DEPARTAMENTO DE ORGANIZACIÓN DE EMPRESAS

Universidad de Granada

TESIS DOCTORAL

LA GESTIÓN DE EQUIPOS: HETEROGENEIDAD EN LA DESTREZA, RENDIMIENTO DE LOS RECIÉN LLEGADOS Y TOMA DE DECISIONES MEDIOAMBIENTALES

DOCTORANDO:

JOSÉ MANUEL DE LA TORRE RUIZ

DIRECTORES:

JUAN ALBERTO ARAGÓN CORREA

INMACULADA MARTÍN TAPIA

Editor: Editorial de la Universidad de Granada
Autor: José Manuel de la Torre Ruiz
D.L.: GR 1346-2011
ISBN: 978-84-694-1065-3

Esta tesis doctoral ha sido realizada gracias a una beca predoctoral concedida por el Ministerio de Educación y Ciencia y a la financiación con cargo a fondos del grupo SEJ-481 “Innovación, Sostenibilidad y Desarrollo Empresarial” del Plan Andaluz de Investigación de la Junta de Andalucía, procedentes de diferentes contratos, proyectos y subvenciones de las Administraciones central y autonómicas así como el plan propio de la Universidad de Granada.

LA GESTIÓN DE EQUIPOS: HETEROGENEIDAD EN LA DESTREZA, RENDIMIENTO DE LOS RECIÉN LLEGADOS Y TOMA DE DECISIONES MEDIOAMBIENTALES

PRESENTADO POR:

JOSÉ MANUEL DE LA TORRE RUIZ

DIRECTORES:

JUAN ALBERTO ARAGÓN CORREA **INMACULADA MARTÍN TAPIA**

Granada, 2011

When you make the finding yourself – even if

you're the last person on Earth to see the light –

you'll never forget it.

(Carl Sagan)

AGRADECIMIENTOS

Considero justo dedicar las primeras líneas de esta tesis a agradecer a todas aquellas personas que han contribuido en mayor o menor medida a la realización de este trabajo y sin las cuales seguramente esta tesis no podría haber sido posible.

Debo comenzar agradeciendo a mis directores de tesis su implicación en este trabajo. A Juan Alberto Aragón Correa me gustaría agradecerle el haberme abierto las puertas y haberme iniciado y guiado en este complejo mundo de la investigación universitaria. A Inmaculada Martín Tapia le agradezco su implicación y dedicación.

Del mismo modo he de agradecer al profesor Gerben S. Van der Vegt el permitirme realizar una estancia de investigación en la Universidad de Groningen, la cual resultó especialmente provechosa a la hora de realizar este trabajo.

Agradezco a los profesores del Departamento de Organización de Empresas el haberme hecho sentir uno más desde el primer día, especialmente me gustaría resaltar a aquellos con los que he tenido la suerte de compartir asignatura, gracias por hacerlo todo más sencillo.

No puedo dejar de mencionar a mis compañeros del grupo de investigación ISDE, especialmente a Javi Delgado, Samu, Lola, Mª Ángeles, Nuria, Eulogio, Enrique o Eugenia, que me han proporcionado ayuda, apoyo y consejo siempre que lo he necesitado.

Aunque no puedo tener nada más que palabras de agradecimiento para todas aquellas personas con las que he compartido algún que otro rato durante todo este largo proceso, no sería justo no reconocer especialmente a aquellos que más tiempo han tenido que aguantarme durante todo el proceso, a mis compañeros del pasillo D-0.

A Vera por estar ahí siempre, por compartir buenos y malos momentos, por transmitirme tu energía y tus ganas, por ayudarme siempre que lo he necesitado, por ser una gran compañera y mejor amiga.

A mi “compi” Ana Bojica por ser un apoyo desde el primer día y por ser un ejemplo de trabajo y dedicación.

A Javi Aguilera y Rodrigo, porque al haber recorrido este camino juntos hemos compartido agobios pero también buenos ratos que han hecho todo mucho más llevadero.

