order to test the proposed hypotheses. Hypotheses 1 and 2 implies cross-level effects, which state that level 2 variables (player's shared

perceptions of the interpersonal style of the coach) will predict level 1 variables (individual players' needs satisfaction and thwarting). Since a level 2 variable can explain only differences between groups, the first thing to do is to show that significant between-groups differences exist for the variables of interest (Hofmann, 1997). So that, first of all, two one-way ANOVA models were run to determine the variability of athletes' basic psychological needs satisfaction and thwarting among teams and within teams (inter-team and intra-team variance), calculating at the same time the intraclass correlation coefficients (ICC). Second, two intercepts-as-outcomes models were run to test the cross-level effects of coach autonomy support and controlling style (level 2 predictors) on basic psychological needs satisfaction (level 1 outcome) on one model, and basic psychological needs thwarting (level 1 outcome) on the other model, so that testing hypotheses 1 and 2.

Hypotheses 3 and 4 imply the effect of individual (level 1) predictors (needs satisfaction and thwarting) on individual (level 1) outcomes (subjective vitality and burnout). Previous of testing those hypothesis, two one-way ANOVA models were run to determine the variability of athletes' subjective vitality and burnout among teams and within teams (inter-team and intra-team variance), calculating at the same time intraclass correlation coefficients in well- and ill-being indicators. Then, two random regression coefficients models were run at the individual level to examine how individual level predictors (basic psychological needs satisfaction and thwarting) related to athletes' subjective vitality (level 1 outcome) on one model, and burnout (level 1 outcome) on the other model, so that testing hypothesis 3 and 4.

Hypotheses 5 and 6 imply testing for single mediator (two-path) effects. Following Mackinnon (2008; see also Taylor, Mackinnon, & Tein, 2008),

we used a product of coefficients test to analyze single mediated effects. The point estimate of the mediated effect is the product $\alpha\beta$, where α represents the effect of the level 2 predictor (X) on the mediator (M) or individual level predictor, and β represents the effect of the mediator (M) on the level 1 outcome (Y) controlling for the effect of X on Y. A 95% confidence interval for the mediated effect can be formed as the point estimate $\alpha\beta$ plus and minus 1.96 times the standard error (where 1.96 is the critical value from the normal distribution, and the standard error used was the multivariate delta standard error proposed by Sobel (1982)). If the confidence interval does not include zero, the null hypothesis of no mediation is rejected, so that confirming the mediation effect.

When a multilevel mediation effect was suggested by the analyses carried out for testing Hypotheses 1 to 4, and in order to estimate the β value required for testing the mediation effect, an additional multilevel model was run. Concretely, an intercepts-as-outcomes model was run for each detected mediation effect. In the model, the effect of the individual level predictor (M) on the level 1 outcome (Y) was tested, but in addition, it was included the effect of the level 2 predictor (X) on the level 1 outcome (Y) that represents the direct or non-mediated effect (τ) of X on Y. This model also allowed us to determine whether the mediation was total or partial.

Finally, the procedure proposed by MacKinnon (2000; 2008) was used to test contrasts among mediated effects. This procedure allows testing comparisons among two mediated effects ($f = \alpha_1\beta_1 - \alpha_2\beta_2$) and also testing comparisons among mediated and direct effects ($f = \alpha_1\beta_1 - \tau$). A 95% confidence interval for the contrast effect can be

obtained from the formula $f \pm 1.96 \sigma_f$ (where f is the value of the contrast, 1.96 is the critical value from the normal distribution, and σ_f is the square root of the variance of the contrast). If the confidence interval does not include zero, the null hypothesis of no differences is rejected, so that confirming the significant differences between the compared effects.

6.4. RESULTS

Score reliability, validity, and descriptive statistics

Fit indices for the measurement models of the scales included in the study, tested with confirmatory factor analysis (CFA), were presented in a previous study (Balaguer et al., 2012) and are therefore not included in this work. The Cronbach internal reliability coefficients of all scales/subscales were satisfactory (α range = 0.81 - 0.91) (see Table 1).

Responses of the players showed that values on shared perceptions of autonomy support provided by the coach, players' needs satisfaction and subjective vitality were above the mean value of the questionnaire, while shared perceptions of a controlling style of the coach, players' needs thwarting and burnout were under the mean value (see Table 1).

Table 1.

Descriptive statistics and reliability of the variables of the study

Variables	Range	<i>M</i>	<i>SD</i>	α
Team autonomy support T1	1-7	5.35	0.48	.89
Team controlling T1	1-7	2.37	0.39	.81
Needs satisfaction T2	1-7	5.32	0.87	.89
Needs thwarting T2	1-7	2.86	1.25	.91
Subjective vitality T2	1-7	5.43	1.13	.84
Burnout T2	1-5	1.98	0.75	.90

T1: Time 1; T2: Time 2. α = Cronbach's alpha reliability coefficient.

Relationships between the study variables

All the study variables were significantly correlated in the expected direction, except for the relation between team shared perceptions of autonomy support provided by the coach in Time 1 and players' burnout in Time 2, and the relation between team shared perceptions of controlling style of the coach in Time 1 and players' needs satisfaction and thwarting and burnout in Time 2 that were not significant. Moreover, surprisingly shared perceptions of a controlling coaching style in Time 1 were positively correlated with subjective vitality in Time 2. Apart from this, perceptions of coach autonomy support (team level) at the beginning of the season were positively correlated with athletes' needs satisfaction and subjective vitality at the end of the season, and negatively correlated with their shared perceptions of controlling style at the beginning of the season and their needs thwarting at the end of the season. At the end of the season athletes' needs satisfaction was positively correlated with subjective vitality and negatively with needs thwarting and burnout, and needs

thwarting were negatively correlated with subjective vitality and positively with burnout. Finally, subjective vitality and burnout were negatively correlated between each other (see Table 2).

Table 2.

Correlations between study variables

	1	2	3	4	5	6
1. Team autonomy support T1	-					
2. Team controlling T1	-.17**	-				
3. Needs satisfaction T2	.19**	-.01	-			
4. Needs thwarting T2	-.10*	.07	-.36**	-		
5. Subjective vitality T2	.14**	.10*	.48**	-.14**	-	
6. Burnout T2	-.05	.04	-.38**	.59**	-.19**	-

** $p < .01$; * $p < .05$. T1: Time 1; T2: Time 2

Multilevel analyses

Longitudinal hierarchical linear modeling was conducted to test how group perceptions of coach autonomy support and coach controlling style (team-level factors) influenced athletes' basic psychological needs satisfaction and thwarting (individual level) and how this needs satisfaction or thwarting influenced their feelings of subjective vitality and burnout (individual level).

Prior to test the cross-level effect of the perceived interpersonal style of the coach on athletes' psychological needs (hypotheses 1 and 2), two one-way ANOVA models were assessed. Results indicated that the significant between-groups differences condition was satisfied for basic

psychological needs satisfaction ($\tau_{00} = .06, p < .01; ICC = .087$), but was not satisfied for basic psychological needs thwarting ($\tau_{00} = .03, p > .05; ICC = .021$). The ICC value for needs satisfaction indicated that 8.7% of the variance in basic psychological needs satisfaction lies between teams, and the results altogether provided a basis for examining team level predictors for this variable. The ICC value for needs thwarting indicated that 2.1% of the variance on this variable can be attributed to differences between groups, although that seemed not to be statistically significant. An additional analysis of variance with SPSS was run for both variables in order to examine whether there was any variance among the teams. The results indicated significant differences between groups for needs satisfaction ($F_{(39,557)} = 2.48; p < .01$), but non-significant differences between groups for needs thwarting ($F_{(39,557)} = 1.39; p = .06$). Nonetheless, as the ANOVA results for needs thwarting were marginally significant, we decided to keep this variable, and consequently two intercepts-as-outcomes models were run with basic psychological needs satisfaction and thwarting as individual level variables to examine whether the group level variables (i.e., athletes' shared perceptions of autonomy supportive and controlling coaching interpersonal style) accounts for the group level variance found in athletes' basic psychological needs satisfaction and basic psychological needs thwarting. Results of the multilevel models examining the team level effects revealed that athletes' shared perceptions of autonomy supportive interpersonal style positively predicted athletes' basic psychological needs satisfaction ($\gamma_{01} = .35, p < .01$), and negatively predicted their needs thwarting ($\gamma_{01} = -.24, p < .05$). In contrast as we expected, athletes' shared perceptions of controlling coaching

interpersonal style did not show any significant effect on the individual level variables needs satisfaction ($\gamma_{01}=.06, p>.05$) and needs thwarting ($\gamma_{01}=.16, p>.05$) (see Figure 2).

Prior to test the effect of the basic psychological needs on athletes' vitality and burnout (hypotheses 3 and 4), two one-way ANOVA models were assessed for the outcome variables (vitality and burnout). Results indicated significant between-groups differences for subjective vitality ($\tau_{00} = .11, p<.01; ICC=.087$), but no significant between-groups differences for burnout ($\tau_{00} = .004, p>.05; ICC=.007$). The ICC value for subjective vitality indicated that 8.7% of the variance in this variable lies between teams, although burnout variance was not explained by team-level variables. Nonetheless, hypotheses 3 and 4 just imply the effect of individual predictors (needs satisfaction and needs thwarting) on individual outcomes (subjective vitality and burnout). So that, significant between-groups differences on the outcome variables was not required, and two random regression coefficients models using subjective vitality and burnout as outcome variables respectively, were run in order to test hypotheses 3 and 4. Results revealed that athletes' basic psychological needs satisfaction in T2 positively predicted athletes' subjective vitality at T2 ($\gamma_{10}=.62, p<.01$) and negatively predicted athletes' burnout at T2 ($\gamma_{10} = -.21, p<.01$). Additionally, athletes' basic psychological needs thwarting at T2 positively predicted athletes' burnout at T2 ($\gamma_{10}=.29, p<.01$), but it did not show any significant effect on athletes' subjective vitality ($\gamma_{10}=.01, p>.05$) (see Figure 2).

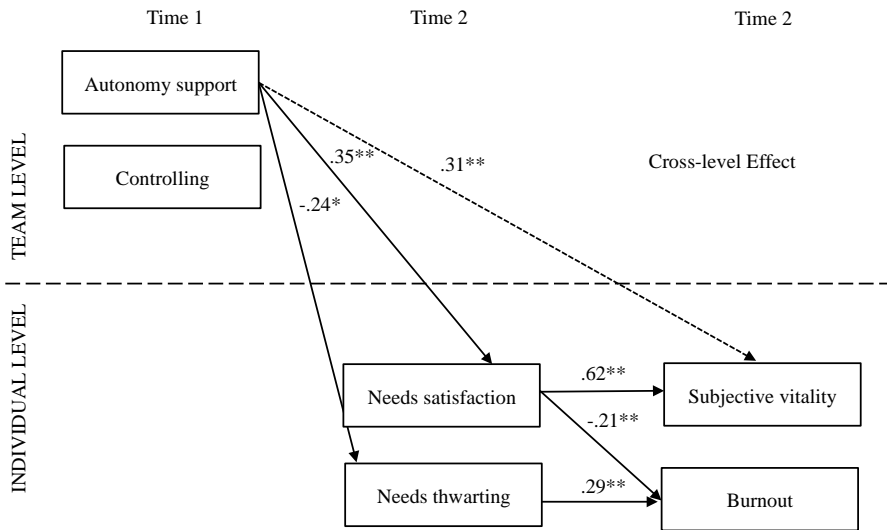


Figure 2. Longitudinal multilevel mediation model of the associations between perceptions of autonomy supportive and controlling style of the coach, players’ need satisfaction and thwarting, and players’ subjective vitality and burnout.

Mediation

Taking into account previous results, three multilevel mediation effects were identified, providing partial support to hypotheses 5 and 6. Results of the mediation analyses based on MacKinnon (2008) revealed that basic psychological needs satisfaction partially mediated ($b_1b_2 = .22$; IC 95% = [.10, .34]; $\tau = .31, p < .01$) the relationship between shared perceptions of autonomy supportive coaching interpersonal style in T1 (team level) and athletes’ feelings of subjective vitality in T2 (individual level). Moreover, basic psychological needs satisfaction totally mediated ($b_1b_2 = -.074$; IC 95% = [-.12, -.03]; $\tau = -.09, p > .05$) the relationship between shared perceptions of autonomy supportive coaching interpersonal style in T1 (team level) and athletes’ burnout in T2

(individual level). And additionally, basic psychological needs thwarting totally mediated ($b_1b_2 = -.070$; IC 95% = $[-.14, -.01]$; $\tau = -.09$, $p > .05$) the relationship between shared perceptions of autonomy supportive coaching interpersonal style in T1 (team level) and athletes' burnout in T2 (individual level) (see Figure 2).

Finally, we present results of testing several contrasts following MacKinnon (2000; 2008) procedure. Needs satisfaction and needs thwarting were both mediators in the relationship between shared perceptions of autonomy supportive coaching interpersonal style and burnout. It was of interest testing if any of the mediated effects was larger than the other, so that indicating that any of the mediator variables had a stronger influence. Nonetheless, the sizes of the mediated effect estimates were quite similar ($b_1b_2 = -.074$ and $b_1b_2 = -.070$ respectively), and results of the contrast among mediated effects indicated that there were not significant differences between both mediated effects (IC 95% = $[-.11, .11]$).

Results also indicated that the multilevel mediated effect of psychological needs satisfaction on the relationship between shared perceptions of autonomy supportive coaching style and vitality ($b_1b_2 = .22$) was not significantly different from the direct effect of shared perceptions of autonomy supportive coaching interpersonal style on vitality ($\tau = .31$), as the 95% confidence interval did contained the zero value (IC 95% = $[-.37, .20]$).

6.5. DISCUSSION

Centering in BPNT, the main objectives of the present study were to analyze whether shared perceptions of coaching interpersonal styles predicted athletes' basic psychological needs and in turn their well- and ill-being, and to test the mediational role of basic psychological needs between the social context and the psychological outcomes indices of the athletes. Our findings partially support the hypothesized relations grounded in BPNT, as well as the mediational role of basic psychological needs.

When analyzing the responses of the players, results indicated that the athletes shared the perception that the interpersonal style of their coaches was more autonomy supportive than controlling. They also experienced greater need satisfaction than thwarting, and higher subjective vitality than burnout. These data reflect a relatively positive situation within the teams, however it is important to bear in mind that players still perceive a slightly use of controlling behaviors by their coaches, as well as experiences of need thwarting and burnout.

Coaching interpersonal style and athletes' basic psychological needs

Providing support for the first hypothesis, results showed that shared perceptions of autonomy support at the beginning of the season positively predicted athletes' need satisfaction and negatively predicted their needs thwarting at the individual level, in a similar way as happened in different cross-sectional (e.g., Adie et al., 2008; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) and longitudinal studies (e.g., Adie et al., 2012; Balaguer et al., 2012; Bartholomew,

Ntoumanis, Ryan, Bosch et al., 2011). These results emphasize that when in a team athletes perceive that their coach explains their athletes why it is important to do the tasks they do, when the coach offers the athletes relevant choices and acknowledges their feelings, when he or she is nonjudgmental and tries to be more comprehensive, all this will result in players' feelings of higher needs satisfaction and lower needs thwarting. Thus, our results support BPNT postulates indicating that an appropriate environment, as the one created by an autonomy supportive coach, will foster athletes' psychological needs satisfaction and diminish their thwarting (Ryan & Deci, 2000).

Centering in the second hypothesis that tested the relation between shared perceptions of controlling coach behaviors and players' psychological needs satisfaction (negatively) and needs thwarting (positively) at the individual level, no significant relations emerged using the longitudinal multilevel analyses. These results are in disagreement with previous research at the individual between person level (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Castillo et al., 2012), which showed significant relations between perceived controlling coaching behaviors and needs thwarting, and also with previous research at the individual within person level (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) that supported relations between perceived coach controlling style and athletes' needs satisfaction (negatively) and thwarting (positively). The differences in the findings of the current work might be attributed to the decrease in the variability of the data when using team level aggregation as for instance, for measuring athletes' perceptions of their coach controlling interpersonal style we use 40 scores corresponding to the number of teams in this study, instead of using the scores of the 597 players.

Taking into account the low perceptions of controlling behaviors of the coaches ($M = 2.37$), as well as the low standard deviation ($SD = .39$), it may be understandable that individual differences at the end of a season in athletes' needs satisfaction or thwarting might not be due to team level differences in this negative interpersonal style.

Athletes' basic psychological needs and well-ill-being

According to the third hypothesis, results showed support to the relation between players' needs satisfaction and subjective vitality (positively) and burnout (negatively) and are in accordance with previous studies (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; González et al., under review) at the individual level where the three needs were measured as a global needs satisfaction score. In this sense our findings show that the greatest or lowest needs satisfaction affects players' well- and ill-being, indicating that the more competent, autonomous and better related they are, the higher subjective vitality and the lower burnout they experience. These results are in accordance with BPNT postulates and they have significant implications for youth sport participation showing the importance of promoting athletes' basic needs satisfaction to enhance their well-being, as well as to prevent their ill-being (Ryan & Deci, 2000).

Regarding the fourth hypothesis, results of this study supported the positive relation between athletes' needs thwarting and burnout, but the negative relation between needs thwarting and subjective vitality was not supported. These results are in line with previous cross-sectional (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) and longitudinal works (Balaguer et al., 2012; Bartholomew, Ntoumanis,

Ryan, Bosch et al., 2011), showing the negative implications of actively frustrate athletes' psychological needs. Specifically, when the players feel that there are times when they are told things that make them feel incompetent, when they feel pushed to behave in certain ways or when they feel rejected by others around them in the team, all this will result in higher experiences of being burned out of their sport participation. The lack of relation between players' needs thwarting and their subjective vitality may suggest that situations in which athletes' basic needs are being actively damaged and obstructed may have a bigger effect on the promotion of players' ill-being, rather than on the underpinning of their well-being. Thus, these results differentiate the implications of satisfaction versus thwarting of athletes' basic psychological needs on their well- and ill-being, showing that basic psychological needs satisfaction influences on both outcomes, while its thwarting only affects ill-being. However, before making any generalization, we should delve in the study of other well- and ill-being indicators, as different results may appear. For example, González and colleagues (under review) found that athletes' perceptions of needs thwarting negatively influenced their self-esteem, and Felton and Jowett (2014) found negative relations between athletes' autonomy and relatedness thwarting and their life satisfaction.

Mediational effect of basic psychological needs

Centering in the fifth hypothesis, and in accordance with results of Balaguer and colleagues (2012), our study provides evidence for the mediation of needs satisfaction in the relation between perceived coach autonomy support at team level at the beginning of the season and players' subjective vitality at the end of the season; however no

mediational effect was found for needs thwarting as it did not relate to subjective vitality. On other hand, as perceived controlling style did not have any cross-level effect on the hypothesized mediator individual level variables, mediation effects of basic psychological needs in the relation between controlling style and subjective vitality were not supported. These results suggest that when the team perceived that their coach is autonomy supportive they feel more alive, and that this association is explained by the degree in which athletes perceived that their needs for competence, autonomy and relatedness are satisfied. These results emphasize the importance of having coaches promoting positive atmospheres where athletes can learn and improve and therefore feel skilled at soccer, where they feel free to express their ideas and opinions and also to do the things in the way they want to do them, and where players feel supported and understood by the other people on the team.

Finally, following the sixth hypothesis, our findings support the total mediational effect of needs satisfaction and thwarting in the relation between shared perceptions of coach autonomy support at the beginning of the season and players' burnout at the end of the season, which are also in accordance with the findings from Balaguer and colleagues (2012) at the individual level. In support of BPNT results emphasize the central role of basic psychological needs in the promotion of optimal development, showing that the effect of the social contexts, especially those that promote autonomy support, have important implications in the prevention of athletes' ill-being, an that it depends on the degree in which athletes satisfies and thwarts their basic psychological needs.

Conclusions, future directions and limitations

Overall, this study extends the existent sport-scientific literature and takes into consideration both, the individual and the team perspective, testing a BPNT-based model including perceived autonomy supportive and controlling coaching behaviors at team level and their impact on basic psychological needs satisfaction and thwarting on important indicators of young soccer players' well- and ill-being over a competitive season. Results show that athletes shared perceptions of autonomy support predict needs satisfaction and thwarting, and that needs satisfaction predicts subjective vitality as well as burnout, while needs thwarting only predicts burnout. Moreover, needs satisfaction acts as a mediator between the perceived autonomy supportive coaching interpersonal style and the well-ill-being indicators, while needs thwarting acts as a mediator only between perceived autonomy support and ill-being.

From an applied perspective, this emphasizes the importance of promoting autonomy supportive atmospheres in grassroots soccer to facilitate athletes' well-being and to prevent ill-being, underlining that coach behaviors hold important implications for enhancing players' subjective vitality and reducing their burnout by supporting their feelings of competence, autonomy, and relatedness through the creation of an autonomy supportive atmosphere. On the other hand, although our results at the team level do not provide evidence of the risks of exhibiting a controlling coaching style, in order to favor needs thwarting and ill-being; considerable research at the individual level has been conducted to defend its avoidance. Future studies have to be conducted in order to explore the unexpected results of this variable at the team level.

Considering some limitations of this study, attention has to be given to the fact that the sample is made up only of young male soccer players, as well as the fact that all the information of the study is obtained through self-reported measures. In future sport psychology studies it would be convenient to include the use of some objective measures, as observational measures of the coach interpersonal style, in different sports including male and female athletes.

Perspective

Based on BPNT and centering in youth sport, it has been defended that the social context, as the coach interpersonal style, influences athletes' well- and ill-being, and that this influence might be mediated by the degree to which the context satisfies or thwarts athletes' basic psychological needs. Focusing in grassroots soccer, it is important to take into consideration that players are nested in teams where they share multiple experiences. To study this possible impact we can analyze how the athletes' shared perceptions may influence them. In this sense, our study suggests that when athletes perceived the atmosphere created in their teams as autonomy supportive, their needs satisfaction increases and decreases its needs thwarting. Furthermore, according to previous results (e.g., Balaguer et al., 2012), athletes' needs satisfaction positively predicted their well-being and negatively their ill-being, while their needs thwarting positively predicted their ill-being. As defended by the theory, basic psychological needs acted as a mediational mechanism between the context and athletes' well- and ill-being. And although this study suggest that both mechanisms should be considered when we study the optimal functioning of young athletes, we found that need satisfaction account for more explanation on the links between the social context and athletes welfare as it is liked

between the context and well-and-ill being, while need thwarting only explain the links between social context and ill being. These findings add empirical evidence from a multilevel approach to the BPNT defending that if we want to promote well-being between young athletes, and we want to avoid ill-being, coaches should adopt an autonomy supportive style.

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CAPÍTULO 7

RESUMEN DE LOS RESULTADOS, DISCUSIÓN Y CONCLUSIONES

RESUMEN DE LOS RESULTADOS, DISCUSIÓN Y CONCLUSIONES

7.1. RESUMEN DE LOS RESULTADOS Y DISCUSIÓN

En el marco de la teoría de las necesidades psicológicas básicas (BPNT; Deci y Ryan, 2000), en esta tesis presentamos cinco estudios que han sido diseñados para analizar el papel de las necesidades psicológicas básicas y de los estilos interpersonales del entrenador como antecedentes, tanto del bienestar como del malestar, en una amplia muestra de jóvenes futbolistas.

Una de las principales aportaciones de este trabajo a la literatura científica actual, consiste en haber estudiado, tanto de forma independiente como simultánea, la parte positiva y la parte negativa de la BPNT, y en haber puesto a prueba sus postulados desde diferentes aproximaciones metodológicas. Concretamente, en el primer estudio realizado desde la parte positiva de la teoría, se encontró apoyo a sus principios en dos muestras diferentes. Una de estas muestras estaba compuesta por jóvenes jugadores de fútbol de sexo masculino y la otra por jóvenes bailarines de ambos sexos. En este primer estudio analizamos si la secuencia defendida por la BPNT de percepción de

apoyo a la autonomía – satisfacción de las necesidades – bienestar (afecto positivo y vitalidad subjetiva) se mantenía invariante en ambas muestras. También examinamos el papel mediador de la satisfacción de las necesidades psicológicas básicas en la relación entre la percepción de apoyo a la autonomía y el bienestar (Estudio 1). En un segundo estudio, nos centramos en la parte negativa de la teoría y examinamos el papel de la percepción del estilo interpersonal controlador del entrenador sobre la frustración de las necesidades psicológicas básicas de los deportistas y de estas últimas sobre el malestar (*burnout*). Hasta lo que conocemos, este trabajo es el primero en el que se lleva a cabo el estudio de la parte negativa de la BPNT en población española.