A Eva por transmitirme su alegría, por los buenos momentos que hemos pasado y los que nos quedan por pasar.

A Mati, José Liñares, Javi Tamayo, Nieves, Natalia, Encarni, Jenny, a las “niñas” de Contabilidad: Laura, Gema, Ana y Raquel; gracias a todos por hacer que subir a la facultad siempre tuviera el lado bueno de echar un rato con vosotros.

Por supuesto a mi familia, por todo. Por haber sido siempre el mejor ejemplo, por vuestra dedicación absoluta, por vuestro esfuerzo, por vuestro cariño...

Y por último y en este caso la más importante, a Rosa. Sin ti, esta tesis habría sido imposible. Porque nadie mejor que tú sabe lo que ha supuesto este trabajo y cómo ha sido el proceso. Gracias por estar ahí siempre, por darme apoyo y animarme a continuar en los malos momentos. Esta tesis ya está acabada, ahora nos centraremos en la siguiente.

ÍNDICE

ÍNDICE DE TABLAS

ÍNDICE DE FIGURAS

CAPÍTULO 1

INTRODUCCIÓN

1.1 ACERCAMIENTO AL TEMA OBJETO DE ESTUDIO Y SU IMPORTANCIA

En los últimos años las organizaciones están variando su forma de organizar el trabajo, pasando de los modelos industriales tradicionales, que se caracterizaban por una organización del trabajo centralizada, altamente jerarquizada y con escasa autonomía para los trabajadores, a nuevas formas de organización que abogan por estructuras más planas, descentralizadas, con una mayor autonomía y donde el trabajo en equipo ocupa un lugar fundamental (Parent-Thirion, Macias, Hurley y Vermeylen, 2007; Zahra, Ireland, Gutiérrez y Hitt, 2000). La creciente complejidad e incertidumbre del entorno demanda establecer estos modelos organizativos más flexibles que permitan a la organización adaptarse de forma rápida y eficaz a los cambios (García-Olaverri, Huerta-Arribas y Larraza-Kintana, 2006). No es por tanto extraño que las organizaciones opten por fomentar el trabajo en equipo en detrimento del trabajo realizado de forma individual (Cross, Ehrlich, Dawson y Helferich, 2008; Procter y Burridge, 2008).

No obstante, la organización del trabajo mediante equipos no se trata de una corriente reciente sino que ha sido habitual en el desarrollo de actividades económicas, existiendo una evolución importante tanto en los objetivos como en la forma de gestionar los mismos. Centrándonos en épocas más actuales podemos distinguir dos etapas principales, una que abarcaría desde principios de los setenta hasta mediados de los ochenta y otra a partir de esa última fecha (Jenkins, 1994). El surgimiento de equipos en la primera etapa se enmarca dentro del deseo por parte de los dirigentes de las empresas (principalmente las productivas) de atenuar los efectos negativos que el Taylorismo provoca sobre la

productividad, prestando una mayor atención a la satisfacción de los trabajadores y a la calidad del trabajo. A partir de la segunda mitad de los ochenta, la filosofía ante el uso de los equipos cambia. El éxito de la producción japonesa provocó que la filosofía de la calidad total se expandiese por toda Europa y Estados Unidos. Las compañías fueron optando por incluir sistemas de trabajo de alto rendimiento con el objetivo de no perder su competitividad frente a la amenaza internacional. Los equipos de trabajo pasaron así a ocupar un puesto fundamental dentro del diseño organizativo.

Pese a que como vemos la presencia de equipos dentro de las organizaciones no supone una novedad, su interés sigue plenamente vigente. Ya a principios de los años 90, más del 40% de las grandes empresas estadounidenses utilizaban equipos de trabajo, siendo más frecuentes en aquellas compañías que presentaban una mayor preocupación por sus trabajadores y se enfrentaban a entornos dinámicos y complejos (Osterman, 1994). Encuestas más recientes han mostrado como esta tendencia se ha mantenido en Estados Unidos y el uso de equipos ya alcanza a casi el 50% de las empresas (Devine, Clayton, Philips, Dunford y Melner, 1999; Osterman, 2000). Centrándonos en Europa, la última encuesta sobre condiciones laborales, realizada en 2005 por la Fundación Europea para la Mejora de las Condiciones de Vida y Laborales (Parent-Thirion *et al.*, 2007), revelaba que en promedio el 60% de las empresas europeas organizan su trabajo en base a equipos, lo que suponía un incremento de cuatro puntos con respecto a la encuesta llevada a cabo en el año 2000. Realizando un análisis por países, en la Tabla 1.1 podemos ver como los equipos son más frecuentes en Eslovenia, Holanda y algunos países nórdicos, mientras que lo son menos en Francia, Hungría, Italia, Portugal y España.

TABLA 1.1 PRESENCIA DEL TRABAJO EN EQUIPO EN LAS EMPRESAS EUROPEAS

País	% empresas	País	% empresas
Alemania	59,1	Irlanda	65,4
Austria	56	Italia	38,5
Bélgica	60,7	Letonia	69,2
Bulgaria	61,9	Lituania	64,7
Chipre	49,8	Luxemburgo	64,9
Croacia	62,9	Malta	68,6
Dinamarca	57,7	Noruega	72,1
Eslovaquia	61,2	Polonia	54,7
Eslovenia	84,8	Portugal	46,4
España	**40**	Reino Unido	68,9
Estonia	73	República Checa	58,4
Finlandia	71,5	Rumania	57,3
Francia	46,4	Suecia	69,5
Grecia	52,2	Suiza	59,1
Holanda	75,2	Turquía	46
Hungría	46,7		

Fuente: Parent-Thirion *et al.* (2007).

Estos datos ponen de manifiesto la confianza que los directivos tienen en la efectividad de los equipos frente al trabajo realizado de forma individual. Expertos en la materia han contribuido a propagar y recalcar los beneficios que ofrecen los equipos a las organizaciones y la necesidad de implantarlos dentro de las mismas. Así por ejemplo, Reich comentaba que: "Si debemos competir en el mundo actual, debemos comenzar a adoptar un espíritu emprendedor colectivo, en el que el resultado del esfuerzo conjunto es mayor que la suma de las contribuciones individuales. Necesitamos honrar más a nuestros equipos y menos a nuestros líderes agresivos y genios inconformistas" (1987: 78).

Los beneficios que tradicionalmente se les han atribuido a los equipos están relacionados con su productividad y con la satisfacción de los trabajadores. En primer

lugar, basado en la idea de que "dos cabezas piensan más que una", se considera que los equipos tienen una mayor capacidad a la hora de llevar a cabo sus tareas al poder contar con las diferentes contribuciones de sus miembros. Diversos estudios han venido a corroborar que los equipos tienen una mayor capacidad creativa y de resolución de problemas (e.g. Dahlin, Weingart y Hinds, 2005; Gigone y Hastie, 1997). Los diferentes miembros de un equipo pueden aportar una mayor cantidad de información así como diversos puntos de vista que beneficien la calidad y la efectividad de su trabajo. Aparte del surgimiento de esta sinergia positiva durante la realización de la tarea, los equipos también han demostrado tener efectos positivos sobre las actitudes de los trabajadores. De este modo el trabajo en grupo ha sido considerado una herramienta eficaz para incrementar la participación de los trabajadores dentro de la organización y mejorar la satisfacción de los mismos. El trabajo en grupo ha demostrado tener capacidad para cubrir las necesidades sociales de los empleados así como reducir la incertidumbre sobre sus condiciones de trabajo (Allen y Hecht, 2004). Del mismo modo los equipos también pueden tener efectos positivos sobre la autoestima de los trabajadores al mejorar su confianza y su percepción sobre su propia capacidad (Allen y Hecht, 2004).