Posteriormente, en un tercer estudio, se analizó de forma simultánea la parte positiva y la parte negativa de la BPNT. Se propuso un modelo en el que se exploró la relación entre los cambios en la percepción que tenían los deportistas de la atmosfera social creada por su entrenador (i.e., los estilos interpersonales de apoyo a la autonomía y controlador), los cambios en las necesidades psicológicas básicas de los deportistas (satisfacción y frustración) y los cambios en el bienestar (vitalidad subjetiva) y el malestar (*burnout*) en el contexto del fútbol base. Además estudiamos el papel mediador de los cambios en las necesidades psicológicas básicas (satisfacción y frustración) en la relación entre los cambios en el estilo interpersonal del entrenador y el bienestar y el malestar de los deportistas. Este estudio se realizó desde una perspectiva longitudinal durante una temporada de fútbol. En el Estudio 4, ampliamos el marco temporal del Estudio 3 y analizamos las relaciones del modelo de la BPNT a lo largo de dos temporadas consecutivas, analizando la invarianza del modelo a lo largo del tiempo.

Concretamente analizamos la siguiente secuencia: estilo interpersonal del entrenador (apoyo a la autonomía y controlador) - necesidades psicológicas básicas (satisfacción y frustración) - bienestar (auto estima) y malestar (*burnout*). Finalmente, utilizamos una aproximación multinivel longitudinal para examinar la relación existente entre las percepciones compartidas del equipo sobre el estilo interpersonal del entrenador, las necesidades psicológicas básicas de los deportistas y su bienestar y malestar. También analizamos el papel mediador de las necesidades psicológicas básicas de los deportistas en la relación entre la percepción compartida sobre el estilo del entrenador y el bienestar y el malestar de los jóvenes (Estudio 5).

Para la elaboración de esta tesis doctoral nos hemos centrado principalmente en el fútbol por ser considerado el deporte más popular en el mundo (Kunz, 2007; Reilly et al., 2000). Dada la trascendencia de este deporte para la salud pública, en línea con otros investigadores, hemos querido contribuir en la investigación empírica fundamentada en la BPNT para saber si la teoría investigada nos ofrece un apoyo sólido para diseñar intervenciones en el contexto del deporte juvenil.

En su conjunto, los estudios que aquí se presentan ofrecen un apoyo general al marco de la BPNT en el contexto del fútbol base. En términos generales, se ha visto que el funcionamiento saludable o desadaptativo depende del grado en que el contexto social contribuye a satisfacer o frustrar las tres necesidades psicológicas básicas de competencia, autonomía y relación (Deci y Ryan, 2008b).

Mientras que en los capítulos anteriores se ha introducido cada uno de los estudios realizados de forma independiente, en formato de

artículo, en este último capítulo se presentan de forma conjunta. En primer lugar proporcionamos una descripción de los principales resultados obtenidos en las variables utilizadas en los diferentes estudios de investigación, esto es de las experiencias de bienestar y de malestar de los jóvenes que participaron en nuestros estudios; del grado de satisfacción y frustración de las necesidades psicológicas básicas, y de las percepciones que tienen los jugadores sobre el estilo interpersonal de sus entrenadores o profesores (i.e., apoyo a la autonomía y controlador).

Tras esta descripción, y de acuerdo con el orden de la secuencia postulada por la BPNT, presentamos primero un resumen de los resultados sobre la relación entre las características del contexto social que han sido estudiadas (i.e., estilo de apoyo a la autonomía y estilo controlador del entrenador) y la satisfacción y frustración de las necesidades psicológicas básicas de los jugadores. Segundo, los resultados referentes a la relación entre la satisfacción y la frustración de las necesidades psicológicas básicas de los jugadores y su bienestar y malestar. Y finalmente, los resultados sobre el papel mediador de las necesidades psicológicas básicas entre el contexto social y el bienestar y malestar.

A continuación ofrecemos algunas implicaciones prácticas y algunas limitaciones de estos estudios, así como algunas directrices para futuras investigaciones científicas. Por último, concluimos esta tesis respondiendo a los objetivos específicos que se propusieron al inicio de este trabajo.

7.1.1. BIENESTAR Y MALESTAR EN LOS JUGADORES DE FÚTBOL BASE

Se ha defendido que la participación en el fútbol posibilita muchas experiencias positivas, así como la adopción de un estilo de vida saludable a lo largo de la vida, y que entre los candidatos potenciales para recibir tales consecuencias positivas figuran los chicos y chicas que practican este deporte en todo el mundo (Kunz, 2007). Sin embargo, existe evidencia suficiente de que estas consecuencias positivas no llegan a todos los deportistas, y que algunos de ellos sufren experiencias deportivas negativas que les llevan a sufrir malestar (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Respecto al bienestar, los estudios científicos recientes han ofrecido apoyo a estos postulados demostrando que la participación en el fútbol base proporciona una amplia gama de beneficios sobre el bienestar físico y psicológico de los futbolistas, los cuales se han visto reflejados en la mejora de la autoestima, la satisfacción con la vida, la percepción de salud y otros beneficios relacionados con la salud física (e.g., Faude et al., 2010; Krstrup et al., 2010; Wold et al., 2013). Por otra parte, respecto a las experiencias de malestar vividas en la participación deportiva, las investigaciones informan que existen condiciones socio-contextuales que en combinación con las características personales de los deportistas, generan trastornos afectivos y otras experiencias de malestar tales como el *burnout* (Balaguer, Castillo, Duda, Quested y Morales, 2011; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Fraser-Thomas y Côté, 2009; Hall et al., 2012).

En las investigaciones de esta tesis hemos analizado el bienestar eudaimónico y hedónico y el malestar a través de los indicadores presentados en el primer capítulo, estos son, la vitalidad subjetiva, la autoestima y los afectos positivos como indicadores de bienestar, y el *burnout* como el indicador de malestar.

Centrando la atención en los valores promedio de bienestar de los jóvenes jugadores de fútbol, nuestros resultados indicaron que estos tenían alta vitalidad subjetiva (Estudios 1, 3 y 5), un alto afecto positivo (Estudio 1) y una alta autoestima (Estudio 4). Además, los bailarines también señalaron tener alto grado de vitalidad subjetiva y de afecto positivo (Estudio 1). Respecto al malestar, los valores promedio analizados mostraron que los jóvenes jugadores de fútbol experimentaban un ligero *burnout* en su participación deportiva (Estudios 2, 3, 4 y 5). Por otra parte, cuando analizamos el cambio de los valores promedio del *burnout* de los deportistas a lo largo de una temporada deportiva observamos que estos aumentaron significativamente (Estudios 3 y 4), mientras que los de la autoestima disminuyeron (Estudio 4).

Nuestros resultados van en la línea de otros estudios previos en el ámbito deportivo, que mostraron de forma consistente que los deportistas de diferentes disciplinas informaron sobre altos valores promedio de bienestar, evaluado a través de la vitalidad subjetiva o la autoestima (e.g., Adie et al., 2008; Balaguer et al., 2008; Balaguer Castillo, Duda y García-Merita, 2011), y bajos niveles promedio de malestar, medido a través del *burnout* (Adie et al., 2008; Balaguer, Castillo, Duda, Quested et al., 2011; Perreault et al., 2007). Por otra parte, al comparar los resultados de las diferencias obtenidas entre los

indicadores de bienestar y malestar entre el principio y el final de la temporada con los de otras investigaciones que también han realizado estudios longitudinales, observamos que existen similitudes y discrepancias. De acuerdo con nuestros resultados, Adie et al. (2012) encontraron que los valores promedio de la experiencia de *burnout* de los deportistas aumentaron de forma significativa a lo largo de una temporada. Mientras que encontramos resultados inconsistentes respecto a los cambios producidos en los indicadores de bienestar en dos momentos de la temporada. Por ejemplo en dos estudios se ha informado que los valores promedio de la vitalidad subjetiva aumentaron de forma significativa a lo largo de la temporada (Adie et al., 2012; Reinboth y Duda, 2006) y, en otro, que las puntuaciones medias de la autoestima de los deportistas se mantenían estables durante la temporada (Amorose et al., 2009). Una posible causa de estas divergencias en los cambios en el bienestar de los jóvenes a lo largo de una temporada podría deberse a algunos antecedentes como el ambiente de entrenamiento que perciben en sus equipos o a los procesos motivacionales de los deportistas.

Los datos comentados hasta ahora en su conjunto representan un escenario positivo en el que predomina el bienestar sobre el malestar. Sin embargo, no hay que olvidar que los valores promedio del *burnout* aumentaban y que los de la autoestima disminuían a lo largo de la temporada. Estos cambios podrían deberse a diferentes factores que deberían ser atendidos. Puede suceder que al principio de la temporada los jugadores tengan una alta motivación e interés que, en combinación con aspectos favorables del club, favorezca su bienestar. Sin embargo, a medida que avanza la temporada, puede que se presenten diferentes dificultades relacionadas con la competición y la consecuente presión

que dificulte la interacción entre los entrenadores y los jugadores, produciéndose una disminución del bienestar y un aumento del malestar.

7.1.2. NECESIDADES PSICOLÓGICAS BÁSICAS EN LOS JUGADORES DE FÚTBOL BASE

En línea con los postulados de la BPNT, en esta tesis nos hemos centrado en un importante antecedente motivacional del bienestar y el malestar de los deportistas, concretamente en el grado de satisfacción o frustración de sus necesidades psicológicas básicas. Los resultados de nuestros estudios informaron que los jóvenes jugadores de fútbol mostraron altos valores promedio en la satisfacción de las tres necesidades psicológicas básicas, tanto cuando se examinaron por separado (Estudio 1), como cuando se analizaron de forma conjunta (Estudios 3, 4 y 5). Además, nuestros resultados indicaron que los valores promedio de la satisfacción de las necesidades de competencia, autonomía y relación eran similares entre los jóvenes jugadores de fútbol y los jóvenes bailarines (Estudio 1). Por otra parte, en cuanto a la frustración de las necesidades, los valores promedio indicaron que los jugadores experimentaban baja frustración de sus necesidades psicológicas básicas, tanto cuando se analizaba la frustración de cada una de las necesidades por separado (Estudio 2), como cuando se examinaban de forma conjunta (Estudios 3, 4 y 5). Por otra parte, los resultados obtenidos en los estudios longitudinales indicaron que la satisfacción de las necesidades psicológicas básicas de los deportistas disminuía de forma significativa desde el principio hasta el final de la temporada (Estudio 3).

Los resultados de los estudios previos sobre la satisfacción de las necesidades psicológicas básicas, realizados tanto en el contexto del fútbol base como en otros contextos deportivos, van en la misma línea que los nuestros. Los valores promedio de estos estudios mostraron que los jóvenes deportistas experimentaban que sus necesidades psicológicas básicas estaban altamente satisfechas (e.g., Adie et al., 2008; Álvarez et al., 2009; Balaguer et al., 2008). Respecto a la frustración de las necesidades psicológicas, en un estudio reciente en el que se ha analizado la frustración de cada necesidad por separado, se encontraron resultados acordes con los nuestros ya que los deportistas experimentaban baja frustración de sus necesidades de competencia, autonomía y relación (Felton y Jowett, 2014). Por otra parte, cuando se incorporaron simultáneamente tanto la satisfacción como la frustración de las necesidades psicológicas básicas de los deportistas, se encontraron valores promedio en la misma línea que los nuestros, esto es una alta satisfacción de las necesidades psicológicas básicas y una baja frustración de las mismas (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011). Por otra parte, en un estudio previo en el que se analizaron los cambios en la satisfacción de las necesidades psicológicas básicas desde el principio hasta el final de una temporada competitiva se mostraron unos resultados diferentes a los nuestros ya que los valores promedio de la satisfacción de las necesidades de los jugadores aumentaron de forma significativa a lo largo de la temporada (Reinboth y Duda, 2006). Al igual que hemos comentado en los apartados anteriores, para poder conocer las razones por las que se dan estas diferencias entre ambos

estudio, podemos atender a algunos de sus antecedentes como por ejemplo los estilos interpersonales de los entrenadores.

Tomados en su conjunto, los resultados descriptivos sobre los valores promedio de las necesidades psicológicas básicas de los jugadores de fútbol base de nuestros estudios, nos muestran que estos se sienten relativamente competentes en su deporte, con un buen grado de autonomía para decidir en los entrenamientos y en los partidos, y con una buena relación tanto con su entrenador como con sus compañeros del equipo. Sin embargo, nuestros resultados también sugieren que hay momentos en los que los jugadores sienten que se están frustrando sus necesidades de manera activa, por lo que este aspecto debe ser abordado para minimizar estas experiencias negativas. Además, aunque existen resultados diferentes en la literatura científica previa, es importante considerar que nuestros jugadores informaron que la satisfacción de sus necesidades psicológicas básicas disminuía de forma significativa a lo largo de la temporada competitiva (Estudio 3). Estos resultados vistos a nivel global podrían llevarnos a interpretar que quizás las condiciones sociales que envuelven a los jóvenes deportistas cambian a lo largo del curso de la temporada y que, consecuentemente, esto lleve a que disminuya la satisfacción de sus necesidades psicológicas básicas. En los siguientes apartados de este capítulo profundizaremos sobre si esta es una de las posibles razones que podrían estar actuando sobre el descenso en la satisfacción de las necesidades psicológicas básicas de los deportistas.

7.1.3. PERCEPCIONES SOBRE EL ESTILO INTERPERSONAL DE LOS ENTRENADORES ENTRE LOS JUGADORES DE FÚTBOL BASE

En este apartado presentamos un resumen de los resultados que hemos obtenido en los estudios de esta tesis respecto a las percepciones que tienen los jugadores sobre el estilo interpersonal de apoyo a la autonomía o controlador de sus entrenadores.

Los valores promedio obtenidos sobre la percepción que tenían los jugadores del el apoyo a la autonomía que les ofrecían sus entrenadores fueron relativamente altos (Estudios 1, 3 y 4). Lo mismo sucedía con la percepción que tenían los bailarines sobre la atmósfera social que creaban sus profesores (Estudio 1). Por otra parte, los valores promedio sobre la percepción que tenían los jugadores sobre el estilo controlador de sus entrenadores fueron bastante bajos (Estudios 2, 3 y 4). Además, cuando se analizaron las respuestas de los jugadores de fútbol a nivel de equipo (Estudio 5), los resultados mostraron un patrón muy similar al que se encontró en los anteriores estudios, esto es que la percepción del grado de apoyo a la autonomía que ofrecía el entrenador al equipo era mayor que la percepción de control. Por otra parte, cuando se compararon los valores promedio de la percepción de los jugadores sobre el apoyo a la autonomía del entrenador en dos momentos distintos de la temporada se observó que los entrenadores ofrecían significativamente menos apoyo a la autonomía a lo largo de la temporada (Estudios 3 y 4), mientras que la percepción del estilo controlador aumentaba de forma significativa a lo largo de la misma (Estudio 4).

Los resultados de trabajos previos también han mostrado que, en general, los deportistas percibían que sus entrenadores apoyaban su autonomía en un alto grado (e.g., Adie et al., 2008; Álvarez et al., 2009; Balaguer et al., 2008). Cuando en otros estudios se han comparado los cambios a lo largo del tiempo en la percepción del estilo de apoyo a la autonomía, los resultados sintonizaban con los nuestros (Quested y Duda, 2011) ya que los valores promedio de las percepciones de los bailarines sobre el estilo interpersonal de apoyo a la autonomía de sus profesores, disminuían de forma significativa a lo largo del tiempo. Finalmente, cuando se analizan de forma simultánea ambos estilos interpersonales de los entrenadores, al igual que en nuestros resultados, también se percibe que los valores promedio sobre la percepción del estilo interpersonal de apoyo a la autonomía de los entrenadores son mayores que los del estilo controlador (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

En general, los hallazgos de los estudios presentados en esta tesis han mostrado que la atmósfera creada por los entrenadores en los contextos de fútbol base es predominantemente positiva. Más concretamente, los resultados observados durante el transcurso de la temporada indicaron que los jugadores de fútbol percibían que sus entrenadores se relacionaban con ellos usando ambos estilos interpersonales (i.e., percibían que mostraban conductas de apoyo a la autonomía y conductas controladoras), aunque el apoyo a la autonomía fue la característica ambiental predominante en todos los estudios. En este sentido, nuestros resultados muestran que los jugadores percibieron que sus entrenadores les apoyan, intentan facilitar que se sientan más competentes en el deporte que practican, les ofrecen autonomía para participar en las decisiones del equipo, se sienten

valorados y creen que se preocupan por ellos. Sin embargo, es necesario recalcar que los participantes de nuestros estudios también percibían que sus entrenadores exhibían algunas conductas controladoras e informaban de forma consistente que el estilo positivo de sus entrenadores (i.e., su estilo de apoyo a la autonomía) disminuía significativamente a lo largo de la temporada (Estudios 3 y 4), mientras que el estilo negativo (i.e., su estilo interpersonal controlador) aumentaba significativamente (Estudio 4). Como ya mencionamos en el Estudio 4, consideramos que estos cambios negativos pueden deberse al hecho de que los entrenadores comiencen la temporada competitiva con el deseo de intentar crear un ambiente positivo y de apoyo a la autonomía en sus equipos. Es posible que al principio se esfuercen para lograr este objetivo y que lleguen a desarrollar una buena relación con sus jugadores. Pero como se muestra, esto cambia a lo largo de la temporada competitiva, quizá debido a las posibles presiones externas e internas que pueden influir en los entrenadores, y que finalmente les empujan a ser más controladores con sus jugadores.

7.1.4. RELACIONES ENTRE LAS PERCEPCIONES DEL ESTILO INTERPERSONAL DE LOS ENTRENADORES Y LAS NECESIDADES PSICOLÓGICAS BÁSICAS DE LOS JUGADORES

Uno de los postulados de la BPNT (Deci y Ryan, 2000) defiende que los estilos interpersonales de apoyo a la autonomía y controlador de los entrenadores tienen una importante influencia en promover o perjudicar las necesidades psicológicas básicas de los deportistas. En concreto, la teoría postula que cuando los entrenadores presenten un estilo de apoyo a la autonomía será más probable que sus jugadores

experimenten la satisfacción de sus necesidades psicológicas básicas. Mientras que, por el contrario, cuando los entrenadores se comporten de una manera controladora será más probable que los deportistas experimenten que se están frustrando activamente sus necesidades psicológicas básicas (Deci y Ryan, 2000).

Estos postulados de la BPNT ya han sido puestos a prueba en diferentes contextos, como por ejemplo en el contexto deportivo, donde la mayor parte de la atención se ha centrado en la relación entre el estilo interpersonal de apoyo a la autonomía y la satisfacción de las necesidades psicológicas básicas de los deportistas. Recientemente también se ha incorporado en algunos trabajos el estudio de la relación entre el estilo interpersonal controlador del entrenador y la frustración de las necesidades psicológicas básicas de los deportistas.

Si nos centramos en la relación entre las percepciones de los deportistas sobre el estilo interpersonal de apoyo a la autonomía de sus entrenadores y la satisfacción de las necesidades psicológicas básicas de los deportistas a nivel transversal, nuestros resultados indicaron que las percepciones que tenían los jugadores y los bailarines sobre el apoyo a la autonomía de sus entrenadores o sus profesores predecía positivamente la satisfacción de sus necesidades de competencia, autonomía y relación analizadas por separado (Estudio 1). Además, los resultados también indicaron que estas relaciones se mantenían invariantes entre las muestras analizadas de jóvenes jugadores de fútbol de sexo masculino y la muestra de jóvenes bailarines de ambos sexos. Después, centrandó la atención en la relación entre el estilo interpersonal controlador del entrenador y la frustración de las necesidades psicológicas básicas de los deportistas, nuestros resultados transversales informaron que existía una relación positiva entre la

percepción de este estilo interpersonal y la frustración de las necesidades de competencia, autonomía y relación analizadas por separada (Estudio 2).

En línea con nuestros resultados, estudios transversales previos llevados a cabo en el contexto deportivo, en danza o en educación física han informado que las percepciones que tienen los deportistas, los bailarines y los estudiantes sobre el estilo interpersonal de apoyo a la autonomía de sus entrenadores o profesores se relacionaba de forma positiva con la satisfacción de sus necesidades de competencia, autonomía y relación (e.g., Álvarez et al., 2009; Standage y Gillison, 2007; Queded y Duda, 2011). Por otra parte, los resultados del estudio de Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011), que incorporó la evaluación de la parte negativa de la BPNT, también son congruentes con los nuestros, y mostraron que las percepciones que tenían los deportistas sobre el estilo interpersonal controlador de su entrenador predecía positivamente la frustración de sus necesidades.

En apoyo a la teoría, nuestros resultados enfatizan la importante influencia que pueden ejercer los entrenadores sobre sus deportistas. Muestran que cuando los entrenadores apoyan la autonomía de sus jugadores estos se sienten con una mayor autonomía y participan en las decisiones referentes a su participación deportiva. Este estilo de entrenamiento también facilita que los jóvenes jugadores de fútbol se sientan competentes en su deporte e integrados dentro de sus equipos, percibiendo que mantienen una buena relación tanto con los entrenadores como con el resto de los miembros del equipo. Por otro lado, nuestros resultados también muestran que cuando los entrenadores se comportan de una manera controladora frustran de manera activa las necesidades psicológicas básicas de competencia,

autonomía y relación de sus deportistas, haciendo que los jugadores sientan que son malos jugando al fútbol, que sientan que se les obliga a comportarse de una determinada manera en la que ellos no quieren comportarse, y que sientan que existen situaciones en las que son rechazados por los que les rodean en el contexto deportivo. Por este motivo, aunque los valores son relativamente bajos, convendría que los entrenadores evitasen este tipo de conductas controladoras.

Cuando analizamos de forma simultánea tanto la parte positiva como la parte negativa de la teoría, adoptando una aproximación longitudinal, los resultados de nuestros estudios mostraron que los cambios en las percepciones que tenían los deportistas sobre el estilo interpersonal de apoyo a la autonomía de su entrenador predecían positivamente los cambios en la satisfacción de las necesidades psicológicas básicas de los deportistas, y negativamente los cambios en su frustración (Estudios 3 y 4). Mientras que los cambios en las percepciones de los deportistas sobre el estilo interpersonal controlador de su entrenador predecían positivamente los cambios en la frustración de sus necesidades psicológicas básicas (Estudios 3 y 4). Además, los resultados informaron que estas relaciones se mantenían invariantes a lo largo del tiempo cuando se analizaban las respuestas de los jugadores a lo largo de dos temporadas consecutivas (Estudio 4).

Estudios longitudinales previos, realizados en el contexto deportivo y de la danza, ofrecen resultados congruentes con los nuestros, indicando que las percepciones sobre el estilo de apoyo a la autonomía del entrenador o del profesor predecían positivamente la satisfacción de las necesidades psicológicas básicas de competencia, autonomía y relación de los deportistas y los bailarines (Adie et al., 2012; Qusted y Duda, 2011). Hasta la fecha, el único estudio que

conocemos que ha estudiado de forma simultánea tanto la parte positiva como la parte negativa de la teoría ha sido el trabajo de Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011). En este trabajo los autores presentan dos estudios transversales y un estudio longitudinal con mediciones diarias. En línea con nuestros resultados, en los dos estudios transversales los resultados indicaron que la percepción de apoyo a la autonomía predecía positivamente la satisfacción de las necesidades de los deportistas y negativamente su frustración. Además, también en concordancia con nuestros resultados, estos autores encontraron que las percepciones de los deportistas sobre el estilo controlador del entrenador predecía positivamente la frustración de sus necesidades. Por otra parte, los resultados del estudio longitudinal van en la línea de las relaciones mencionadas anteriormente. Sin embargo, en contra de lo que habían encontrado en sus dos estudios transversales anteriores y también en contra de nuestros resultados, estos autores también indicaron que los cambios diarios en la percepción de los deportistas sobre el estilo interpersonal controlador de sus entrenadores predecían de forma negativa los cambios diarios en la satisfacción de sus necesidades psicológicas básicas. Teniendo en cuenta estos resultados y ya que el estudio del estilo interpersonal controlador del entrenador es relativamente reciente en el ámbito deportivo basado en la BPNT, consideramos que es conveniente que futuras investigaciones intenten llevar a cabo nuevos estudios con mediciones diarias en diferentes contextos para ver si se replican los mismos resultados.

Cuando se utilizó una aproximación multinivel longitudinal (Estudio 5), los resultados enfatizaron la influencia de las percepciones compartidas sobre el estilo de apoyo a la autonomía del entrenador en

el equipo, mostrando que estas percepciones predecían positivamente la satisfacción de las necesidades de los jugadores y negativamente la frustración de las mismas a nivel individual. Mientras que, por otra parte, no se encontró ninguna relación entre la percepción compartida a nivel de equipo sobre el estilo controlador del entrenador y la frustración de las necesidades psicológicas básicas de los deportistas. Esta incongruencia con los resultados previos podría deberse al hecho de que al analizar las respuestas de los deportistas a nivel de equipo disminuía la variabilidad en los datos y las medias también disminuían ligeramente, contribuyendo de esta manera a que no se dieran relaciones significativas con la frustración de las necesidades de los deportistas.

Así, los resultados obtenidos en esta tesis sobre las relaciones entre las percepciones del estilo interpersonal del entrenador y las necesidades psicológicas básicas de los deportistas, apoyaron de forma general las relaciones defendidas desde la BPNT y también mostraron un acuerdo general con los trabajos transversales y longitudinales previos. En este sentido, nuestros resultados enfatizan la importancia de animar a los entrenadores a que adopten un estilo de apoyo a la autonomía y a que ofrezcan a sus deportistas opciones significativas de tareas que pueden llevar a cabo durante los entrenamientos, explicándoles por qué es importante realizar todas esas tareas, e intentando comprender el punto de vista de los deportistas, aceptándoles de manera incondicional y sin juzgarles. Cuando los entrenadores crean atmósferas de apoyo a la autonomía en sus equipos, promueven que sus deportistas se sientan como los iniciadores de su propia conducta, que se sientan más competentes y que sientan que tienen una relación de mayor calidad con sus entrenadores. Además,

cuando los entrenadores adoptan este estilo de apoyo a la autonomía también minimizan las situaciones en las que los deportistas se sienten incompetentes en su deporte, sin autonomía y rechazados o menospreciados. Por otra parte, aunque hemos observado que existe una baja percepción de estilo controlador, nuestros resultados enfatizan el riesgo que supone que los entrenadores se comporten de esa manera, ya que sabemos que cuando los entrenadores presionan a sus jugadores, les cohiben y se comportan de una manera autoritaria con ellos, los jugadores pueden verse inmersos en situaciones en las que se les haga sentir incompetentes, rechazados por otros jugadores o por el entrenador, o pueden sentirse obligados a actuar de una manera determinada que no querrían comportarse.

En resumen, los resultados obtenidos en los estudios realizados en esta tesis confirman el importante papel que tienen los entrenadores para influir en las experiencias de satisfacción o de frustración de las necesidades de los deportistas. Además, aunque es cierto que en nuestros contextos de fútbol base prevalece una atmósfera positiva, es importante destacar que los jugadores de fútbol informan de forma consistente que perciben que sus entrenadores exhiben algunas conductas controladoras, y sería necesario disminuir o eliminar este tipo de conductas para impedir la frustración de las necesidades psicológicas básicas de los deportistas.

7.1.5. RELACIONES ENTRE LAS NECESIDADES PSICOLÓGICAS BÁSICAS DE LOS DEPORTISTAS Y SU BIENESTAR Y MALESTAR

En línea con los principales postulados de la teoría (Deci y Ryan, 2000), los estudios incluidos en esta tesis doctoral han analizado si la satisfacción de las tres necesidades psicológicas básicas de los

deportistas promueve su bienestar y si, por el contrario, la experiencia de frustración de las necesidades psicológicas básicas de los deportistas implican la experiencia de malestar (Deci y Ryan, 2000).

Desde una aproximación transversal, nuestros resultados mostraron que la satisfacción de las necesidades de competencia, autonomía y relación de los jóvenes jugadores de fútbol y los jóvenes bailarines predecía positivamente su bienestar medido a través de los indicadores de vitalidad subjetiva y afectos positivos (Estudio 1). Además, los resultados apoyaron la invarianza de estas relaciones entre las dos muestras estudiadas (Estudio 1). Por otra parte, en cuanto a la frustración de las necesidades psicológicas básicas, los resultados mostraron que la frustración de las necesidades de competencia, autonomía y relación de los deportistas predecía positivamente su *burnout* (Estudio 2).

Los resultados obtenidos a lo largo de estos estudios empíricos son acordes a los postulados teóricos de la BPNT. Además, resultados de estudios transversales previos realizados en el contexto deportivo van en la misma línea que los nuestros indicando que la satisfacción de las necesidades psicológicas básicas de los deportistas predecía positivamente su vitalidad subjetiva (Adie et al., 2008; López-Walle et al., 2012) y sus afectos positivos (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Por otra parte, la limitada literatura que analiza las consecuencias de la experiencia de frustración de las necesidades psicológicas básicas de los deportistas sobre su malestar también es acorde a nuestros resultados, ya que muestran que la frustración de las necesidades se relacionaba de forma positiva con el *burnout* de los deportistas (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011).

Así, nuestros resultados sugieren que es más probable que los jóvenes jugadores de fútbol experimenten un mayor bienestar cuando se sientan competentes practicando su deporte, cuando sientan que tienen voz y voto respecto a lo que sucede en los entrenamientos y en los partidos, y cuando se sientan cuidados y respetados por los que les rodean en el fútbol. Por otra parte, si existen situaciones en las que los jugadores perciben que les hacen sentirse incompetentes, sin autonomía y rechazados o no valorados por el resto del equipo o por el entrenador, esto consecuentemente repercutirá en experiencias de malestar entre los deportistas.

Cuando se analiza de forma simultánea la parte positiva y la parte negativa de la BPNT utilizando una aproximación longitudinal a lo largo de una o de dos temporadas consecutivas, nuestros datos también apoyan los postulados de la teoría. Primero, centrándonos en la satisfacción de las necesidades psicológicas básicas de los deportistas, observamos que los cambios en la satisfacción de las necesidades psicológicas básicas predecían positivamente los cambios en su bienestar, concretamente los cambios en su autoestima (Estudio 4) y en su vitalidad subjetiva (Estudio 3), mientras que predecían negativamente los cambios en su *burnout* (Estudios 3 y 4). Por otra parte, centrándonos en la frustración de las necesidades psicológicas básicas, observamos que los cambios en la frustración de las necesidades predecían positivamente los cambios en su *burnout* (Estudios 3 y 4), mientras que aparecieron diferentes resultados cuando se analizó su relación con el bienestar. En concreto, los resultados mostraron que los cambios en la frustración de las necesidades predecían negativamente los cambios en autoestima a lo largo de dos temporadas de fútbol (Estudio 4), mientras que no se encontró ninguna

relación con la vitalidad subjetiva (Estudio 3). Finalmente, los resultados confirmaron la invarianza a lo largo del tiempo (i.e., a lo largo de dos temporadas consecutivas) de las relaciones entre la satisfacción y la frustración de las necesidades de los deportistas y su autoestima y su *burnout* (Estudio 4).

Si nos centramos en los estudios que utilizan una aproximación longitudinal para examinar el lado positivo de la BPNT, vemos que nuestros resultados son acordes a los estudios previos que indican que la satisfacción de las necesidades psicológicas básicas de los deportistas predecía positivamente su afecto positivo, su autoestima y su vitalidad subjetiva (e.g., Gagné et al., 2003) y negativamente predecía su *burnout* (e.g., Amorose et al., 2009). Además, entre los escasos estudios que han examinando simultáneamente la satisfacción y la frustración de las necesidades psicológicas básicas de los deportistas con su bienestar y su malestar, destacamos los trabajos llevados a cabo por el equipo Bartholomew y sus colegas (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011). En línea con lo obtenido en nuestros estudios, estos autores encontraron que la satisfacción de las necesidades psicológicas básicas de los deportistas predecía positivamente el afecto positivo y la vitalidad subjetiva y negativamente el *burnout* (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Por otra parte, la frustración de las necesidades psicológicas predecía positivamente su *burnout*, sus afectos negativos, sus síntomas de depresión o sus problemas de alimentación (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011). Además, en contra de

nuestros resultados, estos autores mostraron que la frustración de las necesidades psicológicas básicas también predecía negativamente la vitalidad subjetiva de los deportistas (Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011).

En general, nuestros resultados son acordes con la investigación previa llevada a cabo en el contexto deportivo y confirman los postulados de la BPNT. Estos defienden que la satisfacción de las necesidades psicológicas básicas tiene una influencia más fuerte sobre el bienestar, mientras que la frustración de las necesidades se relacionaba con más fuerza con el malestar. En su conjunto, nuestros resultados apoyan la importancia de la satisfacción de las necesidades psicológicas básicas para promover el bienestar y disminuir el malestar de los jóvenes. Además, los resultados también enfatizaron la posible influencia de la frustración de las necesidades de los deportistas aumentando su malestar y disminuyendo su bienestar (concretamente la autoestima). Estudios futuros deberían continuar explorando en detalle la relación entre la frustración de las necesidades de los deportistas y su bienestar, con el fin de clarificar las inconsistencias en los resultados. En este sentido, puede ocurrir que cuando se den situaciones en las que los jóvenes deportistas se sientan incompetentes, sin autonomía y rechazados por la gente que le rodea, esto tenga una influencia directa y dañe su autovalía. No obstante, estudios futuros deberían explorar si en otras poblaciones la frustración de las necesidades también ejerce una influencia más negativa sobre la autoestima que sobre la vitalidad subjetiva u otros indicadores de bienestar.

7.1.6. PAPEL MEDIADOR DE LAS NECESIDADES PSICOLÓGICAS BÁSICAS

Desde la BPNT (Deci y Ryan, 2000) se defiende que la satisfacción o la frustración de las necesidades psicológicas básicas de competencia, autonomía y relación median la relación entre las percepciones de los deportistas sobre el ambiente social que les rodea y sus indicadores de bienestar y de malestar (Deci y Ryan, 2000; Ryan y Deci, 2002). En esta línea, uno de los objetivos específicos de esta tesis ha sido analizar este postulado teórico, por lo que ha sido puesto a prueba en cuatro de nuestros estudios. En general, los resultados de los estudios ofrecen apoyo al mecanismo mediador de las necesidades psicológicas básicas en la relación entre las percepciones de los deportistas sobre el estilo interpersonal del entrenador y su bienestar y malestar.

Concretamente, al poner a prueba el papel mediador de la satisfacción de las necesidades psicológicas básicas en la parte positiva de la BPNT desde una aproximación transversal, los resultados de nuestros estudios han corroborado los supuestos de la BPNT, mostrando que la satisfacción de las necesidades psicológicas básicas mediaba totalmente la relación entre las percepciones de apoyo a la autonomía ofrecida por los entrenadores y por los profesores y su afecto positivo y vitalidad subjetiva (Estudio 1). Además, los resultados de este estudio también ofrecieron apoyo a la invarianza del papel mediador de las tres necesidades en las muestras de jóvenes jugadores de fútbol y de jóvenes bailarines.

Estos resultados están parcialmente de acuerdo con el trabajo transversal llevado a cabo en el contexto deportivo por López-Walle y

sus colegas (2012), quienes indicaron que la satisfacción de las tres necesidades de competencia, autonomía y relación mediaba parcialmente la relación entre la percepción de los deportistas sobre el estilo interpersonal de apoyo a la autonomía por parte de su entrenador y su satisfacción con la vida y su vitalidad subjetiva. En estudios futuros se podría analizar esta discrepancia entre la mediación parcial y la mediación total y profundizar en los motivos que podrían llevar a estas diferencias, como pertenecer a diferentes poblaciones deportivas, diferentes culturas o el hecho de analizar las necesidades de forma conjunta o por separado.

El análisis de la mediación a través de una perspectiva longitudinal también ofreció apoyo al papel mediador de las necesidades psicológicas básicas. Este apoyo se encontró tanto al estudiar el modelo de la BPNT a lo largo de una temporada de fútbol (Estudio 3), como al analizarlo a lo largo de dos temporadas consecutivas (Estudio 4). Concretamente, nuestros resultados mostraron que los cambios en la satisfacción de las necesidades psicológicas básicas de los deportistas mediaba de forma total la relación entre los cambios en las percepciones de los deportistas sobre el apoyo a la autonomía ofrecido por el entrenador y los cambios en su bienestar (autoestima y vitalidad subjetiva) y en su malestar (*burnout*) (Estudios 3 y 4).

En general, nuestros resultados sobre la mediación de la satisfacción de las necesidades psicológicas básicas son acordes a los resultados presentados en otros trabajos previos (Quested y Duda, 2011), aunque también presentan alguna pequeña diferencia con otros trabajos (Adie et al., 2012). Concretamente, cuando se analiza la relación entre el estilo interpersonal de apoyo a la autonomía y el

malestar, en un estudio previo llevado a cabo en el contexto de la danza se indicó que la satisfacción de las tres necesidades psicológicas básicas de los bailarines mediaba totalmente la relación entre el apoyo a la autonomía ofrecido por el profesor y el malestar de los bailarines (Quested y Duda, 2011). Mientras que otro estudio longitudinal llevado a cabo en el contexto del fútbol base solo mostró que la satisfacción de las necesidades de competencia y de relación mediaba parcialmente la relación entre la percepción de apoyo a la autonomía ofrecido por el entrenador y la vitalidad subjetiva de los deportistas (Adie et al., 2012). Consideramos que estudios futuros, tanto transversales como longitudinales, podrían intentar clarificar el papel mediador de cada necesidad en concreto en la relación entre el contexto social y los índices de bienestar, y posteriormente estudiar el efecto mediador de las tres necesidades analizadas conjuntamente.

Por otra parte, los resultados de nuestros estudios longitudinales mostraron que la frustración de las necesidades psicológicas básicas mediaba la relación entre los estilos interpersonales de los entrenadores y el bienestar y el malestar de los deportistas. Concretamente, los resultados indicaron que los cambios en la frustración de las necesidades de los deportistas mediaban totalmente la relación entre los cambios en las percepciones de los deportistas sobre el apoyo a la autonomía y los cambios en su *burnout* (Estudios 3 y 4) y en su autoestima (Estudio 4). Además, la relación entre los cambios en las percepciones de los deportistas sobre el estilo interpersonal controlador del entrenador y los cambios en su *burnout* estaba mediado totalmente (Estudio 3) o parcialmente (Estudio 4) por los cambios en la frustración de las necesidades de los jugadores. Finalmente, los resultados mostraron que la relación entre los cambios

en la percepción de los deportistas del estilo controlador de su entrenador y los cambios en su autoestima estaban totalmente o parcialmente mediados por los cambios en la frustración de las necesidades de los deportistas, dependiendo de la temporada analizada (Estudio 4). Aunque estos resultados muestran algunas inconsistencias, en nuestra opinión suponen una importante contribución a la literatura científica ya que, por lo que sabemos, no existen estudios previos que hayan analizado el papel mediador de la frustración de las necesidades de los deportistas en la relación entre ninguno de los dos estilos interpersonales de entrenamiento (i.e., apoyo a la autonomía o controlador) y los índices de bienestar y malestar de los deportistas.

Además, al analizar el estilo interpersonal del entrenador desde una perspectiva multinivel, nuestros resultados también indicaron que la satisfacción y la frustración de los deportistas mediaba totalmente la relación entre las percepciones compartidas a nivel de equipo del apoyo a la autonomía ofrecido por el entrenador y los sentimientos de *burnout* de los deportistas a nivel individual (Estudio 5). Este estudio también apoyó la mediación parcial de la satisfacción de las necesidades de los deportistas en la relación entre la percepción compartida del equipo sobre el apoyo a la autonomía de los entrenadores y la vitalidad subjetiva de los deportistas a nivel individual.

Hasta la fecha, no conocemos ningún otro estudio que haya analizado las percepciones compartidas del equipo sobre el estilo interpersonal del entrenador, por lo que se anima a los investigadores a incorporar perspectivas multinivel en sus estudios para poder confirmar las implicaciones de la satisfacción y la frustración de las necesidades de los deportistas en la relación entre la percepción del equipo sobre el estilo interpersonal de su entrenador y los consecuentes sentimientos de bienestar y malestar de los deportistas.

En apoyo a la BPNT, los resultados obtenidos en los estudios incluidos en esta tesis enfatizan el papel central de las necesidades psicológicas básicas para la promoción del desarrollo óptimo y para la evitación de un funcionamiento desadaptativo, mediando la influencia que ejerce el contexto social sobre el bienestar y el malestar de los deportistas. Así, nuestros resultados defienden que el estilo interpersonal del entrenador no influye directamente sobre el bienestar y el malestar de los deportistas, sino que más bien estas consecuencias dependen del grado en que el contexto social satisfaga o frustre las necesidades psicológicas básicas de competencia, autonomía y relación de los deportistas. Esto indica que realmente es el hecho de que los entrenadores promuevan y no frustren que los deportistas se sientan competentes en su práctica deportiva, que sientan que tienen voz y voto en sus entrenamientos y en sus partidos, y que sientan que tienen una relación segura con las otras personas del equipo lo que consecuentemente ayuda a promover su bienestar y a evitar su malestar.

7.1.7. APOYO EMPÍRICO A LA TEORÍA DE LAS NECESIDADES PSICOLÓGICAS BÁSICAS

Tomando en consideración la totalidad de los estudios incluidos en esta tesis doctoral podemos concluir que hemos encontrado un apoyo general a los postulados teóricos de la BPNT, confirmando que la percepción del apoyo a la autonomía predecía positivamente la satisfacción de las necesidades, lo que a su vez predecía positivamente el bienestar y negativamente el malestar. Por otra parte, la percepción del estilo controlador predecía positivamente la frustración de las

necesidades de los deportistas, lo que se relacionaba positivamente con su malestar y negativamente con su bienestar (solo cuando es evaluado como autoestima). Además, los resultados también indicaron que la percepción de apoyo a la autonomía predecía negativamente la frustración de las necesidades psicológicas básicas, mientras que no se encontró ninguna relación entre la percepción del estilo interpersonal controlador y la satisfacción de las necesidades. Finalmente, también hemos encontrado un apoyo general al papel mediador de la satisfacción y la frustración de las necesidades en la relación entre el contexto social y el bienestar y el malestar a nivel individual, así como un apoyo parcial a la mediación desde el nivel multinivel. Una contribución importante de esta tesis basada en la BPNT al campo de la psicología del deporte ha sido la posibilidad de examinar al mismo tiempo la parte positiva y la parte negativa de la teoría, y de ponerla a prueba en diferentes muestras y a través de diferentes aproximaciones metodológicas.

Concretamente, nuestros resultados apoyan la secuencia de la parte positiva usando una metodología transversal (Estudio 1) y también apoyaron la invarianza en dos muestras diferentes compuestas por jugadores de fútbol y bailarines (Estudio 1). Además, nuestro trabajo fue el primero que examinó el lado oscuro de la BPNT en población española y los resultados confirmaron la influencia del estilo controlador del entrenador sobre la frustración de las necesidades psicológicas básicas de los deportistas, y a su vez sobre su malestar (Estudio 2).

Cuando utilizamos una metodología longitudinal para examinar el modelo completo de la BPNT y analizar los postulados de la teoría a lo largo de una temporada de fútbol (Estudio 3) los resultados

confirmaron las relaciones defendidas desde la teoría. Además, cuando alargamos el tiempo del estudio a cuatro momentos temporales a lo largo de dos temporadas competitivas (Estudio 4), los resultados también eran acordes a la teoría. Este último estudio también confirmó la invarianza a lo largo del tiempo (i.e., a lo largo de la primera y de la segunda temporada de fútbol) de las relaciones defendidas desde la teoría.

Finalmente, cuando incorporamos una aproximación multinivel longitudinal y profundizamos en el estudio de las relaciones entre las percepciones compartidas por el equipo sobre el estilo interpersonal del entrenador y la satisfacción o la frustración de las necesidades psicológicas básicas de los deportistas a nivel individual y, a su vez, sobre su bienestar y su malestar, los resultados ofrecieron un apoyo parcial a la teoría y enfatizaron la importancia del apoyo a la autonomía ofrecido por el entrenador (Estudio 5).

7.2. IMPLICACIONES PRÁCTICAS

En base al apoyo empírico que hemos encontrado a favor de la BPNT en los diferentes estudios de esta tesis queremos enfatizar las implicaciones prácticas que se desprenden de este trabajo para la promoción de la salud y del bienestar, así como para la prevención del malestar, en jugadores de fútbol base.

En general, los resultados de esta investigación han apoyado los postulados de la BPNT y han destacado que el ambiente social en el que se llevan a cabo los entrenamientos y los partidos tiene importantes implicaciones para el bienestar y el malestar de los deportistas. Concretamente, los resultados de los estudios incluidos en esta tesis han

apoyado el papel del estilo interpersonal del entrenador (i.e., estilo de apoyo a la autonomía y estilo controlador) en la satisfacción o la frustración de las necesidades psicológicas básicas de competencia, autonomía y relación de los deportistas y, a su vez, en sus experiencias de bienestar y malestar.

En este sentido, es importante que los entrenadores y los padres, al igual que las autoridades a cargo de las estrategias políticas sobre la promoción de la salud y el deporte tengan información sobre las consecuencias positivas y negativas que tienen las conductas de las figuras de autoridad, como es el caso de los entrenadores, para el desarrollo de la salud y el bienestar de los jóvenes, así como sobre la evitación de su malestar.

En esta tesis hemos encontrado evidencia respecto a la importancia que tiene que los deportistas sientan que son comprendidos y valorados por sus entrenadores. Además, hemos observado que es importante que estas figuras de autoridad proporcionen a sus deportistas alternativas y opciones que les resulten agradables y significativas, dándoles confianza sobre sus propias habilidades para hacer las cosas bien tanto en los entrenamientos como en las competencias, animándoles a que hagan preguntas en relación a las actividades que se estén llevando a cabo en los entrenamientos e intentando contestar a todas sus preguntas con cuidado y con esmero. Además, es primordial que los entrenadores hagan el esfuerzo de comprender cómo viven su participación deportiva los jugadores, y que intenten asegurarse de que entienden la meta de las actividades antes de sugerirles que hagan las cosas de otra manera o de cambiarles de actividad.

Por otra parte, es esencial que los entrenadores eviten ejercer un estilo controlador sobre sus deportistas, evitando el uso de recompensas de manera controladora; por ejemplo, intentando que no motiven a sus deportistas prometiéndoles recompensas si hacen las cosas bien, o recompensándoles solo para hacerles entrenar más duro. Además es imprescindible prevenir la atención condicional negativa por parte de los entrenadores. En este sentido defendemos que es importante que los entrenadores eviten dejar de mostrar su interés, su atención o su afecto cuando los jugadores no se estén comportando como ellos quieren. En esta línea, es aconsejable que los entrenadores no rechacen a los deportistas cuando estos no se esfuercen por ver las cosas de la misma manera en la que los entrenadores las ven o cuando consideren que los jugadores no están entrenando o jugando suficientemente bien. También es esencial que los entrenadores eviten intimidar y ejercer un excesivo control personal sobre los deportistas, evitando el uso de conductas intimidadoras como gritar a los deportistas delante de otros o amenazarles con el objetivo de que hagan determinadas cosas, dentro o fuera del campo.