Desde el punto de vista académico, diferentes teorías dentro del campo de la organización de empresas también han destacado la importancia de los equipos. Como ejemplo más significativo, la teoría de los recursos y capacidades considera que los equipos tienen mayor capacidad que los individuos a la hora de desarrollar ventajas competitivas sostenibles (Barney y Wright, 1998). El trabajo desarrollado por los equipos ofrece más barreras a la hora de ser imitado ya que los miembros del equipo trabajan de forma interdependiente y hace que sea difícil distinguir la contribución individual de la

colectiva. La generación de esta ambigüedad causal facilita a la organización la apropiabilidad de los beneficios derivados del equipo (Dierickx y Cool, 1989; Reed y Defillippi, 1990).

Teniendo en cuenta estos beneficios no es de extrañar que sean múltiples las funciones atribuidas a los equipos dentro de las organizaciones (Sundstrom, Demeuse y Futrell, 1990): prestar apoyo y consejo (e.g. comités o círculos de control de la calidad), producir bienes y servicios (e.g. equipos de mineros o grupos creados para el procesamiento de datos), desarrollar proyectos innovadores (e.g. equipos de investigación y desarrollo) o llevar a cabo tareas con un alto grado de imprevisibilidad (equipos deportivos o equipos de negociación).

No obstante y pese a esta corriente en favor del uso de equipos dentro de la organización, lo cierto es que las investigaciones realizadas no han sido del todo concluyentes a la hora de corroborar que los beneficios de éstos frente al trabajo realizado de forma individual estén presentes siempre (Allen y Hecht, 2004). Aunque es precisamente del carácter colectivo del trabajo en equipo del que se derivan la mayoría de las ventajas anteriormente comentadas, también es cierto que de éste pueden surgir las principales dificultades a la hora de gestionarlo. La necesidad de realizar el trabajo de forma interactiva puede ocasionar una serie de problemas, como el surgimiento de conflictos entre los miembros o fenómenos como la holgazanería social o el pensamiento de grupo, que dificultan y ponen en peligro la eficacia del equipo.

Consecuencia de este hecho es el surgimiento de un gran número de investigaciones que analizan la efectividad de los equipos desde un punto de vista contingente. Así, han proliferado en los últimos años numerosos estudios que pretenden analizar los factores que determinan el rendimiento del equipo así como las circunstancias en que dichos factores tienen un efecto positivo o negativo sobre el mismo. A este respecto, destacables son los modelos planteados por Campion, Medsker y Higgs (1993), Hackman (1987) o Gladstein (1984) o las revisiones llevadas a cabo por Cohen y Bailey (1997), Mathieu, Maynard, Rapp y Gibson (2008) o Rico, Alcover y Tabernero, (2010).

En los siguientes apartados de esta introducción se pretende clarificar el concepto de equipo, así como realizar una breve revisión de la literatura comentando las principales conclusiones alcanzadas. Finalmente, se comentarán los objetivos que se pretenden alcanzar con la realización de este trabajo y se presentaran los tres artículos que conforman este trabajo de investigación.

1.2 DELIMITACIÓN CONCEPTUAL DEL OBJETO ESTUDIO DE ANÁLISIS

La literatura ha ofrecido múltiples definiciones sobre lo que se considera un equipo (e.g. Aquilano, 1977; Guzzo y Dickson, 1996; McGrath, Arrow y Berdahl, 2000; Sundstrom *et al.*, 1990). De forma genérica, un equipo sería todo conjunto interdependiente de individuos que comparten la responsabilidad sobre ciertos resultados de sus organizaciones (Sundstrom *et al.*, 1990). De forma más específica puede considerarse a los equipos como sistemas abiertos, dinámicos y complejos, compuestos

por varios individuos que desempeñan funciones específicas e interactúan coordinadamente entre ellos, así como con el contexto social en el que se encuentran integrados (McGrath *et al.*, 2000). No obstante, una definición más completa que integraría a las anteriores, sería la ofrecida por Guzzo y Dickson, quienes definen a los equipos como "la unión de individuos que se ven a sí mismos y son vistos por los demás como un ente social, interdependientes con respecto a las tareas que desempeñan como miembros de un grupo, insertados en un sistema social más grande (por ejemplo, una comunidad u organización) y que llevan a cabo tareas que afectan a otros" (1996: 308).