En base a esto, parece fundamental animar a los entrenadores que entrenan en niveles de base a que participen en programas formativos en los que puedan aprender estrategias motivacionales más adaptativas, dirigidas a crear ambientes deportivos positivos y a facilitar el desarrollo óptimo de los deportistas. Además, es esencial que los programas educativos o formativos en los que se impliquen los entrenadores presenten una fuerte y clara base teórica, de manera que tanto los investigadores como los profesionales puedan tener confianza sobre las consecuencias de su implementación. La investigación previa en el contexto deportivo, del ejercicio o de la educación ya ha

profundizado sobre esta propuesta y ha defendido que es posible formar a las personas en una situación de autoridad para que muestren un mayor estilo de apoyo a la autonomía y sean menos controladores (Edmunds, Ntoumanis y Duda, 2008; Reeve, 1998; Tessier, Sarrazin y Ntoumanis, 2010) o para mejorar su estilo de comunicación y promover la creación de climas motivacionales más adaptativos, como los climas motivacionales de implicación en la tarea (Cruz, Torregrosa, Soussa, Mora y Viladrich, 2010). De manera que estas intervenciones basadas en la evidencia ofrecen a los entrenadores, y otras figuras de autoridad, las habilidades necesarias para mostrar un mayor apoyo a la autonomía y ser menos controladores, ayudándoles con esto a promover el bienestar y el funcionamiento óptimo de los jóvenes.

En este sentido, defendemos que los entrenadores se beneficiarían de asistir a programas de formación en los que puedan aprender sobre las implicaciones que el ambiente social que crean en sus equipos tiene sobre sus deportistas, y donde también se les muestren ejemplos prácticos de lo que pueden decir y hacer para construir climas que fomenten una mayor autonomía entre sus jugadores. En una línea muy similar Duda (2013) desarrolló el programa Empowering Coaching™, un programa de formación para entrenadores de fútbol base que parte de dos teorías motivacionales contemporáneas denominadas teoría de la autodeterminación (Deci y Ryan, 1985, 2000) y teoría de las metas de logro (Ames, 1992; Nicholls, 1989). Este programa se centra en el clima que crea el entrenador en el equipo durante los entrenamientos y durante los partidos y defiende que este clima tiene importantes implicaciones para los jugadores (Duda, 2001). El programa Empowering Coaching™ ha sido aplicado en un proyecto de investigación europeo (PAPA, Promoting Adolescent

Physical Activity) llevado a cabo en diferentes países europeos. Concretamente, en este proyecto se ha formado a los entrenadores para que creen en sus equipos ambientes de entrenamiento positivos (climas *empowering*) y para que eviten los ambientes de entrenamiento negativos (climas *disempowering*). Los resultados preliminares son muy alentadores y apoyan la implementación de este programa a los entrenadores de niveles de base en diferentes deportes (Duda et al., 2013).

Partiendo tanto de los resultados de esta tesis como de los resultados de investigaciones previas basadas en la BPNT, se puede defender que si los entrenadores apoyan la autonomía de sus jugadores y evitan ser controladores, esto facilitará que los deportistas tengan una mejor experiencia deportiva y, por lo tanto, prevendrán el malestar de los jóvenes deportistas y su consiguiente abandono deportivo (Quested, Ntoumanis et al., 2013). A su vez, el hecho de que disfruten durante su participación deportiva facilitará que practiquen actividad física de forma regular y que esto contribuya a promover su salud.

Consecuentemente, animamos a las organizaciones deportivas y a los representantes gubernamentales responsables de las políticas de bienestar y promoción de salud que lleven a cabo las acciones necesarias, para que todos los responsables de los equipos en los que entrenan jóvenes deportistas creen ambientes positivos en los que se favorezca la calidad de la participación deportiva y la consecuente promoción del bienestar. De esta forma seguiríamos las directrices de la OMS, ayudando a que nuestra sociedad aproveche el enorme potencial de la práctica deportiva como promotora de la actividad física y de la salud.

7.3. LIMITACIONES Y DIRECCIONES FUTURAS

A lo largo de los estudios incluidos en esta tesis se han discutido algunas limitaciones y se han presentado diversos aspectos que podrían ser abordados en futuras investigaciones. En este punto recopilaremos y enfatizaremos estas ideas. Posiblemente, una de las principales limitaciones de este trabajo es su estrecho foco de atención centrado en la BPNT, así como su contribución a un ámbito científico (i.e., estudios en psicología del deporte basados en la BPNT) que puede llegar a considerarse que está ligeramente saturado. Sin embargo, aunque es cierto que existe un elevado número de estudios que examinan la influencia del estilo de apoyo a la autonomía del entrenador sobre la satisfacción de las necesidades psicológicas básicas de los deportistas y sobre su bienestar y malestar, existe una falta de trabajos que incorporen el estudio de las conductas controladoras y sus consecuencias negativas. Además, también existe una carencia de estudios que analicen de forma simultánea la parte positiva y la parte negativa de la teoría. Esta situación enfatiza la necesidad de realizar estudios que incorporen ambas partes de la teoría de forma simultánea, examinando la influencia de ambos estilos interpersonales del entrenador sobre la satisfacción y la frustración de las necesidades y consecuentemente sobre su bienestar y malestar en diferentes contextos.

Otra limitación de este trabajo es que la medida de las variables del estudio se ha centrado completamente en medidas autoinformadas de los deportistas. Aunque tradicionalmente se ha trabajado de esta manera, y aunque los teóricos han defendido que la manera en la que una persona percibe e interpreta su ambiente social es lo que realmente

influye en sus conductas y en su bienestar (Deci y Ryan, 1985), existe una demanda cada vez mayor de incorporar medidas objetivas de los ambientes creados por los entrenadores a los estudios científicos actuales (Duda et al., 2013). Aunque estudios anteriores ya han procedido a registrar las conductas de los entrenadores a nivel observacional desde otras aproximaciones (por ejemplo siguiendo los protocolos del CBAS; véase Cruz et al., 2010), desde la perspectiva teórica de la BPNT lo que se propone para un futuro es la incorporación conjunta de medidas con base teórica, tanto autoinformadas como medidas objetivas sobre el ambiente deportivo (e.g., observaciones sobre las conductas de apoyo a la autonomía y controladoras de los entrenadores). También consideramos importante introducir en un futuro medidas objetivas sobre el bienestar y el malestar de los deportistas, tales como marcadores biológicos.

Otro punto relevante al que prestar atención cuando hablamos de las limitaciones de nuestros estudios es el hecho de que la muestra esté compuesta principalmente por jóvenes jugadores de fútbol de sexo masculino. Aunque en el Estudio 1 se examinó la invarianza entre dos muestras diferentes y así se ofreció información sobre la dinámica de las relaciones de la parte positiva de la teoría en poblaciones distintas, sería conveniente confirmar el mantenimiento de las relaciones establecidas en esta tesis en edades diferentes y personas de ambos sexos. Por lo tanto, futuros estudios en psicología del deporte podrían ampliar la población analizada incluyendo muestras de diferentes edades, ambos sexos, diferentes niveles competitivos, así como también de diferentes países.

Aprovechando los resultados tanto de esta tesis como de la extensa literatura en la psicología del deporte basada en la BPNT, y continuando con el trabajo de otros (e.g., Duda, 2013), consideramos que es primordial que las investigaciones futuras incorporen programas de intervención basados en la teoría, incluyendo el conocimiento científico obtenido durante los últimos años con el objetivo de mejorar el bienestar de los jóvenes y posibilitar sus experiencias deportivas óptimas. Estos trabajos futuros podrían intentar poner en práctica programas de intervención en diferentes deportes y en diferentes edades. Además, con el fin de desarrollar las mejores intervenciones y que sean lo más completas posible, consideramos que es necesario examinar y comprender no solo los estilos interpersonales de los entrenadores, sino también profundizar en los diferentes factores que influyen a los entrenadores para que estos presenten un estilo de apoyo a la autonomía o un estilo controlador. Algunas investigaciones, como las llevadas a cabo por Stebbings, Taylor y Spray (2011), exploraron las razones por las que los entrenadores tienden a adoptar diferentes estilos interpersonales, y ayudan a captar la idea de lo que proponemos para futuros estudios.

7.4. CONCLUSIONES

Los resultados de esta tesis doctoral han ofrecido un apoyo general a los postulados de la BPNT a través de los diferentes estudios llevados a cabo para contestar a nuestro objetivo principal y a nuestros objetivos específicos.

- A. A lo largo de los estudios transversales incluidos en esta tesis, los resultados han mostrado apoyo a los supuestos de la BPNT y han indicado que:
 1. Las percepciones de los futbolistas y de los bailarines sobre el estilo interpersonal de apoyo a la autonomía predecían la satisfacción de sus necesidades psicológicas básicas, lo que a su vez predecía su bienestar (afecto positivo y vitalidad subjetiva). Además, la satisfacción de las necesidades psicológicas básicas mediaba la relación entre la percepción de apoyo a la autonomía y el bienestar de los jóvenes. Estas relaciones se mantenían invariantes en la muestra de futbolistas y de bailarines.
 2. Las percepciones de los deportistas sobre el estilo interpersonal controlador predecía positivamente la frustración de las necesidades psicológicas básicas de los deportistas, lo que a su vez predecía positivamente su malestar (*burnout*).

- B. Además, en los estudios longitudinales que analizan de forma simultánea la parte positiva y la parte negativa de la BPNT, donde se examinan los datos a lo largo de una y de dos temporadas consecutivas, los resultados también han mostrado un amplio apoyo a los postulados de la BPNT y han indicado que:
 3. Los cambios en la percepción de los jugadores sobre el estilo de apoyo a la autonomía predecían positivamente los cambios en la satisfacción de las necesidades de los jugadores y negativamente los cambios en su frustración. Mientras que los cambios en la percepción de los jugadores

sobre el estilo controlador del entrenador predecían positivamente los cambios en la frustración de las necesidades de los deportistas. Además, los cambios en la satisfacción de las necesidades de los jugadores predecían positivamente los cambios en su bienestar (autoestima y vitalidad subjetiva) y negativamente los cambios en su malestar (*burnout*). Mientras que los cambios en la frustración de las necesidades de los jugadores predecían positivamente los cambios en su malestar (*burnout*) y negativamente los cambios en su bienestar (autoestima). Además, la satisfacción y la frustración de las necesidades psicológicas básicas de los deportistas actuaban como mecanismos mediadores en la relación entre la percepción del estilo interpersonal del entrenador (apoyo a la autonomía y controlador) y el bienestar (autoestima y vitalidad subjetiva) y malestar (*burnout*) de los jugadores.

4. Los resultados del estudio longitudinal incluyendo el análisis de dos temporadas consecutivas ofreció apoyo a la invarianza a lo largo del tiempo de las relaciones mencionadas anteriormente entre los cambios en las percepciones del estilo interpersonal del entrenador, los cambios en la satisfacción y la frustración de las necesidades psicológicas básicas de los deportistas y los cambios en su bienestar (autoestima) y malestar (*burnout*), así como del papel mediador de la satisfacción y la frustración de las necesidades psicológicas básicas.

- C. Finalmente, cuando nos aproximamos a la parte positiva y negativa de la BPNT desde una aproximación longitudinal multinivel y nos centramos en la percepción compartida del equipo sobre el estilo interpersonal del entrenador, los resultados ofrecieron un apoyo parcial a los postulados teóricos e indicaron que:
 5. Las percepciones compartidas a nivel de equipo sobre el apoyo a la autonomía ofrecido por el entrenador predecían positivamente la satisfacción de las necesidades a nivel individual y negativamente su frustración. Mientras que las percepciones compartidas a nivel de equipo sobre el estilo interpersonal controlador no se relacionó con la frustración de las necesidades a nivel individual. Además, la satisfacción de las necesidades psicológicas básicas de los deportistas predecía de forma positiva la vitalidad subjetiva y negativamente su *burnout*, mientras que la frustración de las necesidades psicológicas básicas predecía positivamente el *burnout*. Además, se confirmó el papel mediador de la satisfacción y de la frustración de las necesidades psicológicas básicas en la relación entre la percepción compartida de apoyo a la autonomía y el bienestar y malestar de los jugadores.

En conclusión:

Los resultados de los cinco estudios que componen esta tesis doctoral ofrecen un apoyo general a la BPNT y sugieren que:

Primero, la percepción de apoyo a la autonomía del entrenador resulta en mayores niveles de bienestar y menores niveles de malestar. Por el contrario, la percepción de estilo controlador resulta ser negativa para el bienestar psicológico, aumentando el malestar y disminuyendo el bienestar, en particular cuando se estudió a través de la autoestima. Estos resultados han sido confirmados de forma consistente a través de los estudios transversales y longitudinal que componen esta tesis.

Segundo, la percepción de un clima de apoyo a la autonomía favorece la satisfacción de las necesidades psicológicas básicas de competencia, autonomía y relación e impide la frustración de las mismas. A su vez, la satisfacción de las necesidades promueve el bienestar (afecto positivo, autoestima y vitalidad subjetiva) y previene el malestar (*burnout*). Por el contrario, la percepción de un estilo controlador frustra de forma activa las necesidades psicológicas básicas, lo que a su vez promueve el malestar (*burnout*) y disminuye el bienestar (autoestima).

Tercero, las necesidades psicológicas básicas (satisfacción y frustración) funcionan como un mecanismo motivacional mediador en la relación entre el contexto social y el bienestar y el malestar de los jugadores. Esto sugiere que el contexto social no influye directamente sobre el bienestar o el malestar de los deportistas, sino que más bien influye sobre las necesidades psicológicas básicas, y su consecuente satisfacción o frustración impacta sobre el bienestar o el malestar.

Cuarto, el análisis multinivel sobre las percepciones compartidas a nivel de equipo sobre el estilo interpersonal de entrenador enfatiza

que cuando los compañeros del equipo comparten la opinión de que su entrenador apoya la autonomía esto promueve la satisfacción de sus necesidades y evita su frustración, mientras que las percepciones compartidas sobre el estilo controlador no mostraron ningún efecto significativo.

Finalmente, en esta tesis se propone que se promuevan ambientes de apoyo a la autonomía y que se eviten los ambientes controladores para maximizar la satisfacción y minimizar la frustración de las necesidades de los jóvenes jugadores de fútbol, lo que a su vez se espera que favorezca el bienestar e impida su malestar. Para alcanzar este objetivo sería conveniente que desde las autoridades políticas pertinentes se promuevan programas de intervención dirigidos a los responsables de los clubes y a los entrenadores para facilitar que el mundo de los jóvenes deportistas sea un medio más agradable y saludable.

SUMMARY OF RESULTS, DISCUSSION AND CONCLUSIONS

7.1. SUMMARY OF THE RESULTS AND DISCUSSION

Grounded in basic psychological needs theory (BPNT; Deci & Ryan, 2000) this thesis contained five different studies designed to extend the understanding of the role of basic psychological needs and the interpersonal styles of the coach as determinants of healthful as well as of compromised functioning in the context of grassroots sport.

One of the main contributions of this dissertation to the current body of the scientific literature consists in independently and concurrently addressing the implications of the brighter and the darker side of BPNT, and to test the tenets from different methodological approaches. Specifically, in the first study where we analyzed the brighter side of the theory, results supported the tenets of BPNT in two different samples. One group was composed of young male players and another group was composed of young male and female dancers. In this

study we also tested whether the BPNT sequence of perceived autonomy support - needs satisfaction - well-being (positive affect and subjective vitality) maintained invariant across both samples. Finally we examined whether basic psychological needs satisfaction mediated the relationship between perceptions of autonomy support and youth's well-being (Study 1). In the second study, we centered on the darker side of the theory and examined the role of the perceived controlling coaching interpersonal style on the athletes' basic psychological needs thwarting and ill-being (burnout). To the best of our knowledge this is the first work analyzing the darker side of BPNT within a Spanish population.

Thereafter, in a third study we concurrently examine the brighter and the darker side of the BPNT. We analyze the relationships between the changes in the athletes' perceptions of the social environment created by the coach (i.e., autonomy supportive and controlling coaching interpersonal styles), changes in athletes' basic psychological needs (satisfaction and thwarting) and changes in their well-being (subjective vitality) and ill-being (burnout) in the context of grassroots soccer. We also examined whether changes in basic psychological needs (satisfaction and thwarting) mediated the relationship between changes in the coaches' interpersonal style and the athletes' well- and ill-being. To this end, we adopted a longitudinal approach over one soccer season. In the Study 4 we enlarged the time of the Study 3 and tested the aforementioned relations of the BPNT model over two consecutive seasons, examining the model invariance over time. Specifically, we examined the sequence: coach interpersonal style (autonomy supportive and controlling) - basic psychological needs (satisfaction and thwarting) - well-being (self-esteem) and ill-being

(burnout). Finally we examined the relationship between the team's shared perceptions of the coaching interpersonal style and the athletes' basic psychological needs and their well- and ill-being from a multilevel longitudinal approach. We also analyzed the meditational role of the athletes' basic psychological needs in the relationship between the shared perceptions of the coach interpersonal style and the athletes' well- and ill-being (Study 5).

In this thesis we focused principally on soccer because it is the most popular sport in the world (Kunz, 2007; Reilly et al., 2000). Given the importance of this sport for public health, in line with other researchers we wanted to contribute to the scientific literature based on BPNT to examine whether this theory provides support to design future applied works in the context of youth sport.

As a whole, the studies comprised within this thesis offer general support to the framework of BPNT in the context of grassroots soccer. Thus findings support the tenets of BPNT, defending the idea that healthful or compromised functioning depends upon the extent to which the social context contributes to satisfying or thwarting the three basic psychological needs for competence, autonomy and relatedness (Deci & Ryan, 2008b).

Whereas in the previous chapters the studies were presented independently, this concluding chapter addresses them globally. We first provide a detailed description of the key variables of our research: experiences of well- and ill-being reported by the youth participating in our studies; basic psychological needs satisfaction and thwarting, and the perceptions of their coaches interpersonal styles (i.e., autonomy supportive and controlling).

Following this description, and according to the order of the postulated sequence of BPNT, we present a summary of the results about the relationship between the studied features of the social context (i.e., the autonomy supportive and the controlling coaching interpersonal style) and the players' needs satisfaction and thwarting. Then, we provide a detailed examination of the results regarding the relationship between players' needs satisfaction and thwarting and their well- and ill-being. Finally we present and discuss the results about the mediational role of basic psychological needs.

Thereafter we present some practical implications and some limitations of the studies, proposing future guidelines for coming scientific research. Lastly we conclude addressing the specific objectives proposed at the beginning of this thesis.

7.1.1. WELL- AND ILL-BEING AMONG GRASSROOTS SOCCER PLAYERS

Participation in grassroots sport is considered to enable many positive experiences and healthier lifestyles during the life span, and young boys and girls that participate in this sport worldwide are the potential candidates to receive these positive consequences (Kunz, 2007). However, there is enough evidence that these positive consequences do not reach every athlete, and that some young athletes suffer negative sport experiences resulting in greater ill-being (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Regarding well-being, earlier scientific studies have documented that participation in grassroots soccer provides a wide range of physical and psychological well-being benefits, including the enhancement of self-esteem, life satisfaction, self-rated health and other physical health

related benefits (e.g., Faude et al., 2010; Krustrup et al., 2010; Wold et al., 2013). On the other hand, regarding the ill-being experiences in the sport context, previous research indicate that the socio-contextual conditions, as well as the players' inherent personality characteristics, may generate affective disorders and other experiences of ill-being as burnout (Balaguer, Castillo, Duda, Quested, & Morales, 2011; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Fraser-Thomas & Côté, 2009; Hall et al., 2012).

In our studies we have analysed eudaimonic and hedonic well-being and ill-being through the indicators presented in the first chapter, these were subjective vitality, self-esteem and positive affects as indicators of well-being, and burnout as the indicator of ill-being.

Focusing on the mean values of young soccer players' well-being, our findings indicated that the players informed of high subjective vitality (Studies 1, 3 and 5), high positive affect (Study 1) and high self-esteem (Study 4). The dancers also informed of high subjective vitality and positive affect (Study 1). Regarding ill-being, the mean values showed that young soccer players reported low burnout (Study 2, 3, 4 and 5). On the other hand, the analysis of the change in the mean values of the athletes' burnout over the season indicated that burnout significantly increased (Studies 3 and 4), whereas the mean values of self-esteem decreased (Study 4).

Our results were in line with the findings of previous studies in the context of sport, which consistently showed that athletes from a variety of disciplines reported high average values in well-being measured as subjective vitality or self-esteem (e.g., Adie et al., 2008; Balaguer et al., 2008; Balaguer, Castillo, Duda, & García-Merita, 2011), and low average levels of ill-being measured as burnout (Adie et al., 2008; Balaguer et al., 2011; Perreault et al., 2007). We observed some similarities and some

discrepancies when comparing our results about the changes in the athletes' experiences of well- and ill-being from the beginning to the end of a season with previous longitudinal research. In congruence with our findings, Adie et al. (2012) found that mean values of athletes' experiences of burnout significantly increased over the course of the season. Whereas when we centered on well-being, we found inconsistent results in previous studies. For instance, two studies found that average levels of indices of subjective vitality significantly increased over the course of a season (Adie et al., 2012; Reinboth & Duda, 2006). Whereas the results of Amorose et al. (2009) informed that the athletes' mean scores of self-esteem maintained stable during the season. These differences in the changes of youth's well-being over the soccer season may be due to some antecedents as the coaching atmosphere or the athletes motivational processes.

Taking the results of our research altogether, we can defend that they reflect a relatively positive situation within the athletes and showed that the players experienced higher well-being than ill-being. Nonetheless, it is important to take into consideration that the players informed that their average burnout increased whereas their self-esteem decreased over the course of a season. These changes could be a result of different factors. It may happen that the athletes begin the season with high motivation and interest and together with the circumstances in their clubs it facilitates their well-being. However, maybe due to the difficulties of the competition and the subsequent pressure experienced by the coaches and the players, it could happen that the athletes end up feeling lower well-being and higher ill-being at the end of the season.

7.1.2. BASIC PSYCHOLOGICAL NEEDS AMONG GRASSROOTS SOCCER PLAYERS

In line with the tenets of BPNT in this doctoral work we centered in one important motivational antecedent of athletes' well- and ill-being, that is, the degree to which the players experienced basic psychological needs satisfaction and thwarting. The results of our different studies informed that the young soccer players showed high mean values of satisfaction of their basic psychological needs when each need was analyzed separately (Study 1) and also when the three needs were analyzed together (Study 3, 4 and 5). Further, the results also indicated that mean values of satisfaction of the needs for competence, autonomy, and relatedness were similar within the young soccer players and the young dancers (Study 1). On the other hand, regarding basic psychological needs thwarting, the results informed that on average the players experienced low needs thwarting, both when each need thwarting was analyzed separately (Study 2), and when the three needs were examined together (Study 3, 4 and 5). On the other hand, results from the longitudinal studies indicated that athletes' basic psychological needs satisfaction significantly decreased over the season (Study 3).

The results from previous studies in the context of grassroots soccer as well as within other sport contexts analyzing basic needs satisfaction were in line with our findings. Mean values of these studies showed that the young athletes experienced that their basic psychological needs were highly satisfied (e.g., Adie et al., 2008; Álvarez et al., 2009; Balaguer et al., 2008). Regarding the athletes' basic needs thwarting, a recent study analyzed each need thwarting separately and

showed that athletes experienced relatively low thwarting of their basic psychological needs for competence, autonomy and relatedness (Felton & Jowett, 2014). On the other hand, when athletes' basic psychological needs satisfaction and thwarting are simultaneously examined the mean scores of previous works were in accordance with the results of our studies. These previous studies showed that on average the athletes experienced relatively high needs satisfaction and low needs thwarting (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). In a previous study that analyzed the changes in basic psychological needs satisfaction from the beginning to the end of the season showed that the mean scores of the athletes' needs satisfaction significantly increased over the course of the season (Reinboth & Duda, 2006). In order to understand the reason why there are different results we could examine some antecedents as the interpersonal style of the coach.

In general, the results of the mean values of our grassroots soccer players' basic psychological needs showed that they felt relatively competent in their sport, with autonomy to decide about the things that are important for them within their training and match contexts, and with a good relationships with their coaches and teammates. However, our findings also suggest that there are times or situations in which the players experienced that their needs are actively undermined and attention has to be given to this point trying to minimize these experiences. Moreover, even if there exist different patterns in the previous scientific literature, it is important to consider that our players reported a significant decrease in the satisfaction of their basic psychological needs over the competitive season (Study 3). Collectively, these results may indicate that the social conditions

involving the young athletes probably change over the course of the season and that consequently this may deteriorate the athletes' experiences of needs satisfaction. We will explore whether this is one of the reasons for this decrease in the following sections of this chapter.

7.1.3. PERCEPTIONS OF THE COACHES' INTERPERSONAL STYLE AMONG GRASSROOTS SOCCER PLAYERS

In this section we present an overview of the results of the studies of this thesis concerning the players' perceptions of autonomy supportive and controlling interpersonal style provided by their coaches.

The mean scores informed that on average the grassroots soccer players consistently perceived that their coaches provided a relatively high autonomy supportive environment (Study 1, 3, and 4). These results were in line with the perceptions of the dancers about their teachers (Study 1). Whereas on the other side, the mean scores indicated that the soccer players perceived that their coaches exhibited few controlling behaviors (Study 2, 3, and 4). Moreover, when the responses of the soccer players were analyzed at the team level (Study 5), the results showed a similar pattern to the previous studies. That is, the mean values of the shared team perceptions regarding the interpersonal style of the coach was more autonomy supportive than controlling. Further, when we analyzed the changes in the athletes' perceptions of the coaching interpersonal style from the beginning to the end of the season the mean values indicated that the players perceived their coaches to offer significantly less autonomy support over the course of the season (Study 3 and 4), whereas they indicated that the perceived controlling style of the coach significantly increased (Study 4).

Results from previous works have also consistently reported that on average the athletes perceived that their coaches were highly autonomy supportive (e.g., Adie et al., 2008; Álvarez et al., 2009; Balaguer et al., 2008). Other studies examined the changes over time and showed similar results (Quested & Duda, 2011) and indicated that the mean values of the dancers perceptions about their teachers' autonomy supportive style significantly decreased over time. Finally, when both coaches' interpersonal styles are analyzed simultaneously, as in our results, previous works also found that the athletes consistently reported that on average they perceived their coaches to exhibit more autonomy supportive than controlling behaviors (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

In general, the findings of the studies presented in this doctoral work showed that the atmosphere created by the coaches within grassroots soccer is mainly positive. More specifically, the observed mean values of our results indicated that over the course of the season, the soccer players perceived that their coaches interacted with them using both interpersonal styles (i.e., they were viewed as exhibiting autonomy supportive and controlling behaviours), although autonomy support was the predominant environmental characteristic. In this sense, our results indicated that the players perceived that their coaches created an environment that supports the players' feelings of competence, and provides them with autonomy to participate in the decisions of the team, and helps them feeling valued and cared for. However, attention needs to be made to the point that the participants perceived that their coaches tend to exhibit some controlling behaviors and they consistently informed that the positive style of the coaches (i.e., their autonomy supportive style) significantly decreased over the

course of the competitive season (Study 3 and 4), while the negative style (i.e., their controlling interpersonal style) significantly increased (Study 4). As already noted in the Study 4, we find that these negative changes could be attributed to the fact that the coaches normally begin the competitive season with the will of trying to create a positive and supportive environment in their teams. With this in mind they invest a lot of effort in their objectives and they try to develop good relationships with the players offering their support. As stated, this can change over the competitive season due to some external and internal demands that may influence coaches to become more controlling with their players.

7.1.4. RELATIONSHIPS BETWEEN PERCEPTIONS OF THE COACHES' INTERPERSONAL STYLE AND THE PLAYERS' BASIC PSYCHOLOGICAL NEEDS

One of the assumptions of BPNT (Deci & Ryan, 2000) is that the coaching autonomy supportive and controlling interpersonal styles have an important influence in nurturing or undermining the athletes' basic psychological needs. Specifically, the theory defends that when coaches behave in an autonomy supportive manner, their athletes will be more likely to experience satisfaction of their basic psychological needs. On the other hand, when coaches behave in a controlling way, their athletes will be more likely to experience that their needs are being thwarted and actively undermined (Deci & Ryan, 2000).

These tenets of BPNT have already been tested in different contexts. For example in the context of sport, most of the attention has been given to the relationship between the autonomy supportive style

and the satisfaction of the needs. Recently, the study of the relationships between the controlling style and the needs thwarting has also been incorporated in some studies.

When focusing on the relationship between the athletes' perceptions of coaches' autonomy support and the athletes' basic needs satisfaction from a cross-sectional approach, our results indicated that the players' and the dancers' perceptions of autonomy support provided by their coach or their teacher positively predicted the satisfaction of their needs for competence, autonomy and relatedness analyzed separately (Study 1). Moreover, results also indicated that these relations maintained invariant across the sample of young male soccer players and the sample of young male and female dancers. Further, focusing on the relationship of the controlling interpersonal style of the coach and the athletes' needs thwarting, our cross-sectional results showed a positive relation between the perception of this interpersonal style and the athletes' thwarting of their needs for competence, autonomy and relatedness analyzed separately (Study 2).

In line with our results, previous cross-sectional studies undertaken in the domains of sport, dance and physical education have illustrated that athletes', dancers' and students' perceptions of an autonomy supportive interpersonal style of their coaches or teachers were positively related to the satisfaction of their needs for competence, autonomy and relatedness (e.g., Álvarez et al., 2009; Standage & Gillison, 2007; Quested & Duda, 2011). On the other hand, the results from Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011) incorporating the evaluation of the darker side of BPNT were also in concordance with our findings and showed that athletes' perceptions of the controlling interpersonal style of the coach positively predicted the athletes' needs thwarting.

In support of the theory, our results emphasize the important influence that the coaches may exert on their athletes. Results show that when coaches behave in an autonomy supportive manner this style helps the athletes to be more autonomous and to participate in the decisions of their sport. This coaching style also facilitates young soccer players' feelings of competence in their sport and feeling integrated in their teams perceiving a good relation with the coaches and the rest of the teammates. On the other hand, our findings also suggest that when the coaches behave in a controlling manner, they actively undermine the athletes' basic psychological needs for competence, autonomy and relatedness. When this happens the young soccer players feel bad at playing soccer, they feel pushed to behave in certain ways in which they may not want to behave and they feel that there are situations where the athletes feel rejected by the people around in soccer. Thus, although the results of our studies indicate that the athletes perceived relatively low controlling coaching styles, it is imperative to encourage the coaches to avoid this style.

When concurrently addressing the study the brighter and the darker side of the theory adopting a longitudinal approach, the results of our studies showed that changes in the athletes' perceptions of autonomy support provided by their coaches positively predicted changes in their needs satisfaction and negatively predicted changes in their needs thwarting (Study 3 and 4). Whereas, changes in the perceptions of a controlling coaching interpersonal style positively predicted changes in the athletes' basic psychological needs thwarting (Study 3 and 4). Additionally, the results also indicated that these relations maintained invariant over time when analyzing the responses of the players over two consecutive soccer seasons (Study 4).

Previous longitudinal studies in the contexts of sport and dance were in accordance with our results indicating that perceptions of the coach or the teacher autonomy support positively predicted the athletes' and dancers' satisfaction of their needs for competence, autonomy and relatedness (Adie et al., 2012; Quested & Duda, 2011). So far, the only study that has concurrently studied the darker and the brighter side of the theory has been conducted by Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011). In their work these authors present two cross-sectional studies and one longitudinal diary study. In line with our results, in the two cross-sectional studies the results indicated that perceived coach autonomy support positively predicted the athletes' needs satisfaction and negatively predicted the athletes' needs thwarting. Besides, also in accordance with our results they found that athletes' perceptions of a controlling coaching interpersonal style positively predicted their needs thwarting. Moreover, the results of the longitudinal study were also in line with the aforementioned relationships. But unexpectedly differing from the two other studies embedded in their work as well as from our results, these authors also showed that daily changes in the athletes' perceived controlling coaching interpersonal style negatively predicted daily changes in the athletes' needs satisfaction. As the study of the controlling interpersonal style from the BPNT perspective is relatively new in the context of sport, future studies could try to conduct new diary studies in different contexts and try to replicate these results.

When using a longitudinal multilevel approach (Study 5) the results emphasized the influence of the shared perceptions of autonomy support in the team, showing that these perceptions positively predicted athletes' needs satisfaction and negatively predicted their

needs thwarting at the individual level. Whereas no relation was found between the team shared perceptions of their coach controlling style on the athletes' needs thwarting. This incongruence with the previous studies might be attributed to the fact that analyzing the athletes' responses at the team level diminished the variability in the data and the mean scores in the perceived controlling style decreased, thus contributing to the unexpected non-significant relations with the athletes' needs thwarting.

Thus, the results obtained in this thesis studying the relationships between perceptions of the coaching interpersonal style and the athletes' basic psychological needs generally supported the relations embedded in BPNT and were partially in accordance with previous cross-sectional and longitudinal works. In this regard, our findings emphasized the importance of encouraging coaches to adopt an autonomy supportive style and to offer the athletes relevant choices of tasks they can complete during training, explaining the players why it is important to do those activities and trying to understand the players' perspectives, accepting them and not judging them. When coaches create autonomy supportive atmospheres they promote that the athletes experience that they are the initiators of their own actions, that they feel more competent and that they experience a higher quality relationship with their coaches. Further, when coaches adopt this autonomy supportive style they minimize the situations in which the athletes feel incompetent at their sport, with no autonomy and rejected or undervalued. Moreover, our findings also emphasized the risk of exerting controlling coaching behaviors. We know that when coaches behave in a pressuring, coercive and authoritarian manner, players might experience situations that make them feel incompetent, rejected

by the other players of the team or by the coach, or pushed to behave in certain ways in which the players do not want to behave.

In sum, results obtained in the studies conducted in this thesis confirmed the important role of the coaches in shaping the athletes experiences of needs satisfaction and thwarting. And, although a positive atmosphere prevails within our grassroots soccer contexts, it is noteworthy that the soccer players consistently perceived their coaches to exhibit some controlling behaviors, and it would be imperative to diminish or delete these types of behaviors in order to impede the young athletes needs thwarting.

7.1.5. RELATIONSHIPS BETWEEN THE PLAYERS' BASIC PSYCHOLOGICAL NEEDS AND THEIR WELL- AND ILL-BEING

In line with the main postulates of the theory (Deci & Ryan, 2000), the studies embedded in this thesis analyzed whether the satisfaction of the athletes' three basic psychological needs promotes their well-being, and on the other hand, whether the athletes' basic psychological needs thwarting implies their experience of ill-being (Deci & Ryan, 2000).

Focusing on the examination of the relationship between the basic psychological needs satisfaction and well-being through a cross-sectional methodology, our results showed that the soccer players' and the dancers' satisfaction of their needs for competence, autonomy and relatedness positively predicted their subjective vitality and their positive affect (Study 1). Moreover, the results also supported the invariance of these relations across the two samples (Study 1). When focusing on the players' basic psychological needs thwarting, our results

indicated that the soccer players' experiences of thwarting of their needs for competence, autonomy and relatedness positively predicted their burnout (Study 2).

The findings obtained throughout these empirical studies were in accordance with the BPNT theoretical assumptions. Moreover, previous cross-sectional studies in the context of sport were in line with our results and indicated that athletes' basic psychological needs satisfaction positively predicted their subjective vitality (Adie et al., 2008; López-Walle et al., 2012) and their positive affect (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). The limited literature analyzing the consequences of the athletes' experiences of basic psychological needs thwarting on ill-being was also in accordance with our results, and indicated that needs thwarting was positively related to athletes' burnout (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011).

Hence, our results suggest that it is more likely that the young soccer players experience higher well-being when they feel competent in their sport practice, when they feel with voice and choice in what happens in their trainings and matches, and when they feel cared for and respected by those around them in soccer. On the other hand, if there are situations where the players are made to feel incompetent, with no autonomy and rejected or not valued by the rest of the team or the coach, this will consequently derived in experiences of ill-being among the athletes.

When concurrently addressing the brighter and the darker side of BPNT using a longitudinal approach over one or two soccer seasons, our data also supported the tenets of BPNT. First, centering on the satisfaction of the athletes' basic psychological needs, our findings

showed that the changes in the athletes' basic psychological needs satisfaction positively predicted the changes in their well-being specifically their self-esteem (Study 4) and their subjective vitality (Study 3), whereas they negatively predicted the changes in their burnout (Study 3 and 4). On the other hand, when centering on the athletes' basic psychological needs thwarting, the results of this thesis indicated that the changes in the athletes' experiences of basic psychological needs thwarting positively predicted the changes in their burnout (Study 3 and 4), whereas different results appeared when analyzing its relation to athletes' well-being. Results showed that changes in the athletes' basic psychological needs thwarting negatively predicted changes in their self-esteem across two soccer seasons (Study 4), whereas no relation was found with subjective vitality (Study 3). Finally, the results also confirmed the invariance over time (i.e., over two consecutive seasons) of the relationships between the athletes' needs satisfaction and thwarting and the consequent self-esteem and burnout (Study 4).

Focusing on studies using a longitudinal approach to examine the brighter side of BPNT, our results are in agreement with previous studies indicating that the athletes' basic psychological needs satisfaction positively predicted their positive affect, self-esteem and subjective vitality (e.g., Gagné et al., 2003) and negatively predicted their burnout (e.g., Amorose et al., 2009). Besides, among the scarce studies conducted to analyze concurrently the relation of both basic psychological needs satisfaction and thwarting with athletes' well- and ill-being, we underline the ones carried out by Bartholomew and her colleagues (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011;

Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). In accordance with our findings, these authors found that basic psychological needs satisfaction positively predicted indices of well-being as positive affect or subjective vitality and negatively predicted athletes' burnout (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). Whereas athletes' experiences of basic psychological needs thwarting positively predicted athletes' burnout (e.g., Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). Moreover, and in contrast to our findings, these authors found that athletes' basic psychological needs thwarting negatively predicted subjective vitality (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011).

In general, our results are in accordance with past research undertaken in the sport setting and they confirmed the tenets of the BPNT supporting the idea that basic psychological needs satisfaction has a stronger influence on well-being, whereas basic psychological needs thwarting stronger relates to ill-being experiences. Altogether, our findings support the importance of basic psychological needs satisfaction for ensuing peoples' well-being, as well as for preventing their ill-being. Moreover, results also emphasize the possible influence of the athletes' needs thwarting on increasing their ill-being, and decreasing their well-being (specifically self-esteem). Futures studies should continue exploring in detailed the relationship between athletes' needs thwarting and their well-being, as the inconsistent results should be clarified. In this regard, it may happen that when there are situations that make the young athletes feel incompetent, with no autonomy and rejected by the people around them, it may have a direct influence

undermining their self-worth. However, future studies should also explore whether in other populations needs thwarting exerts a more negative influence on self-esteem than on subjective vitality.

7.1.6. MEDIATIONAL ROLE OF BASIC PSYCHOLOGICAL NEEDS

According to BPNT (Deci & Ryan, 2000), the satisfaction or thwarting of the basic psychological needs for competence, autonomy and relatedness are expected to mediate the relation between the athletes' perceptions of their social environment and their indices of well- and ill-being (Deci & Ryan, 2000; Ryan & Deci, 2002). This main theoretical assumption has been a specific aim of this doctoral work and has been tested in four of its studies. Overall, results from these studies provided support for the mediational mechanism of the basic psychological needs between the athletes' perception of the coaches' interpersonal styles and their well-and-ill-being.

Specifically, testing the mediational role of basic psychological needs satisfaction at the brighter side of the BPNT, from a cross-sectional approach, results corroborated the tenets of BPNT showing that satisfaction of the three basic psychological needs completely mediated the relation between the soccer players' and the dancers' perceptions of autonomy support provided by their coach or teacher and their positive affect and subjective vitality (Study 1). Moreover, the results of this study also provided support for the invariance of the confirmed mediational role of basic psychological needs across the two samples of young soccer players and young dancers.

These results are partially aligned with the cross-sectional work conducted in the context of sport by López-Walle and her colleagues

(2012), which found that satisfaction of the three needs for competence, autonomy and relatedness partially mediated the relation between the athletes' perceptions of autonomy supportive coaching interpersonal style and their life satisfaction and subjective vitality. Future studies could analyze the discrepancies between the partial and complete mediation and study whether they result from analyzing different sport disciplines, different cultures or analyzing the each need separately or together.

When using a longitudinal perspective the results of our studies also provided support to the mediational role of the basic psychological needs. This support was found when studying the BPNT model over a soccer season (Study 3), as well as studying it over two consecutive soccer seasons (Study 4). Specifically, our findings showed that changes in the satisfaction of the athletes' basic psychological needs completely mediated the relationship between the changes in the athletes' perceptions of autonomy support provided by their coaches and changes in their well-being (self-esteem and subjective vitality) and in their ill-being (burnout) (Study 3 and 4).

Overall, our results studying the mediation of basic psychological needs satisfaction are in accordance with previous research (Quested & Duda, 2011) and partially in line with other (Adie et al, 2012). More specifically, when analyzing the relation between the perceived autonomy supportive interpersonal style and ill-being, a previous longitudinal work conducted within the context of dance indicated that the dancers' satisfaction of their three basic psychological needs completely mediated the relation between their perceptions of autonomy support provided by their teacher and their own burnout (Quested & Duda, 2011). Other longitudinal study conducted within the

context of grassroots soccer showed that only the satisfaction of the needs for competence and relatedness partially mediated the relation between perceived coach autonomy support and the athletes' subjective vitality (Adie et al., 2012). We consider that future cross-sectional as well as longitudinal studies should try to clarify the specific mediational role of each need in the relation between the social context and the indices of well-being, and then analyze the effect of the satisfaction of the needs considered altogether.

The findings of our longitudinal studies showed that basic psychological needs thwarting mediated the relationship between the coaches' interpersonal styles and the athletes' well- and ill-being. Specifically, results indicated that changes in the athletes' needs thwarting completely mediated the relationship between changes in the athletes' perceptions of autonomy support and changes in the athletes' burnout (Studies 3 and 4) and self-esteem (Study 4). The relationship between changes in the athletes' perceptions of a controlling coaching style and changes in the athletes' burnout was completely (Study 3) and partially (Study 4) mediated by the athletes' needs thwarting. And finally, the results also showed that the relationship between changes in athletes' perceived controlling style and changes in their self-esteem were completely or partially mediated by their needs thwarting depending on the season (Study 4). Although these results show some inconsistencies, in our opinion they constitute an important contribution to the literature since to our knowledge no previous work has tested the mediational role of the athletes' basic psychological needs thwarting in the relationship between any of the coaching interpersonal styles (i.e., autonomy supportive or controlling) and the athletes' indices of well- or ill-being.

When examining the interpersonal coaching style from a longitudinal multilevel perspective, our results indicated that athletes' basic psychological needs satisfaction and thwarting completely mediated the relation between the team shared perceptions of autonomy support provided by their coach and the athletes' feelings of burnout at the individual level (Study 5). This study also supported the partial mediational role of athletes' needs satisfaction in the relation between the perceived team autonomy support and the athletes' subjective vitality at the individual level.

To date, we have not found any other study analyzing the team shared perceptions of the interpersonal style of their coach. Researchers are encouraged to incorporate multilevel perspectives in their future studies in order to confirm the implications of the athletes' basic psychological needs satisfaction and thwarting in the relation between the perceived team interpersonal styles and the subsequent athletes well- and ill-being.

In support of BPNT, the results obtained in the studies embedded in this thesis emphasized the central role of basic psychological needs for the promotion of optimal development and the avoidance of compromised functioning, mediating the influence that the social context exerts on the athletes' well- and ill-being. Thus, our results defend that the interpersonal style of the coach does not directly influence on their athletes' well- and ill-being; it rather depends on the degree that it satisfies or thwarts the athletes' basic psychological needs for competence, autonomy and relatedness. This emphasizes that if coaches want to enhance their athletes well-being and decrease their ill-being, they have to promote and do not thwart their athletes feelings of

competence within their sport practice, their feelings of having voice and choice within their training and matches, and their feelings of being securely connected to the others.

7.1.7. EMPIRICAL SUPPORT TO BASIC PSYCHOLOGICAL NEEDS THEORY

Taking into consideration the totality of the studies embedded in this doctoral work we have found general support for the tenets of BPNT, confirming that perceptions of autonomy support positively predicted needs satisfaction, that consequently positively predicted well-being and negatively predicted ill-being. On the other hand, the perceptions of a controlling style positively predicted needs thwarting, that in turn positively predicted ill-being and negatively predicted well-being, when evaluated as self-esteem. Besides, results also indicated that the perceptions of autonomy supportive coaching interpersonal style negatively predicted needs thwarting, whereas no relationship was found between perceived controlling style and needs satisfaction. Finally, we also found general support for the mediational role of basic needs satisfaction and thwarting within the relationship between the social context and the athletes' well- and ill-being at the individual level, as well as a partial support within the multilevel approach. One important contribution of this thesis based on BPNT to the field of sport psychology was the possibility of concurrently addressing the brighter and the darker side of the theory, and testing it through several samples and through a variety of strong methodological approaches.

Specifically, our results supported the sequence of the brighter side of the theory using a cross-sectional methodology (Study 1), and

they also supported the invariance over two different samples, specifically soccer players and dancers (Study 1). Moreover, our work was the first one that examined the darker side of BPNT within the Spanish population and the results confirmed the damaging influence of the controlling style of the coach for the athletes' basic psychological needs thwarting, and in turn on their indices of ill-being (Study 2).

When we used a longitudinal approach for examining the complete model of BPNT and we analyze its tenets over two time points over one soccer season (Study 3), our results confirmed the relationships postulated by BPNT. And when we enlarged the time of the study and incorporated two more time points over one more season (Study 4), the results were also concordant to the theory. This last study also supported the invariance over time (i.e., over the first and the second soccer season) of the BPNT model.

Finally, the results from the multilevel longitudinal approach examining the relationship between the team shared perceptions of the interpersonal style of the coach and the athletes' basic psychological needs satisfaction and thwarting and their well- and ill-being provided a partial support to the theory and emphasized the importance of coach autonomy supportive interpersonal styles (Study 5).

7.2. PRACTICAL IMPLICATIONS

Based on the empirical support to the BPNT that we have found in the studies of this dissertation, we want to emphasize the practical implications stemming from this work towards the promotion of health and well-being as well as towards the prevention of ill-being within the grassroots soccer players.

Overall, the findings of the present work have supported the propositions made by BPNT and have reinforced that the social environment in which the training and matches are carried out has important implications for the athletes' well- and ill-being. Specifically, the results of the studies embedded in this thesis have supported the role of the interpersonal style of the coach (i.e., the autonomy supportive and the controlling style) in satisfying or undermining the young athletes' basic psychological needs for competence, autonomy and relatedness, and in turn, its influence on their experiences of well- or ill-being.

In this sense, it is important that coaches and parents, as well as sport and health policy authorities, keep informed about the positive and negative consequences that significant persons, such as the coaches, have on the development of young people's health and well-being, as well as on the avoidance of illness.

In this dissertation we found strong evidence showing that it is important that the athletes feel understood and valued by their coaches. Moreover, we have observed that it is necessary that coaches provide their athletes with choices and options that are enjoyable and significant for them, providing support for the development of players' confidence in their ability to do things well at training and matches, encouraging the athletes to ask questions regarding the activities undertaken and trying to answer these questions fully and carefully. Moreover, it seems essential that the coaches make an effort to understand how the athletes see the things in soccer and try to make sure that every athlete understands the goals of the activities before suggesting different tasks or ways of doing them.