Independientemente de la definición por la que se opte, todas destacan que la interdependencia entre los miembros es un rasgo característico del trabajo en equipo que distingue a los equipos de otros tipos de agregaciones de individuos. El miembro de un equipo puede depender de sus compañeros porque (Wageman, 1995): (1) necesite que los demás le suministren recursos necesarios para llevar a cabo la tarea, (2) realice procesos que no puedan ser realizados por una única persona, (3) o bien las metas y las recompensas sean establecidas para el grupo en su conjunto. Es decir, los miembros de un equipo pueden ser interdependientes como consecuencia o bien de sus tareas o bien de sus resultados (Van der Vegt, Emans y Van de Vliert, 2000). Los equipos se diferencian de otros tipos de agregaciones de individuos porque el nivel de interdependencia de sus tareas es muy elevado (Saavedra, Earley y Dyne, 1993). Los miembros de un equipo han de diagnosticar y resolver los problemas de forma conjunta, así como colaborar para llevar a cabo la tarea que se les encomienda. Esto requiere una gran interacción entre los miembros del equipo, lo que implica un fluido y constante intercambio de materiales, información, ideas u otros recursos. Por otro lado, los miembros de un equipo también pueden ser

interdependientes en base a sus resultados, en la medida en que los resultados obtenidos por un individuo como consecuencia de la realización de su trabajo dependan del desempeño de otros compañeros (Wageman, 1995).

Existen diversos criterios a la hora de clasificar a los tipos de equipos que podemos encontrar dentro de las organizaciones. No obstante y para simplificar podemos considerar dos corrientes. Por un lado nos encontramos a aquellos que identifican a priori una serie de dimensiones de la tarea (tipo, duración, etc.) y en base a eso clasifican a los equipos, considerando todas las posibles combinaciones entre las dimensiones tenidas en cuenta (e.g. Devine *et al.*, 1999). De esta forma por ejemplo, Devine *et al*. (1999), clasifican a los equipos en función del tipo de tarea que realizan y el tiempo de permanencia de los mismos. De este modo distingue a los equipos según realicen tareas que impliquen el procesamiento y uso de información (ej. planificación, creación, selección, decisión) o bien realicen tareas con una mayor actividad física; considerando a su vez si se trata de equipos permanentes o temporales.

Por otro lado, otros autores han optado por clasificar a los equipos de una forma más empírica e inductiva, identificando de forma directa diferentes tipos de equipo dentro de las organizaciones y agrupándolos en función de las similitudes que guardan los mismos entre sí (e.g. Cohen y Bailey, 1997; Sundstrom, 1999). Así, por ejemplo, Cohen y Bailey (1997) distinguieron cuatro tipos de equipos que podían ser identificados dentro de las organizaciones: equipos de trabajo, equipos paralelos, equipos de proyecto y equipos directivos.

Los equipos de trabajo son equipos de carácter permanente que se encargan de la realización de bienes o la prestación de servicios. Dentro de estos equipos de trabajo podemos integrar a los equipos autodirigidos, que son aquellos que cuentan con autonomía suficiente para tomar las decisiones sobre su gestión, la cual tradicionalmente recaía en los directivos de mayor nivel (Osterman, 1994).

Los equipos paralelos reúnen a trabajadores pertenecientes a diversas unidades funcionales dentro de la organización, con el objetivo de que juntos lleven a cabo funciones más complejas que requieran la utilización de diversas habilidades, como la resolución de problemas o el desarrollo de mejoras en las actividades. Generalmente la autonomía de estos equipos es limitada y únicamente hacen sugerencias o recomendaciones a los niveles superiores de la organización.