On the other side, it is essential that coaches avoid being controlling, avoiding using rewards in a controlling way, preventing motivating the athletes by promising rewards when they do well, or rewarding the athletes only to make them train harder. Coaches should not use regards in a negative conditional way, this is, they should try to avoid withholding their love, attention and affection when the athletes do not behave in the desired way; similarly, coaches are encouraged to avoid becoming less friendly with the athletes when they don't make the effort to see things the way the coach sees them, or being less supportive when the athletes are not training or playing well. It is also essential that the coaches try to avoid to intimidate and to exert an excessive personal control on the athletes. They could prevent this if they do not exert intimidating behaviors such as shouting at them in front of others or threatening them with the aim of forcing them to do certain things, or trying to control what the athletes do outside the soccer.

Therefore, it seems essential to encourage coaches training at grassroots level to engage in educational programs where they can learn about the most adaptive motivational strategies aimed to create positive sport environments and to facilitate athletes' optimal development. It is essential that the educational or training programs in which the coaches are engaged have a strong and clear theory-base so that researchers and practitioners can be more confident about the consequences of its implementation. Previous research in the context of sport, education and exercise has already deepened into this proposal. Previous studies have indicated that it is possible to train people in a position of authority to be more autonomy supportive and less

controlling (Edmunds, Ntoumanis, & Duda, 2008; Reeve, 1998; Tessier, Sarrazin, & Ntoumanis, 2010), as well as to train people to improve their communication style and to promote more adaptive motivational climates, as the task involving climates (Cruz, Torregrosa, Soussa, Mora, & Viladrich, 2010). Such evidence-based interventions provide coaches, and other figures of authority, with the skills to be more autonomy-supportive and less controlling, helping them to promote young people's well-being and optimal functioning.

In this sense, coaches would benefit assisting to specific training or educational programs, where they could learn about the implications that the social environment that they create in their teams has on their athletes, as well as practical examples of what they could do or say to build more autonomy supportive climates. With this aim, Duda (2013) developed Empowering Coaching™, a training program pulling from two contemporary motivational theories named self-determination theory (Deci & Ryan, 1985, 2000) and achievement goal theory (Ames, 1992; Nicholls, 1989). This program focuses on the climate created by the coach in the team during the training and the matches, and argues that the psychological climate that the coaches create holds important implications for the players (Duda, 2001). The Empowering Coaching™ program has been delivered in a European research project (PAPA, Promoting Adolescent Physical Activity) which has been applied to grassroots soccer. Specifically, in this project coaches were trained to create positive coaching environments (empowering climates) and to avoid negative coaching environments (disempowering climates) in their teams. Preliminary results of this research are promising and they

encourage the implementation of this program within the coaches' population in the contexts of grassroots sports (Duda et al, 2013).

Thus, drawing from the findings of this thesis as well as from other contemporary literature grounded in BPNT, it can be defended that if coaches act in an autonomy supportive manner and avoid being controlling, they will facilitate that the athletes have a better sport experience. Autonomy supportive coaches will also prevent the young athletes' ill-being and their consequent dropping out of sport and thus they will contribute to higher physical inactivity (Quested, Ntoumanis et al., 2013). If athletes enjoy their sport participation this will facilitate a sustained health enhancing physical activity over the life span.

Consequently, sport organizations and related influential governmental bodies are encouraged to take into account these findings in order to undertake the necessary actions within the welfare policies. These actions should ensure that every coach or team responsible creates positive environments, trying to increase quality sport participation and the consequent well-being. In turn this will help our society to profit from the enormous potential of sport for health-enhancing physical activity.

7.3. LIMITATIONS AND FUTURE DIRECTIONS

A number of limitations and ideas for future researches have been discussed throughout the studies embedded in this thesis and will be presented together in this section. One of the principal limitations of this work might be its narrow focus on BPNT and the contribution to its already somewhat saturated body of literature in the sport context. However, although there is an extensive number of studies examining

the influence of autonomy support to athletes' needs satisfaction and well- and ill-being, there is a lack of research incorporating the study of controlling behavior and its negative consequences. And there are also a lack of studies analyzing simultaneously the brighter and the darker side of the theory. This situation emphasizes the necessity to conduct studies that incorporate both sides of the theory simultaneously and hence underlines that it is important that future research continue assessing the influences of both interpersonal styles on basic needs satisfaction and thwarting, and on the consequent well- and ill-being in different contexts.

Another limitation of the current doctoral work is that the assessment of the study variables completely relied on self-reported measures from the athletes. Although this has been the traditional way of collecting data in the psychological literature, and though theorists argue that the way in which a person perceives and interpretes the social environment where the person is involved is what actually influences his or her well-being and behaviors (Deci & Ryan, 1985), there is an increasingly demand to incorporate objective measures of the environmental contexts in the current scientific studies (Duda et al., 2013). Although some authors have previously studied the coaches behaviors at the observational level (e.g., following the CBAS protocol; Cruz et al., 2010), BPNT proposes that future studies should incorporate both measures (i.e., self-reports and objectives measures). It would be also relevant to incorporate objective measures of the athletes' well- and ill-being, such as biological markers, alongside self-reported measures.

Another point to take into attention when considering the limitations of the studies presented in this thesis is the fact that the

sample is made up mainly of young male soccer players. Although the Study 1 examined the invariance between two different samples and thus gave information about the dynamic of the positive relation of the brighter side of the theory in different populations, it would be worthy to confirm the maintenance of the relationships established in this thesis in different ages and considering both genders. Therefore, future sport psychology studies could try to enlarge the population analyzed, including different ages, genders, different competitive levels and also different countries.

Taking advantage of the results of this thesis as well as from the extensive previous body of literature in sport psychology based on BPNT, and continuing with the work from others (e.g. Duda, 2013) it seems especially important that future research incorporates theoretically-based intervention programs, including the research knowledge obtained through the recent years with the aim of enhancing young people's well-being and enabling their optimal sport experiences. These future studies could try to put into practice these intervention programs in different sports, trying to evaluate its effect on the athletes from different ages. Further, in order to develop the best and most complete intervention programs we believe that it is necessary to examine and to understand not only the different interpersonal styles of the coaches, but also to analyze the factors that influence the coaches to deliver an autonomy supportive or a controlling style. Some research, such as that conducted by Stebbings, Taylor, and Spray (2011) exploring the reasons why the coaches tend to adopt different interpersonal styles, captures the idea of what we propose for the future.

7.5. CONCLUSIONS

The findings of this doctoral work have provided general support to the postulates of BPNT throughout the different studies conducted to answer our main and specific objectives.

- A. Throughout the cross-sectional studies embedded in this thesis, the results have shown support for the tenets of BPNT and have indicated that:
 1. Athletes' and dancers' perceptions of an autonomy supportive interpersonal style positively predicted their basic psychological needs satisfaction, that in turn, positively predicted their well-being (positive affect and subjective vitality). Basic psychological needs satisfaction mediated the relationship between the perceived autonomy support and the youth's well-being. These relationships were invariant across the soccer players and dancers sample.
 2. Athletes' perceptions of a controlling coaching interpersonal style positively predicted the players' basic psychological needs thwarting, which in turn positively predicted their ill-being (burnout).
- B. Moreover, in the longitudinal studies that concurrently addressed the brighter and the darker side of BPNT, analyzing the data over one and two consecutive seasons, the results have also shown wide support to the postulates of BPNT and have indicated that:

3. Changes in the players' perceptions of autonomy supportive coaching interpersonal style positively predicted changes in the players' needs satisfaction and negatively predicted changes in their needs thwarting. The changes in the players' perceptions of controlling coaching interpersonal style positively predicted changes in the players' needs thwarting. Besides, changes in players' needs satisfaction positively predicted changes in their well-being (self-esteem and subjective vitality) and negatively predicted changes in their ill-being (burnout). Changes in players' needs thwarting positively predicted changes in their ill-being (burnout) and negatively predicted changes in their well-being (self-esteem). Moreover, basic psychological needs satisfaction and thwarting acted as mediational mechanisms in the relationship between the perceived coaching interpersonal style (autonomy supportive and controlling) and the athletes' well-being (self-esteem and subjective vitality) and ill-being (burnout).
4. The results from the longitudinal study including two consecutive seasons supported the invariance over time of the aforementioned relationships between the athletes' perceptions of the coach interpersonal style, the athletes basic psychological needs satisfaction and thwarting, and their well-being (self-esteem) and ill-being (burnout), as well as to the mediational role of basic needs satisfaction and thwarting.

- C. Finally, when approaching the brighter and the darker side of BPNT through a longitudinal multilevel methodology and centering on the team shared perspective rather than on the athletes' individual perspective, the results provided a partial support for the postulates of BPNT and indicated that:
 5. Team shared perceptions of autonomy support provided by the coach positively predicted athletes' basic psychological needs satisfaction at the individual level and negatively predicted their needs thwarting. Whereas team shared perceptions of controlling coaching interpersonal style did not relate significantly to athletes' needs thwarting at the individual level. Besides, athletes' basic psychological needs satisfaction positively predicted their subjective vitality and negatively predicted their burnout, whereas athletes' basic psychological needs thwarting positively predicted their burnout. Further, basic psychological needs satisfaction and thwarting mediated the relationship between shared perceptions of autonomy support and youth's well- and ill-being.

In sum:

The results from the five studies that comprise this doctoral dissertation offer general support to BPNT and suggest that:

First, a perceived coach autonomy support results in higher levels of well-being, and lower levels of ill-being. In contrast, perceived coach controlling style proves to be detrimental to psychological well-being increasing ill-being and impeding well-being, particularly when

self-esteem is studied. These results have been supported consistently through the cross-sectional and longitudinal studies embedded in this thesis.

Second, perceived coach autonomy support favors the satisfaction of the basic psychological needs for competence, autonomy and relatedness and impedes the frustration of these needs. In turn, needs satisfaction promotes well-being (positive affect, self-esteem and subjective vitality) and prevents ill-being (burnout). In contrast, perceived controlling style actively frustrates the psychological needs and in turn promotes ill-being (burnout) and impedes well-being (self-esteem).

Third, basic psychological needs (satisfaction and thwarting) functions as a mediational motivational mechanism between the social context and the players' well-and ill-being. This suggests that the social context does not directly impact on the athletes' well- and ill-being, rather it influences on the athletes basic psychological needs and its consequent satisfaction or thwarting will impact on the athletes' well-and ill-being.

Fourth, the multilevel analyses of the team shared perceptions about the interpersonal coaching style emphasizes that when the teammates share the opinion that their coach is autonomy supportive this promotes their needs satisfaction and prevents their needs thwarting, whereas the shared perceptions of controlling coaching style did not exert any significant effect.

Finally, to maximize the satisfaction and minimize the thwarting of young soccer players' basic psychological needs, which in turn is expected to foster well-being and to impede ill-being, this dissertation proposes that autonomy supportive atmospheres should be promoted

and controlling atmospheres eliminated. To this end, the policy authorities should promote specific intervention programs offered to sport representatives and coaches to make the world of the young athletes a more enjoyable and healthier milieu.

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ANEXOS

ANEXO 1: CUESTIONARIOS

CUESTIONARIO DE CLIMA EN EL DEPORTE

Por favor indica el nivel de acuerdo con cada una de las siguientes frases teniendo en cuenta la experiencia que tienes en EL FUTBOL. Rodea un solo número por pregunta.

		Nada verdadero		Algo verdadero			Muy verdadero	
		1	2	3	4	5	6	7
1	Mi entrenador me ofrece distintas alternativas y opciones	1	2	3	4	5	6	7
2	Me siento comprendido por mi entrenador	1	2	3	4	5	6	7
3	Tengo la posibilidad de poder comunicarme fácilmente con mi entrenador mientras estoy entrenando	1	2	3	4	5	6	7
4	Mi entrenador hace que yo confíe en mi habilidad para hacerlo bien en mi deporte	1	2	3	4	5	6	7
5	Me siento aceptado por mi entrenador	1	2	3	4	5	6	7
6	Mi entrenador se asegura que yo realmente entienda cuál es mi papel en mi deporte y de lo que tengo que hacer	1	2	3	4	5	6	7
7	Mi entrenador me anima a que le pregunte lo que quiera saber	1	2	3	4	5	6	7
8	Confío mucho en mi entrenador	1	2	3	4	5	6	7
9	Mi entrenador responde a mis preguntas con esmero (detenidamente y en detalle)	1	2	3	4	5	6	7

Anexo 1

	EN MI EQUIPO DE FUTBOL ...	Nada verdadero		Algo verdadero			Muy verdadero	
		1	2	3	4	5	6	7
10	A mi entrenador le interesa saber la forma en que me gusta hacer las cosas	1	2	3	4	5	6	7
11	Mi entrenador maneja muy bien las emociones de la gente	1	2	3	4	5	6	7
12	Mi entrenador se preocupa de mí como persona	1	2	3	4	5	6	7
13	No me sienta nada bien la forma en la que me habla mi entrenador	1	2	3	4	5	6	7
14	Mi entrenador trata de entender cómo veo las cosas antes de sugerirme una nueva manera de hacerlas	1	2	3	4	5	6	7
15	Me siento capaz de compartir mis sentimientos con mi entrenador	1	2	3	4	5	6	7

ESCALA DE CONDUCTAS CONTROLADORAS DEL ENTRENADOR

Por favor indica tu nivel de acuerdo o de desacuerdo con las siguientes afirmaciones:

EN MI EQUIPO DE FUTBOL ...		Totalmente en desacuerdo			Neutral			Totalmente de acuerdo
1	Mi entrenador es poco amistoso conmigo cuando no me esfuerzo en ver las cosas a su manera	1	2	3	4	5	6	7
2	Mi entrenador me grita delante de los otros para que haga determinadas cosas	1	2	3	4	5	6	7
3	Mi entrenador sólo utiliza premios y/o halagos para conseguir que me centre en las tareas durante el entrenamiento	1	2	3	4	5	6	7
4	Mi entrenador me apoya menos cuando no estoy entrenando o jugando bien en los partidos	1	2	3	4	5	6	7
5	Mi entrenador intenta controlar lo que hago en mi tiempo libre	1	2	3	4	5	6	7
6	Mi entrenador amenaza con castigarme para “mantenerme a raya” durante el entrenamiento	1	2	3	4	5	6	7
7	Mi entrenador trata de animarme (motivarme) prometiéndome premios si lo hago bien	1	2	3	4	5	6	7
8	Mi entrenador me presta menos atención cuando está disgustado conmigo	1	2	3	4	5	6	7

Anexo 1

EN MI EQUIPO DE FUTBOL ...		Totalmente en desacuerdo			Neutral			Totalmente de acuerdo
9	Mi entrenador me acobarda (me intimida) para conseguir que haga lo que él quiere que haga	1	2	3	4	5	6	7
10	Mi entrenador trata de entrometerse en aspectos de mi vida fuera del fútbol	1	2	3	4	5	6	7
11	Mi entrenador sólo utiliza premios y/o halagos para conseguir que termine todas las tareas que ha puesto durante el entrenamiento	1	2	3	4	5	6	7
12	Mi entrenador me acepta menos, si le he decepcionado	1	2	3	4	5	6	7
13	Mi entrenador me avergüenza delante de los demás si no hago las cosas que él quiere que haga	1	2	3	4	5	6	7
14	Mi entrenador sólo utiliza premios y/o halagos para hacerme entrenar más duro	1	2	3	4	5	6	7
15	Mi entrenador espera que toda mi vida se centre en el fútbol	1	2	3	4	5	6	7

**SUBESCALA DE COMPETENCIA PERCIBIDA DEL INVENTARIO DE
MOTIVACIÓN INTRÍNSECA**

Indica el nivel personal de acuerdo con cada de las siguientes afirmaciones

		Totalmente en desacuerdo	Bastante en desacuerdo	Algo en desacuerdo	Ni de acuerdo ni en desacuerdo	Algo de acuerdo	Bastante de acuerdo	Totalmente de acuerdo
1	Creo que soy bastante bueno en el fútbol	1	2	3	4	5	6	7
2	Estoy satisfecho con lo que puedo hacer en el fútbol	1	2	3	4	5	6	7
3	Soy bastante hábil en el fútbol	1	2	3	4	5	6	7
4	Yo puedo dominar las habilidades del fútbol después de haberlas practicado durante un tiempo	1	2	3	4	5	6	7
5	No puedo jugar muy bien al fútbol	1	2	3	4	5	6	7

ESCALA DE AUTONOMÍA PERCIBIDA EN EL DEPORTE

¿En general, cómo te sientes cuando juegas al fútbol?

	CUANDO JUEGO AL FÚTBOL...	Nada verdadero		Algo verdadero			Muy verdadero	
1	Me siento libre de expresar mis ideas y opiniones	1	2	3	4	5	6	7
2	Me siento libre para hacer las cosas a mi manera	1	2	3	4	5	6	7
3	Siento que en buena medida puedo ser yo mismo	1	2	3	4	5	6	7
4	Tengo muy clara la decisión sobre cuáles son las actividades/ habilidades que quiero practicar	1	2	3	4	5	6	7
5	Tengo la oportunidad de participar en las decisiones sobre las estrategias que se deberían utilizar	1	2	3	4	5	6	7
6	Yo puedo dar mi opinión	1	2	3	4	5	6	7
7	Siento que mi opinión se tiene en cuenta a la hora de decidir cómo se debe llevar a cabo la práctica/entrenamiento	1	2	3	4	5	6	7

	CUANDO JUEGO AL FÚTBOL...	Nada verdadero		Algo verdadero			Muy verdadero	
		1	2	3	4	5	6	7
8	Siento que soy la causa de mis acciones	1	2	3	4	5	6	7
9	Yo realmente me siento muy libre, sin condiciones cuando juego al fútbol	1	2	3	4	5	6	7
10	Siento que mis elecciones y acciones se basan en mis verdaderos intereses y valores	1	2	3	4	5	6	7

**SUBESCALA DE ACEPTACIÓN DE LA ESCALA DE NECESIDAD
DE RELACIÓN**

Las siguientes cuestiones tratan sobre cómo te sientes cuando juegas al fútbol (entrenas y juegas partidos). Por favor indica tu nivel personal de acuerdo o desacuerdo con ellas, rodeando con un círculo la respuesta apropiada

CUANDO JUEGO AL FÚTBOL, ME SIENTO ...		Totalmente en desacuerdo			Neutral		Totalmente de acuerdo	
		1	2	3	4	5	6	7
1	apoyado	1	2	3	4	5	6	7
2	comprendido	1	2	3	4	5	6	7
3	escuchado	1	2	3	4	5	6	7
4	valorado	1	2	3	4	5	6	7
5	seguro	1	2	3	4	5	6	7

**ESCALA DE FRUSTRACIÓN DE LAS NECESIDADES
PSICOLÓGICAS**

Por favor indica tu nivel de acuerdo o desacuerdo con cada una de las siguientes afirmaciones	Fuertemente en desacuerdo			Neutro			Fuertemente de acuerdo
1. Siento que se me impide tomar decisiones respecto a mi forma de entrenar en fútbol	1	2	3	4	5	6	7
2. Hay situaciones en el fútbol que me hacen sentir ineficaz	1	2	3	4	5	6	7
3. En el fútbol me siento presionado para comportarme de una forma determinada	1	2	3	4	5	6	7
4. En el fútbol me siento rechazado por los que me rodean	1	2	3	4	5	6	7
5. Me siento obligado a cumplir las decisiones de entrenamiento que se toman para mi en el fútbol	1	2	3	4	5	6	7
6. Me siento inadecuado como futbolista porque no me dan oportunidades para desarrollar mi potencial	1	2	3	4	5	6	7

Anexo 1

Por favor indica tu nivel de acuerdo o desacuerdo con cada una de las siguientes afirmaciones	Fuertemente en desacuerdo			Neutro			Fuertemente de acuerdo
7. Me siento presionado para aceptar las reglas de entrenamiento que me dan en el fútbol	1	2	3	4	5	6	7
8. En el fútbol siento que los demás no me tienen en cuenta	1	2	3	4	5	6	7
9. En el fútbol hay situaciones que me hacen sentir incapaz	1	2	3	4	5	6	7
10. Siento que hay personas del fútbol a las que no les gusto	1	2	3	4	5	6	7
11. En ocasiones me dicen cosas que me hacen sentir incompetente en el fútbol	1	2	3	4	5	6	7
12. Tengo la sensación de que otras personas del fútbol me envidian cuando tengo éxito	1	2	3	4	5	6	7

SUBESCALA DE AFECTO POSITIVO DE LA ESCALA DE AFECTO POSITIVO Y NEGATIVO

En la escala que sigue se presentan distintas palabras que describen diferentes **SENTIMIENTOS Y EMOCIONES**. Lee cada ítem e indica si te has sentido de esa forma y en qué grado **en las últimas semanas** poniendo un círculo en la opción elegida.

En general, en las últimas semanas, me he sentido...	Nada	Un Poco	Moderadamente	Bastante	Extremadamente
1. Interesado por cosas	1	2	3	4	5
2. Emocionado	1	2	3	4	5
3. Fuerte	1	2	3	4	5
4. Entusiasmado	1	2	3	4	5
5. Orgullosa	1	2	3	4	5
6. Alerta	1	2	3	4	5
7. Inspirado	1	2	3	4	5
8. Decidido	1	2	3	4	5
9. Atento	1	2	3	4	5
10. Activo	1	2	3	4	5

SUBESCALA DE AUTO-VALÍA DEL CUESTIONARIO DE AUTODESCRIPCIÓN

Por favor lee las frases que figuran a continuación y señala el nivel de acuerdo o desacuerdo que tienes con cada una de ellas

		Totalmente falso	Bastante falso	Algo falso	Algo verdadero	Bastante verdadero	Totalmente verdadero
1	En general, nada de lo que yo hago es muy importante	1	2	3	4	5	6
2	No soy muy original en mis ideas, pensamientos y acciones	1	2	3	4	5	6
3	En general, tengo sentimientos bastante positivos sobre mi mismo	1	2	3	4	5	6
4	En general, no tengo muy buen concepto de mi mismo	1	2	3	4	5	6
5	En general, tengo sentimientos bastante negativos sobre mi mismo	1	2	3	4	5	6
6	En general, hago muchas cosas que son importantes	1	2	3	4	5	6
7	En general, no me acepto mucho a mí mismo	1	2	3	4	5	6
8	En general, tengo un gran respeto hacia mí mismo	1	2	3	4	5	6
9	En general, tengo falta de confianza en mi mismo	1	2	3	4	5	6

		Totalmente falso	Bastante falso	Algo falso	Algo verdadero	Bastante verdadero	Totalmente verdadero
10	En general, me acepto bastante a mí mismo	1	2	3	4	5	6
11	En general, no tengo mucho respeto hacia mí mismo	1	2	3	4	5	6
12	En general, tengo mucha confianza en mí mismo	1	2	3	4	5	6

ESCALA DE VITALIDAD SUBJETIVA

Por favor, responde a cada una de las siguientes afirmaciones, indicando el grado en que por lo general son verdaderas para ti

	No es verdad		Algo de verdad			Verdadero	
	1	2	3	4	5	6	7
1. Me siento vivo y vital	1	2	3	4	5	6	7
2. A veces me siento tan vivo que solo quiero saltar	1	2	3	4	5	6	7
3. Tengo energía y ánimo	1	2	3	4	5	6	7
4. Me ilusiono con cada nuevo día	1	2	3	4	5	6	7
5. Casi siempre me siento alerta y despierto	1	2	3	4	5	6	7
6. Me siento activado (siento que tengo mucha energía)	1	2	3	4	5	6	7

CUESTIONARIO DE BURNOUT DEPORTIVO

Por favor responde a las siguientes preguntas indicando el grado en el que te has sentido así durante el último mes en el fútbol:

	Durante el último mes...	Casi Nunca	Rara vez	A veces	Con relativa frecuencia	Casi Siempre
1	Estoy consiguiendo muchas cosas en el fútbol que para mí tienen gran valor	1	2	3	4	5
2	Me siento tan cansado por jugar al fútbol que me cuesta mucho encontrar energía para hacer otras cosas	1	2	3	4	5
3	El esfuerzo que gasto en el fútbol sería mejor gastarlo haciendo otras cosas	1	2	3	4	5
4	Me siento demasiado cansado por jugar al fútbol	1	2	3	4	5
5	No estoy consiguiendo demasiado en el fútbol	1	2	3	4	5
6	No me importa tanto mi rendimiento en el fútbol como solía importarme	1	2	3	4	5
7	No estoy demostrando mis verdaderas habilidades en fútbol	1	2	3	4	5
8	Me siento destrozado (exhausto) por el fútbol	1	2	3	4	5

Anexo 1

	Durante el último mes...	Casi Nunca	Rara vez	A veces	Con relativa frecuencia	Casi Siempre
9	No me implico tanto en el fútbol como solía hacerlo	1	2	3	4	5
10	Me siento físicamente agotado por el fútbol	1	2	3	4	5
11	Me siento menos preocupado por tener éxito en el fútbol de lo que estaba antes	1	2	3	4	5
12	Me siento destrozado (exhausto) por las exigencias mentales y físicas del fútbol	1	2	3	4	5
13	Parece que haga lo que haga no rindo tan bien como debería	1	2	3	4	5
14	Siento que tengo éxito en el fútbol	1	2	3	4	5
15	Tengo sentimientos negativos sobre el fútbol	1	2	3	4	5

ANEXOS

ANEXO 2: PUBLICACIONES

Estilo interpersonal controlador del entrenador, frustración de las necesidades psicológicas básicas, y *burnout* en futbolistas infantiles

Controlling Coach Interpersonal Style, Basic Psychological Need Thwarting, and Burnout in Young Soccer Players

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Resumen: En el presente trabajo, basado en la Teoría de las Necesidades Psicológicas Básicas (BPNT; Deci y Ryan, 2000), se puso a prueba un modelo con la siguiente secuencia: Estilo interpersonal controlador del entrenador → Frustración de las necesidades psicológicas básicas → Burnout. Participaron 725 futbolistas varones de la categoría infantil con edades comprendidas entre los 11 y los 13 años ($M = 12.6$; $DT = .54$) que completaron los instrumentos que evaluaban las variables de interés. Los resultados del análisis de ecuaciones estructurales informaron que la percepción del estilo controlador del entrenador actuaba de predictor positivo de la frustración de las tres necesidades y que cada una de estas tres últimas, se asociaba positivamente con el burnout.

Palabras clave: estilo controlador del entrenador, frustración de las necesidades psicológicas básicas, burnout, futbolistas infantiles.

Abstract: Based on the basic psychological needs theory (BPNT; Deci & Ryan, 2000), in the present study a model with the following sequence was tested: controlling interpersonal coaching style → basic psychological need thwarting → burnout. Participants were 725 young male soccer players from category under 14 years old (*Infantil*), aged between 11 and 13 ($M = 12.6$; $SD = .54$) that completed the questionnaires tapping the variables of interest. Results of structural equation analyses informed that perception of a controlling interpersonal coaching style was a positive predictor of need thwarting for competence, autonomy and relatedness; thwarting for these three needs were positively associated with burnout.

Key words: controlling coaching style, basic psychological need thwarting, burnout, young soccer players.

Introducción

La Teoría de las Necesidades Psicológicas Básicas (BPNT; Deci y Ryan, 2000), una de las mini-teorías de la Teoría de la Autodeterminación (SDT; Deci y Ryan, 2000) defiende que las necesidades de competencia (sensación de dominio/maestría mediante la interacción eficaz con el entorno), autonomía (sensación de que uno es el origen o la fuente de la propia acción) y relación (sensación de estar conectado a los demás, sentir afecto hacia y desde otros) juegan un importante papel en el desarrollo del bienestar psicológico y del funcionamiento óptimo (Deci y Ryan, 2000). También postula que los contextos sociales pueden facilitar este desarrollo o dificultarlo, a través de la satisfacción o frustración de estas necesidades. En concreto, en aquellos contextos en los que se apoya la autonomía se favorece la *satisfacción de las necesidades psicológicas* (sensaciones que se producen cuando se percibe que se tienen cubiertas las necesidades psicológicas) y el bienestar; mientras que en los entornos controladores se promueve la frustración de las necesidades (sensaciones que se producen cuando las personas perciben que sus necesidades psicológicas son mermaid por otros) y el malestar (Bartholomew, Ntoumanis, Ryan, Bosch y Thøgersen-Ntoumani, 2011; Ryan y Deci, 2000).

Adaptándolo al contexto deportivo, la SDT sugiere que cuando los entrenadores tienen un estilo interpersonal de apoyo a la autonomía (el entrenador apoya activamente las iniciativas de los deportistas y crea condiciones para que experimenten un sentido de volición, elección y desarrollo personal) se favorecerá la satisfacción de las necesidades y el bienestar psicológico, mientras que cuando establezcan un estilo controlador (el entrenador actúa de manera coercitiva y autoritaria para imponer a los deportistas su forma de pensar y actuar) se facilitará la frustración de las necesidades y se propiciará el malestar (Bartholomew, Ntoumanis y Thøgersen-Ntoumani, 2010).

Hasta la fecha, la investigación en el contexto deportivo se ha centrado predominantemente en estudiar las relaciones entre la percepción del estilo interpersonal de apoyo a la autonomía del entrenador sobre la satisfacción de las necesidades psicológicas básicas y de éstas últimas sobre el bienestar o el malestar de los deportistas; obteniéndose apoyo general para los postulados de la BPNT (Balaguer, 2007; 2010). Sin embargo, poco se conoce en la actualidad sobre las consecuencias negativas del estilo interpersonal controlador sobre el malestar, y menos todavía sobre las relaciones secuenciales postuladas por la BPNT en esta ruta en la que se dificulta el funcionamiento psicológico: estilo interpersonal controlador del entrenador → la frustración de cada una de las necesidades

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psicológicas básicas y bienestar (véase Balaguer et al., en prensa; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011). De ahí que nuestro objetivo en el presente trabajo se centre en el estudio de esta secuencia tomando como indicador del malestar el burnout, constructo que ha sido considerado como un síndrome psicossocial que se caracteriza por la presencia de agotamiento emocional y físico, devaluación deportiva y disminución del sentido de logro en la actividad en cuestión (Raedeke y Smith, 2004).

En las pocas investigaciones realizadas hasta la fecha en las que se han estudiado las relaciones entre la percepción del estilo controlador del entrenador, la frustración de las necesidades psicológicas y el burnout, tanto a nivel transversal (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), como longitudinal (Balaguer et al., en prensa) la frustración de las necesidades se ha evaluado a nivel global y los resultados han ofrecido apoyo general a los efectos negativos de este estilo interpersonal del entrenador sobre el funcionamiento psicológico.

En el presente trabajo, a diferencia de los dos anteriores, se estudiaron a nivel independiente las relaciones de la frustración de cada una de las necesidades psicológicas básicas con los antecedentes y consecuentes de la BPNT. En concreto se puso a prueba un modelo con la siguiente secuencia: Estilo interpersonal controlador del entrenador y Frustración de cada una de las necesidades psicológicas básicas y Burnout. Se hipotetizó que el estilo interpersonal controlador del entrenador actuaría como predictor positivo de la frustración de cada una de las necesidades (competencia, autonomía y relación) y que cada una de estas últimas variables se asociaría positivamente con el burnout.

Método

Participantes

La muestra estuvo compuesta por 725 futbolistas varones de la categoría infantil pertenecientes a 42 equipos de fútbol base de la provincia de Valencia, con edades comprendidas entre los 11 y los 13 años ($M = 12.6$; $DT = .54$) que entrenaban una media de 2.26 días a la semana ($DT = 1.63$).

Instrumentos

La percepción del estilo interpersonal controlador del entrenador se evaluó con la versión española (Castillo et al., 2010) de la escala de Conductas Controladoras del Entrenador (CCBS, Bartholomew et al., 2010), compuesta por 15 ítems divididos en cuatro subescalas (uso controlador de recompensas, atención condicional negativa, intimidación, excesivo control personal). Cada ítem se inicia con la frase: "En mi equipo de fútbol" y las respuestas se recogen en una escala tipo Likert que oscila desde *totalmente en desacuerdo* (1), a *totalmente de*

acuerdo (7). Para el presente estudio se utilizó la puntuación media en la escala total.

La frustración de las necesidades psicológicas básicas se evaluó mediante la versión española (Balaguer et al., 2010) de la Escala de Frustración de las Necesidades Psicológicas (PNTS; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011). La escala tiene 12 ítems agrupados en tres subescalas que evalúan el grado en el que los deportistas perciben que se frustran sus necesidades de competencia, de autonomía y de relación. Cada ítem se inicia de la siguiente forma: "En mi equipo de fútbol...". Las respuestas se recogen en una escala tipo Likert de 7 puntos con un rango que oscila desde *totalmente en desacuerdo* (1) a *totalmente de acuerdo* (7).

La percepción de burnout se evaluó mediante la versión española (Balaguer et al., 2011) del Cuestionario de Burnout Deportivo (ABQ; Raedeke y Smith, 2001). Los 15 ítems del cuestionario se dividen en tres subescalas de cinco ítems cada una (cansancio físico y emocional, devaluación del deporte, y disminución del sentido del logro). Las respuestas se recogen en una escala tipo Likert que oscila desde *casi nunca* (1) a *casi siempre* (5). En este estudio se utilizó la puntuación media en la escala total.

Investigaciones previas han confirmado una adecuada fiabilidad de los instrumentos utilizados: CCBS (Bartholomew et al., 2010; Castillo et al., 2010), PNTS (Balaguer et al., 2010; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011) y ABQ (Balaguer et al., 2011; Bartholomew, Ntoumanis, Ryan y Thøgersen-Ntoumani, 2011; Raedeke y Smith, 2001).

Procedimiento

Los jugadores cumplimentaron los instrumentos transcurrido un mes y medio desde el inicio de la temporada con el objeto de tener tiempo suficiente para una adecuada percepción del estilo interpersonal del entrenador y durante una sesión de entrenamiento para evitar los efectos potenciales de la competición en las respuestas. Todos los jugadores firmaron el consentimiento para participar en el estudio. Durante la recogida de la información, al menos un investigador estuvo presente y en todo momento se respetó el anonimato de los participantes.

Resultados

Descriptivos y Fiabilidad de las Escalas

Los descriptivos y los coeficientes de fiabilidad (alfa de Cronbach) de las medidas del estudio se presentan en la Tabla 1. Todos los coeficientes de fiabilidad cumplen el criterio mínimo de .70 determinado para las escalas del dominio psicológico (Nunnally, 1978), oscilando el rango entre .70 y .88.

Tabla 1. Descriptivos y consistencia interna de las variables del estudio

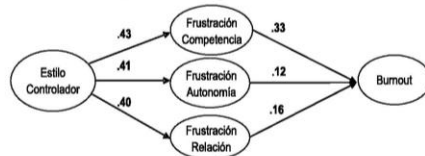
Variable	Rango	Media	DT	α
Estilo Controlador	1-7	2.43	.92	.80
Frustración Competencia	1-7	2.65	1.33	.75
Frustración Autonomía	1-7	3.23	1.31	.70
Frustración Relación	1-7	2.56	1.36	.73
Burnout	1-5	1.93	.71	.88

Modelo de Ecuaciones Estructurales

El modelo estructural hipotetizado se ha puesto a prueba utilizando el método de máxima verosimilitud del LISREL 8.54 (Jöreskog y Sörbom, 2003). Los resultados mostraron un adecuado ajuste de los datos: $\chi^2(161) = 370.14, p < .01$; CFI = .97; NNFI = .96; RMSEA = .063. Los parámetros de la solución estandarizada se presentan en la Figura 1.

Los resultados informaron que la percepción del estilo controlador del entrenador actuaba de predictor positivo de la frustración de las necesidades de competencia, de autonomía y de relación; y que estas tres últimas a su vez se asociaban positivamente con el burnout. El modelo explicó un 34% de la varianza del burnout.

Figura 1. Solución estandarizada del modelo estructural hipotetizado de la asociación entre el estilo controlador, la frustración de las necesidades psicológicas básicas y el burnout. Nota. Todos los coeficientes son significativos ($p < .01$).



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Coaches' interpersonal style, basic psychological needs and the well- and ill-being of young soccer players: A longitudinal analysis

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Abstract

This study entailed a longitudinal test of basic psychological needs theory, a sub-theory in the self-determination framework (Deci & Ryan, 2000), in young soccer players. We examined whether changes in soccer players' perceptions of the coaches' interpersonal style (autonomy supportive and controlling) predicted changes in the players' need satisfaction/need thwarting, and in turn, variability in their reported subjective vitality and burnout over the course of a season. Young male soccer players ($M = 12.58 \pm 0.54$ years) completed a questionnaire at two time points in the season [$n(T1) = 725$; $n(T2) = 597$]. Changes in the players' perceptions of an autonomy supportive environment significantly predicted changes in psychological need satisfaction (positively) and in psychological need thwarting (negatively). Changes in psychological need satisfaction positively predicted changes in subjective vitality and negatively related to cross-time variation in global burnout scores. In contrast, changes in the players' perceptions of a controlling coach-created environment were positively associated with changes in psychological need thwarting that corresponded to increases in player burnout. Finally, results provided support for the assumed mediational roles of psychological need satisfaction and need thwarting in the social environment to well- and ill-being relationships.

Keywords: *autonomy support, controlling style, self-determination theory, subjective vitality, burnout*

Introduction

Sport participation is considered to be an inherently rewarding activity that contributes to psychological well-being (Ryan & Frederick, 1997). However, when competition is involved, children and adolescents do not always receive the potential benefits of practising sport. On some occasions, participating in sport requires intense physical demands and high psychological pressures that some athletes perceive as a struggle to handle, potentially leading to negative consequences.

Variations in the psychological environment created by significant others (such as the coach) and their impact on athletes' motivational processes are key determinants of the quality of sport engagement and whether participation leads to positive and/or maladaptive outcomes. Basic psychological needs theory, a sub-theory of the self-determination framework (Deci & Ryan, 2000), provides a conceptual

lens by which we can explore the social environmental and motivation-related antecedents of experiences of well-being and ill-being in athletes. The present work is grounded in basic psychological needs theory and centres on predicting the quality of participation in a large sample of young soccer players through two indicators, namely, players' feelings of subjective vitality and reported burnout.

Heightened subjective vitality is one's conscious experience of possessing energy and aliveness (Ryan & Frederick, 1997) and is assumed to characterise individuals who are experiencing well-being (Ryan & Deci, 2001). Athlete burnout is defined in terms of players' feelings of emotional and physical exhaustion, reduced sense of accomplishment, and an uncaring and cynical attitude towards sport participation, and is a key indicator of ill-being in athletes (Raedeke & Smith, 2001).

According to self-determination theory, such positive as well as negative outcomes can be better

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understood by considering the degree to which the environment satisfies versus thwarts people's basic psychological needs (Deci & Ryan 2000; Ryan & Deci, 2000b). These needs – the need for competence (concerns an individual's need to feel that he/she can meet the demands of the activity), autonomy (feelings that one is the perceived origin of one's action) and relatedness (feelings of being connected to and being accepted by significant others) – are considered innate and universal for psychological growth and optimal functioning (Deci & Ryan, 2000; Ryan & Deci, 2000a). In contrast, self-determination theory proposes that when the needs are not satisfied or are thwarted, ill-being and dysfunction are likely to be witnessed (Ryan & Deci, 2000b).

Self-determination theory (Deci & Ryan, 2000), and in particular basic psychological needs theory, postulates that people function and develop more successfully as a consequence of social environmental support for their basic psychological needs. With respect to social environmental factors that are assumed to be important for need satisfaction and ensuing well-being (Ryan & Deci, 2000b), emphasis has been placed on the degree of autonomy support (Deci & Ryan, 1987) provided by significant others. Basic psychological needs theory also considers the potential impact of controlling interpersonal styles on diminished or even frustrated need satisfaction and resulting ill-being (Ryan & Deci, 2000b).

Previously, when sport researchers have explored the degree to which the environment satisfies or frustrates participants' basic psychological needs and the ensuing consequences for well-being/ill-being, it was assumed that low need satisfaction is equivalent to a thwarting of the psychological needs (see Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011, p. 78). However, low need satisfaction is not the same as having one's psychological needs actively frustrated. In the former, athletes feel that their needs are not satisfied (e.g., athletes have low satisfaction of autonomy because they are not feeling they have much input in decision making on the team). With respect to need thwarting, athletes perceive that their need satisfaction has been actively impeded (e.g., athletes feel without autonomy because they feel pushed to behave in certain ways).

Assuming that need satisfaction and need thwarting are separate (albeit inversely related) concepts allows us to explore different antecedents and consequences of each of these constructs. Specifically, we can examine the assumptions that need satisfaction is the key mechanism that links positive dimensions of the social environment to indices of well-being and optimum development, while need thwarting is a central process linking negative dimensions of the social environment to

compromised functioning (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Ryan & Deci, 2000b).

Coaches' interpersonal styles and implications for athletes' basic psychological needs

Two dimensions of coaches' behaviours have been considered in the literature; namely, the autonomy supportive and controlling features of their interpersonal style. Autonomy supportive coaches are more likely to consider the athlete's or team's perspective, offer a rationale, promote choice and encourage decision-making (Deci & Ryan, 1985, 1987; Mageau & Vallerand, 2003). It is assumed that this interactive style will lead to greater satisfaction of psychological needs. Coaches manifesting a controlling interpersonal style behave in a coercive, pressuring, and authoritarian way to impose a specific and preconceived way of thinking and behaving upon their athletes. Controlling coaches actively impede their athletes' experience of the basic needs (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2010; Deci & Ryan, 1985). In these situations, athletes are likely to exhibit negative affective, cognitive and behavioural responses (Deci & Ryan, 2000).

Regarding the implications of coaches' interpersonal style, basic psychological needs theory-grounded research in the sport domain has predominantly explored the consequences of autonomy supportive coach behaviours on need satisfaction (e.g., Adie, Duda, & Ntoumanis, 2008; Álvarez, Balaguer, Castillo, & Duda, 2009; Amorose & Anderson-Butcher, 2007; Balaguer, Castillo, & Duda, 2008; Gagné, Ryan, & Bargmann, 2003; Mageau & Vallerand, 2003). This line of work, involving samples of youth through adult age athletes, has revealed a positive association between coach-provided autonomy support and the satisfaction of the need for autonomy (e.g., Reinboth, Duda, & Ntoumanis, 2004), the needs for autonomy and relatedness (e.g., Balaguer et al., 2008), and for the three basic psychological needs (e.g., Adie et al., 2008) or for a composite measure of need satisfaction (Álvarez et al., 2009; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011).

Until recently, sport research has not concurrently addressed the implications of both coach autonomy supportive and controlling styles to athletes' psychological need satisfaction as well as need thwarting. In two cross-sectional studies, Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011) revealed perceptions of an autonomy supportive atmosphere to be a positive predictor of need satisfaction and a negative predictor of need thwarting. A perceived controlling style emerged as a positive predictor of need thwarting. In the current research, we extend the

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work of Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011) by testing relationships between both dimensions of coaches' interpersonal style and psychological need satisfaction and need thwarting over one competitive season.

Need satisfaction/need thwarting and athletes' subjective vitality/burnout

Aligned with the tenets of basic psychological needs theory (Deci & Ryan, 2000), sport research has provided evidence for a positive link between psychological need satisfaction and reported subjective vitality in athletes (e.g., Adie et al., 2008; Gagné et al., 2003; Reinboth & Duda, 2006; Reinboth et al., 2004). In the present study, we examined the degree to which young soccer players' feelings of personal energy and aliveness are predicted by their degree of need satisfaction when participating in their sport over the course of one season.

Basic psychological needs theory (Ryan & Deci, 2000b) has been considered to be a promising conceptual lens in which to explore the possible antecedents of athletes' burnout symptoms (i.e., Hodge, Lonsdale, & Ng, 2008; Perreault, Gaudreau, Lapointe, & Lacroix, 2007). Raedeke (1997) proposed that a lack of autonomy contributes to athlete burnout, and Cresswell and Eklund (2006) argue that low satisfaction of the need for competence is a determinant of a reduced sense of accomplishment, a key element of the burnout experience. Relatedness has been also deemed to be involved in the development of athlete burnout, but is assumed to hold a less important role than autonomy and competence (Hodge et al., 2008). In a study of young Canadian athletes, the three psychological needs negatively predicted global burnout (Perreault et al., 2007). In longitudinal research on vocational dancers, increases in global burnout scores were negatively predicted by changes in satisfaction of the three needs (Quested & Duda, 2011).

Bartholomew and her colleagues (Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), utilising a cross-sectional design, tested the consequences of psychological need satisfaction and need thwarting on athletes' reported well-being and ill-being. In one study, they found young athletes' feelings of vitality to be positively predicted by need satisfaction and negatively related to need thwarting. However, reported frustration of the psychological needs emerged as the only (and positive) significant predictor of emotional and physical exhaustion (the unique dimension of burnout included in that study). In a second study in which global burnout was assessed, need thwarting positively and need satisfaction negatively predicted this indicator

of ill-being. A third investigation involving female athletes revealed need satisfaction to be a positive predictor of athletes' subjective vitality. However, the results indicated that need thwarting was not significantly related to this indicator of well-being. Thus, the limited results to date are inconsistent regarding the implications of need thwarting for experiences of well-being and the role of need satisfaction in predicting ill-being. As this design provides more powerful information regarding prediction and allows for analysis of change over time, we conducted a longitudinal study to examine the links between youth soccer players' degree of satisfaction and thwarting of the three psychological needs and their reported vitality and global burnout.

In sum, the present study extended the literature by adopting a longitudinal methodology and determining whether changes in subjective vitality and global burnout co-varied with changes in our hypothesised antecedents, namely, players' perceptions of the coaches' interpersonal style (i.e. the autonomy support and controlling aspects) and the degree to which players' perceived their psychological needs to be satisfied and/or thwarted. We also tested whether need satisfaction and need thwarting served as mediators in the relationships between the two dimensions of the coach interpersonal style and players' subjective vitality and global burnout.

We hypothesised that: (1) changes in the players' perceptions of autonomy support and psychological need satisfaction would positively predict changes in subjective vitality and negatively relate to changes in reported burnout, over time; (2) changes in the players' perceptions of controlling behaviours and psychological need thwarting would positively predict changes in reported burnout and negatively correspond to changes in subjective vitality, over time; (3) changes in perceptions of autonomy support would negatively predict changes in need thwarting, while changes in perceptions of controlling style would be a negative predictor of changes in need satisfaction; (4) we also expected any relationship between changes in the targeted dimensions of coaches' interpersonal styles and indicators of young players' well- and ill-being to be mediated by changes in psychological needs (i.e., their satisfaction as well as thwarting).

Method

Participants

The participants were at time one (T1), 725 male soccer players aged between 11 and 14 years old ($M = 12.57$, $s = 0.54$), representing 27 different soccer schools from the Valencian Soccer Federation. Five hundred and ninety-seven of these initial participants completed the questionnaire pack at

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time two (T2; $M=12.58$ years, $s=0.54$). Using dummy-coding (stay vs. dropout) to test for possible differences among those athletes who took part in the second data collection (T2) and those who did not, we conducted a one-way multivariate analysis of variance (MANOVA) with coaches' interpersonal styles, need satisfaction, need thwarting and our targeted indices of well-/ill-being as the dependent variables. No significant differences emerged ($F(6, 718)=0.24, P > 0.10$). The overall sample is representative of the *Infantil* soccer division from the Valencian Community Youth Soccer League in Valencia, Spain. On average, participants had played competitively with their respective club development programmes for 3 years.