Los equipos para la realización de proyectos se caracterizan fundamentalmente porque su tiempo de permanencia es limitado y está asociado a la realización de un proyecto concreto, como el desarrollo de una campaña de marketing o la elaboración de un nuevo producto. Por norma general, se encuentran compuestos por miembros de diversas áreas funcionales, los cuales regresan a la realización de sus tareas habituales una vez que han finalizado el proyecto para el que fue creado el equipo.

Los equipos directivos están compuestos por los directivos responsables de distintas áreas dentro de la organización. Son responsables del rendimiento de la empresa, estableciendo la dirección estratégica a seguir. Estos equipos han tenido una gran atención por parte de la literatura sobre todo a raíz del trabajo de Hambrick y Mason (1984) en el

que se determinaba que el rendimiento de la organización depende en gran parte de la composición de sus equipos directivos.

La creciente presencia de estos distintos tipos de equipos dentro de las organizaciones ha hecho necesario analizar el efecto que sobre el rendimiento puede tener la adopción de esta forma de configurar el trabajo. No obstante, esta tarea no resulta especialmente sencilla dados los numerosos factores que pueden influenciar la efectividad de un equipo. A continuación y sin entrar en excesivos detalles, se comentará brevemente algunas de las conclusiones alcanzadas en las investigaciones realizadas en los últimos años.

1.3 LOS EQUIPOS DENTRO DEL ÁMBITO ACADÉMICO

Al igual que la presencia de los equipos dentro de las organizaciones, las investigaciones académicas realizadas sobre equipos no podemos considerarlas como una tendencia surgida recientemente.

Dado que los equipos de trabajo podemos considerarlos como un tipo específico de grupo, los estudios sobre los mismos y sobre todos sus fundamentos teóricos tienen sus raíces en las investigaciones sobre grupos pequeños realizadas dentro del campo de la psicología social. El interés de los psicólogos sociales sobre los grupos surge principalmente a partir de la tercera década del siglo pasado, aunque es en la década de los cincuenta cuando viven su mayor apogeo (Levine y Moreland, 1990). En esta época las investigaciones comienzan a considerar en qué medida ciertas características internas de

los individuos (e.g. sus actitudes, valores, pensamientos, etc.) condicionan sus actuaciones dentro del grupo (Simpson y Wood, 1992). De este modo proliferan las investigaciones sobre liderazgo, comunicación, influencia social, conflictos y otros muchos aspectos relacionados con los grupos (McGrath *et al.*, 2000). Sin embargo, a pesar de que la valía de estos estudios ha sido reconocida por los investigadores, también es cierto que su carácter mayoritariamente experimental ha generado cierta controversia, al considerarse los resultados alcanzados como incompletos, confusos y algunas veces incluso contradictorios (Gil, Alcover y Peiro, 2005). No es de extrañar por tanto, que esta incapacidad a la hora de establecer conclusiones definitivas produjera que los psicólogos sociales perdieran su interés por el estudio de los grupos sobre todo a partir de la década de los setenta (McGrath *et al.*, 2000).

Sin embargo, esto no supuso un abandono de la investigación sobre grupos, sino un cambio en su campo de estudio. Así en los últimos treinta años las investigaciones tanto sobre grupos como sobre los equipos de trabajo se ha movido del campo de la psicología social al campo de la psicología del trabajo y de las organizaciones. Como ya resaltaba Steiner: "Los grupos son demasiado importantes a la hora de entender el comportamiento humano y el conocimiento de la sociedad como para ser obviados. Si la psicología social no investiga el grupo, algún otro seguramente lo hará" (1986: 283).