After selecting the teams randomly by area within the Valencian Community from the list provided by the Valencian Soccer Federation, we sent a letter to the sports director of each of the soccer schools, informing them about the goals of the investigation and requesting their collaboration. All the schools contacted expressed interest in participating in the investigation. All participants and their parents were provided with verbal information about the investigation and provided informed consent before data collection. The questionnaires were responded to anonymously and voluntarily, and were completed by the players at the different soccer schools during a 45-minute interval, before beginning their normal training session, in a room made available for this purpose. The questionnaires were administered by at least one investigator simultaneously to all the team members who participated in the investigation. Neither the coach nor the sports director of the club was present at any time during questionnaire administration. Players were encouraged to answer honestly and ask the investigator present if they had any questions. The Time 1 questionnaire pack was administered when approximately the first two months of the season had passed, so the players had enough time to develop their views regarding their coaches' prevailing interpersonal styles. Time 2 questionnaires were completed at the end of the season. At each time point, players were requested to answer in terms of how they were perceiving the situation/feeling at that point in time.

Instruments

Coach autonomy support. Players' perceptions of the degree of autonomy support provided by their coach were assessed via the 15 item Spanish version (Balaguer, Castillo, Duda, & Tomás, 2009) of the Sport Climate Questionnaire (<http://www.psych.rochester.edu/SDT/>). Each item starts with the phrase: "On my soccer team..." and the responses are rated on a 7-point Likert scale ranging from

1 (*not at all true*) to 7 (*very true*). An example item is "I feel that my coach provides me choices and options".

Coach controlling interpersonal style. Players' perceptions of the degree to which their coach manifested a controlling style were measured using the Spanish version (Castillo et al., 2010) of the Controlling Coach Behaviours Scale (Bartholomew et al., 2010). The 15-item scale is comprised of four sub-dimensions (controlling use of rewards, conditional regard, intimidation, and excessive personal control). Players provided their responses, on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), in terms of how they viewed their coach. Examples of items from each of the subscales are "My coach tries to motivate me by promising to reward me if I do well" (controlling use of rewards), "My coach is less friendly with me if I don't make the effort to see things his/her way" (conditional regard), "My coach shouts at me in front of others to make me do certain things" (intimidation), and "My coach expects my whole life to centre on my sport participation" (excessive personal control). Consistent with Bartholomew and colleagues (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), a composite coach controlling behaviour variable was created.

Psychological need satisfaction. To assess the satisfaction of the need for competence, we used the Spanish version (Balaguer et al., 2008) of the 5-item subscale of Perceived Competence from the Intrinsic Motivation Questionnaire (McAuley, Duncan, & Tammen, 1989). An example item is "I think I'm pretty good at soccer". Satisfaction of the need for autonomy was assessed using the Spanish version (Balaguer et al., 2008) of the 10 items used by Reinboth and Duda (2006). A sample item is "When I play soccer, I feel I can give a lot of input into deciding what activities/skills I want to practice". Responses to these two scales were provided on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). To assess the satisfaction of the need for relatedness, we used the Spanish version (Balaguer et al., 2008) of the 5-item Acceptance subscale of the Need for Relatedness Scale (Richer & Vallerand, 1998). An example item is "When I play soccer, I feel supported". The responses were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Aligned with previous work (e.g., Alvarez et al., 2009), the three need satisfaction subscales were used as indicators of a general need satisfaction variable.

Psychological need thwarting. Psychological need thwarting was measured using the Spanish version (Balaguer et al., 2010) of the Psychological Need Thwarting Scale (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). The 12-item

instrument is divided into three 4-item subscales assessing the perceived thwarting of personal feelings of autonomy, competence and relatedness in the sport setting. Examples of items of each subscale are "I feel forced to follow training decisions made for me" (autonomy), "There are times when I am told things that make me feel incompetent" (competence), and "I feel I am rejected by those around me" (relatedness). Referring to how they typically experienced playing on their soccer team, players provided their responses on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). For this study, and aligned with the analytic approach adopted by Bartholomew, Ntoumanis, Ryan, and Thøgersen-Ntoumani (2011), an overall psychological need thwarting variable was created.

Subjective vitality. Players' feelings of positive energy were assessed with a Spanish version (Balagué, Castillo, Álvarez, & Duda, 2005) of the six-item version of the Subjective Vitality Scale (Ryan & Frederick, 1997). An example item is, "I feel alive and full of vitality". Responses were provided on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Burnout. To assess reported burnout symptoms, we used a Spanish version of the 15-item Athlete Burnout Questionnaire (Raedeke & Smith, 2001) modified for the population. The instrument contains three 5-item subscales that measure players' perceived emotional and physical exhaustion (e.g., "I feel overly tired from my soccer participation"), degree of devaluation ("I am not into soccer like I used to be") and reduced sense of accomplishment ("I am not achieving much in soccer"). Responses were provided on a 5-point scale ranging from 1 (*almost never*) to 5 (*almost always*). For this study, we used a composite scale score reflecting global burnout.

Analytic strategy

Analyses were based on 597 respondents who had reasonably completed data for the study variables, in that they had missing values for no more than 1 of

the items on each of the scales. The percentage of missing data was very small (0.5%).

To examine the hypothesised model, we followed the two-step approach recommended by Anderson and Gerbing (1988). First, confirmatory factor analyses with LISREL (Version 8.54; Jöreskog & Sörbom, 2003) were performed in regard to the hypothesised measurement model to determine whether the indicators were related to the latent factors in a satisfactory manner. Second, after a satisfactory fit was achieved for the measurement model, we tested the fit of the structural model.

To determine the fit of the model, we considered different indices of fit that included chi-square (χ^2), the non-normative fit index (NNFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Values of CFI and NNFI higher than 0.90 indicate an acceptable fit (Hu & Bentler, 1995). For RMSEA, values between 0.05 and 0.10 are considered acceptable, equal to or lower than 0.08 is optimal (Cole & Maxwell, 1985).

On account of the number of parameters in the proposed model (see Figure 1), mean scores were employed as indicators of the targeted variables and a path model was tested. As was the case in examining the factor structure of each scale, the examination of the goodness of fit of the model was done considering various indices. As our focus was on change in the targeted variables, we controlled Time 1 values for each variable in our hypothesised model by including paths between the Time 2 variables and their corresponding Time 1 measure.

A further objective was to determine whether the association between changes in coaches' interpersonal style (i.e., the autonomy supportive and controlling features) and indices of players' welfare (subjective vitality and burnout) were mediated by changes in psychological need satisfaction and thwarting over the soccer season. Accordingly, the procedural recommendations of Holmbeck (1997) were employed to test the total mediating effect of the needs (satisfaction and thwarting).

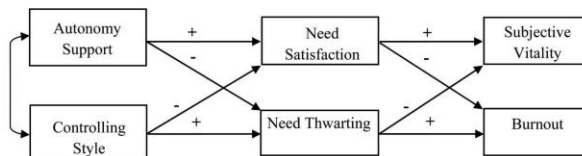


Figure 1. Hypothesised structural model of the associations between perceptions of autonomy support and controlling style, need satisfaction, need thwarting, vitality and burnout.

Results

All the scales had satisfactory fit indices (CFI range = 0.93–0.99, NNFI = 0.91–0.98; RMSEA = 0.03–0.08), and adequate factor loadings. The Cronbach internal reliability coefficients of all scales/subscales were satisfactory (α range = 0.77–0.92).

Mean scores indicated that, at Time 1, the players perceived their coaches to offer relatively high autonomy support. On average, the players indicated that they experienced relatively high psychological need satisfaction and subjective vitality. At Time 1, the participants perceived their coaches to exhibit a low controlling style, and reported low psychological need thwarting and low levels of burnout. When comparing means scores at the end of the season (Time 2), perceptions of autonomy support provided by the coach were higher than the perceived controlling style manifested ($t = 35.72, P < 0.01$, Cohen's $d = 2.36$). Players perceived more need satisfaction than need thwarting ($t = 34.27, P < 0.01$, Cohen's $d = 2.29$) and their well-being was higher than their ill-being ($t = 54.44, P < 0.01$, Cohen's $d = 2.43$).

When comparing the responses of the participants over time, repeated measures multivariate analysis of variance (MANOVA) ($F(591, 6) = 17.901, P < 0.001, \eta^2 = 0.15$) indicated that the players perceived their coaches to offer less autonomy support over the course of the season. The players' reported satisfaction of the psychological needs also significantly decreased, whereas reported global burnout increased over the season (see Table I).

At Time 1 and Time 2, autonomy support was positively correlated with psychological need satisfaction and subjective vitality. These three variables were negatively related with burnout. A perceived controlling style was positively related with need thwarting and burnout. Subjective vitality and

burnout were negatively related, and this negative relationship also was observed in the case of the autonomy support and controlling style dimensions, and psychological need satisfaction and need thwarting (see Table II).

The hypothesised model (see Figure 1) presented an adequate fit to the data. Specifically, $\chi^2(43) = 122.79, P < 0.01, \chi^2/df = 2.85, RMSEA = 0.07, NNFI = 0.94$, and CFI = 0.95. The parameters of the standardised solution are displayed in Figure 2. Changes in the players' perceptions of an autonomy supportive environment were a significant predictor of changes in psychological need satisfaction (positively) and in psychological need thwarting (negatively). This change in psychological need satisfaction significantly predicted changes in subjective vitality (positively) and in global burnout (negatively). Results also indicated that changes in the players' perceptions of a controlling style significantly and positively predicted the changes in psychological need thwarting that, in turn, positively predicted changes in global burnout over the course of the season (see Figure 2). Results from the proposed model significantly predicted 48% of the variance in changes in psychological need satisfaction, 35% of the variability in change in psychological need thwarting, 38% of the variance in changes in subjective vitality and 42% of the variability in change in reported burnout over the season.

In order to determine whether the association between changes in coaches' interpersonal style and indicators of players' welfare were mediated by changes in psychological need satisfaction and thwarting over the course of the season, we first tested a model estimating the direct path from coach interpersonal style (autonomy support and controlling style) to subjective vitality and burnout. The model provided a good fit to the data: $\chi^2(15) = 53.21, P < 0.01; CFI = 0.95; NNFI = 0.94; RMSEA = 0.07$. The first mediation criterion is evidenced in the significant direct paths between perceptions of autonomy support and controlling style with subjective vitality ($\beta = 0.26, P < 0.01$ and $\beta = -0.08, P < 0.05$, respectively), and between perceptions of autonomy support and controlling style with burnout ($\beta = -0.16, P < 0.01$ and $\beta = 0.19, P < 0.01$, respectively).

The next step in testing mediation was to confirm the fit of the constrained model (Holmbeck, 1997). As reported earlier (see Figure 2), significant relationships were evident between autonomy support and psychological need satisfaction and thwarting, between controlling style and need thwarting, between need satisfaction and both outcomes (subjective vitality and burnout) and between need thwarting and burnout. The path from need thwarting to subjective vitality was not significant

Table I. Mean scores, standard deviations for all study variables at Time 1 and Time 2.

	Range	Time 1		Time 2		F(6, 591)
		M	s	M	s	
Autonomy Support	1–7	5.35	0.95	4.97	1.10	101.42***
Controlling Style	1–7	2.42	0.92	2.45	1.04	0.57
Need Satisfaction	1–7	5.42	0.78	5.32	0.87	10.21***
Need Thwarting	1–7	2.77	1.17	2.86	1.25	2.95
Subjective Vitality	1–7	5.47	1.00	5.43	1.13	0.83
Burnout	1–5	1.89	0.70	1.98	0.75	10.51***

*** $P < 0.001$

Table II. Correlations between study variables.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Autonomy Support T1	-											
2. Autonomy Support T2	0.61**	-										
3. Controlling Style T1	-0.24**	-0.22**	-									
4. Controlling Style T2	-0.19**	-0.30**	0.49**	-								
5. Need Satisfaction T1	0.55**	0.40**	-0.10*	-0.10*	-							
6. Need Satisfaction T2	0.37**	0.57**	-0.11**	-0.17**	0.61**	-						
7. Need Thwarting T1	-0.23**	-0.30**	0.49**	0.36**	-0.29**	-0.28**	-					
8. Need Thwarting T2	-0.24**	-0.40**	0.40**	0.45**	-0.24**	-0.36**	0.53**	-				
9. Subjective Vitality T1	0.29**	0.14**	0.04	0.01	0.44**	0.27**	-0.02	-0.01	-			
10. Subjective Vitality T2	0.24**	0.30**	0.05	0.00	0.36**	0.48**	-0.05	-0.14**	0.50**	-		
11. Burnout T1	-0.24**	-0.23**	0.38**	0.32**	-0.34**	-0.30**	0.53**	0.46**	-0.16**	-0.16**	-	
12. Burnout T2	-0.20**	-0.33**	0.37**	0.40**	-0.28**	-0.38**	0.44**	0.59**	-0.13**	-0.19**	0.58**	-

** $P < 0.01$; * $P < 0.05$

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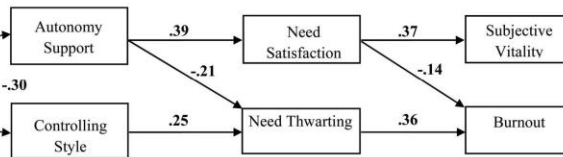


Figure 2. Structural model of the associations between perceptions of autonomy support and controlling style, need satisfaction, need thwarting, vitality and burnout at Time 2 while controlling for corresponding Time 1 values. Note. All coefficients are standardised and significant ($z > 1.96$)

($P > 0.05$). Therefore, it was only possible to test the mediational effects of need satisfaction from autonomy support to both outcomes, need thwarting from autonomy support to burnout, and need thwarting in terms of the relationship between perceptions of a controlling interpersonal style and burnout.

The third and final step was to examine an unconstrained model by adding a direct path from autonomy support and controlling style to subjective vitality and burnout (as established in the first model). Similar to the constrained model, the fit of the unconstrained model was good: $\chi^2(35) = 108.86$, $P < 0.01$; CFI = 0.96; NNFI = 0.95; RMSEA = 0.08. It should be noted that in the unconstrained model however, the paths from

autonomy support to subjective vitality and to burnout were non-significant ($\beta = 0.07$ and $\beta = -0.01$, $P > 0.05$, respectively). The same results occurred with the observed paths from controlling style to subjective vitality and to burnout being non-significant ($\beta = 0.01$ and $\beta = 0.02$, $P > 0.05$, respectively). These results provided evidence of a total mediation effect in the case of need satisfaction and need thwarting.

Finally, the χ^2 difference test indicated that the unconstrained model did not offer a superior representation of the data to the mediation model (χ^2 difference = 13.93, $P = 0.15$). The indirect effects indicated that autonomy support positively influenced subjective vitality ($\beta = 0.14$, $P < 0.05$) through

psychological need satisfaction and negatively influenced burnout ($\beta = -0.13$, $P < 0.05$) through psychological need satisfaction and need thwarting. Moreover, a perceived controlling interpersonal style had a positive effect on burnout ($\beta = 0.09$, $P < 0.05$) through psychological need thwarting.

Discussion

Extending the literature, this study entailed a longitudinal test of basic psychological needs theory and examined changes in perceptions of coach-provided autonomy support, need satisfaction, and indicators of well- and ill-being in a large group of young soccer players across one competitive season. Furthermore, as this is another key dimension of (leader) interpersonal highlighted within self-determination theory (Deci & Ryan, 1985, 1987, 2000), we considered players' views of the degree to which their coaches were controlling.

In previous studies (for two exceptions, see Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011), need satisfaction was the sole variable assumed to be a proximal predictor of variability in athletes' reported well-being and ill-being. In the current work, we added to the recent extension evident in basic psychological needs theory-based research in sport by including both need satisfaction and need thwarting in the longitudinal model tested in the case of young soccer players.

Four hypotheses were formulated to test the proposed model, which predicted a basic psychological needs theory-based motivational sequence between changes in athletes' perceptions of their coaches' autonomy supportive and controlling behaviours, need satisfaction and thwarting, and the targeted indicators of the athletes' welfare. First, the expected association between perceived provision of autonomy support by the coach and psychological need satisfaction emerged and was aligned with previous research on athletes (Adie et al., 2008; Álvarez et al., 2009; Amorose & Anderson-Butcher, 2007; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011) and vocational dancers (Quested & Duda, 2010, 2011). Our results indicated that when coaches were deemed to encourage players' opportunities for input and decision making, provide a rationale for their requests and recommendations, and consider the players' perspectives, the players' reported psychological need satisfaction was enhanced.

In line with our hypotheses, we found that increases in autonomy support and need satisfaction predicted positive changes in subjective vitality and negative changes in burnout from the beginning to

the end of the season. These results are consonant with past cross-sectional sport research (Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011) and longitudinal research involving vocational dancers (Quested & Duda, 2011), and suggest that young soccer players' burnout risk is exacerbated when coaches do not foster and sustain an autonomy supportive interpersonal style.

We expected that changes in the soccer players' perceptions of coaches' controlling style and psychological need thwarting would positively predict changes in reported burnout and correspond negatively to changes in subjective vitality over the course of the youth soccer season. We found increases in coach controlling style and need thwarting to be associated with increases in burnout during the season but not to be significantly related to changes in players' feelings of vitality. These results regarding the concomitants of changes in need thwarting over the season and player well-being are not completely in accordance with findings reported by Bartholomew, Ntoumanis, Ryan and Thøgersen-Ntoumani (2011). In their cross-sectional study, a weak, negative but significant path emerged between athletes' perceptions of the active countering of their psychological needs by their coaches and subjective vitality. However, the present findings stemming from a longitudinal analysis are in line with the theorising of Deci and Ryan (2000) and Bartholomew and colleagues (Bartholomew et al., 2010; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), who suggested that coach controlling behaviours would be particularly relevant to indicators of compromised health and functioning in athletes. Our findings suggest that when we consider changes in need thwarting and player burnout in contrast to feelings of vitality over time, this seems to be the case.

It was also proposed that changes in perceptions of autonomy support would negatively predict changes in need thwarting, while changes in perceptions of controlling style would be a negative predictor of changes in need satisfaction. Results provided evidence for the expected relationships in the case of autonomy support and its associations with both need satisfaction and need thwarting. In terms of the predicted relationships between perceptions of controlling coach behaviours and psychological need satisfaction and need thwarting (negative and positive, respectively), only the latter path was significant. These results are in accordance with the two cross-sectional studies conducted recently by Bartholomew, Ntoumanis, Ryan, Bosch et al. (2011). However, in the research of Bartholomew, Ntoumanis, Ryan, Bosch et al., the path values from autonomy support to need satisfaction were considerably larger (i.e., β between 0.66 and 0.69) than

the observed paths between autonomy support and need thwarting (i.e., β between -0.22 and -0.31). This was not the case in our study as the absolute values of these two paths were less discrepant (for autonomy support–need satisfaction ($\beta = 0.39$) and autonomy support–need thwarting ($\beta = -0.21$)). Also in the present research, the values of the coefficients for the paths between each of the targeted dimensions of coaches' interpersonal style to need thwarting were quite similar in strength (albeit different in direction, see Figure 2). Our results suggest that when soccer coaches behave in a coercive, pressuring and autocratic manner, players are more likely to feel oppressed, inadequate, and/or rejected. The findings also imply that, in a controlling environment, players would be prone to feel like their basic psychological needs are being actively obstructed rather than not being appeased. Moreover, results indicate that not only the presence of a controlling interpersonal style predicts need thwarting in young soccer players. It seems that when such youth sport athletes perceive their coaches to engage in limited autonomy supportive behaviours, they also tend to feel their needs are impeded.

These results reflecting differential prediction, and the observed low negative correlations between soccer players' perceptions of the autonomy supportive and controlling features of their coaches' interpersonal style at both Time 1 and Time 2 (i.e., 6–9% shared variance), imply that these two social environmental dimensions may be inversely related but are not two ends of one continuum. Drawing from our findings, and in line with previous research (e.g., Bartholomew et al., 2010, Pelletier, Fortier, Vallerand, & Brière, 2001), it seems important in future studies for researchers to consider both the autonomy supportive and controlling behaviours of the coach when we want to study how the coach-created social context shapes both the positive and negative experiences of athletes.

In accordance with our fourth hypothesis, changes in psychological need satisfaction mediated the association between changes in perceptions of autonomy support and the targeted indicators of well- and ill-being. Consonant with these predictions, changes in need thwarting mediated the association between changes in perceptions of both dimensions of coaches' interpersonal style and global burnout. Consonant with what has been argued in recent work (Bartholomew et al., 2010; Bartholomew, Ntoumanis, Ryan, Bosch et al., 2011), the present findings point to the relevance of incorporating need thwarting as a different and separate variable to need satisfaction in our models of motivation-related processes. The inclusion of both need satisfaction and need thwarting allows us to better understand and differentiate the mechanisms

by which the social atmosphere created by coaches can impact the experiences of well-being and/or ill-being in their athletes.

When reflecting upon the observed mean values, our results indicate that over the course of the season, the soccer players sampled perceived that their coaches interacted with them using both interpersonal styles (i.e., they were viewed as exhibiting both autonomy supportive and controlling behaviours with autonomy support being the predominant environmental characteristic). The young soccer players also indicated greater need satisfaction than need thwarting and their reported levels of well-being were elevated when compared to levels of ill-being. Therefore, as a group, this large sample of youth soccer players was characterised by positive emotional health and functioning and tended to view the coach-created environment as relatively adaptive. However, it is important to note that there was variation in the responses provided by these young athletes. Furthermore, and aligned with the work of Qusted and Duda (2011) on vocational dancers, the findings revealed an overall decline in indicators of optimal environmental conditions and player functioning as the season progressed. Specifically, we found that the young athletes' perceptions of coach-provided autonomy support and need satisfaction decreased and reported burnout increased over time. Such findings fuel concerns for the optimal development and sustained engagement of such young players. In future work, it would be interesting to explore whether this is a time related change associated with the length of season (e.g., the players feel and coaches behave differently at the end of a season perhaps due to fatigue, etc.) or whether there are particular pressures or demands at the end of the season (e.g., league championships) that contribute to the observed differences in coaches' interpersonal style, players' feelings of competence, autonomy, and relatedness as well as their feelings of being burned out.

When the expected mediation between coach interpersonal style and positive and negative indices of athletes' overall welfare was tested, the present findings gave a more prominent mechanistic role to need satisfaction over need thwarting. This is because the former emerged as a complete mediator between autonomy support and players' reported feelings of energy and reported burnout. Need thwarting only mediated the relationship between perceptions of both dimensions of coaches' interpersonal style and burnout. However, the path between need thwarting and global burnout was stronger than the path between need satisfaction and reported burnout symptoms. Thus, aligned with Bartholomew, Ntoumanis, Ryan, Bosch, et al. (2011), it seems important to consider the active

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frustration of basic needs when we seek to better understand contributors to “the dark side” of sport participation. In contrast, variability in player need satisfaction appears relevant in terms of whether players experience optimal or debilitated functioning in soccer in a much broader sense.

From an applied perspective, our findings underline the importance for coaches to work toward using more autonomy supporting strategies, such as providing a rationale for their requests, seeking players’ input into decision making where and when possible, allowing some choice in terms of training activities, and acknowledging how players are feeling in practice and competitive situations. Through the creation of such more adaptive environments, soccer coaches can potentially have a wider effect regarding the promotion of well-being and prevention of ill-being in their players. The results also point to the value of coaches aiming to curtail the use of controlling behaviours, with an eye towards attenuating the risk of young players burning out and possibly dropping out.

In the context of youth soccer, the present study provided a longitudinal test of basic psychological needs theory and accounted for variations in the variables of interest in order to predict changes in players’ reported well- and ill-being. The focus was on changes in individual players’ views on their coaches’ behaviours and their thoughts and feelings in football over the course of the season. However, it is important to consider in future work that players participate in teams and this nesting effect could be tested (e.g., using multi-level analysis which considers team and individual level variables). While in the present study we have used composite indicators of coaches’ controlling interpersonal style, need satisfaction, need thwarting, and burnout, it would be informative in subsequent research to consider the role of specific controlling behaviours, particular needs (whether satisfied and/or thwarted) and also aim to predict the different sub-dimensions of burnout (e.g., reduced accomplishment, physical and emotional exhaustion; Qusted & Duda, 2011). Such work would provide further insight into the inter-relationships between motivationally-relevant aspects of the coach-created environment, players’ needs, and hallmarks of their psychological, emotional and physical health in youth sport settings.

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