Aunque los estudios sobre los grupos o equipos no pueden considerarse como una novedad, sí es cierto que las características del entorno anteriormente comentadas (alta complejidad, incertidumbre, competencia global) han relanzado también el interés de los investigadores por los mismos en los últimos años. De este modo, nos encontramos con un

creciente interés por parte de los investigadores hacia los equipos, que se ha traducido en un incremento tanto de la calidad como de la calidad de los estudios que abordan el funcionamiento y la efectividad de los mismos.

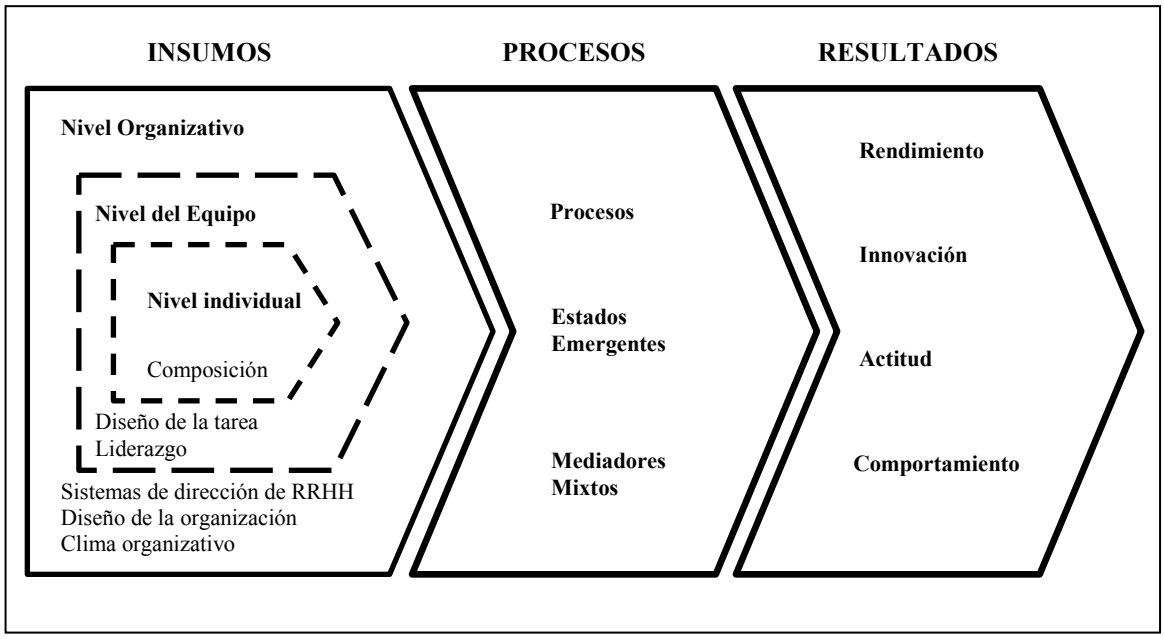
Han sido numerosos los modelos propuestos a la hora de analizar los factores que determinan el rendimiento de un equipo. No obstante, podemos clasificar los mismos en dos corrientes diferentes; aunque es la segunda de ellas la más aceptada y la que más seguimiento ha tenido en la literatura.

En primer lugar, nos encontramos con una serie de trabajos (siendo los más representativos los de Campion *et al.*, 1993 y Campion, Papper y Medsker, 1996), que analizan de forma directa el efecto que una serie de factores (como pueden ser la composición, el diseño de la tarea, el contexto organizativo o los procesos que tienen lugar dentro del equipo) tienen sobre el rendimiento de los equipos.

En segundo lugar, la mayoría de los estudios recientes sobre la efectividad de los equipos dentro de las organizaciones (e.g. Ilgen, Hollenbeck, Johnson y Jundt, 2005; Kozlowski y Ilgen, 2006; Mathieu *et al.*, 2008; Rico *et al.*, 2010) -aunque con algunas matizaciones- han seguido el modelo *Input*-Proceso-*Output* (IPO) (McGrath, 1984). A pesar de que los factores considerados en este modelo son similares a los establecidos en el modelo directo, la principal diferencia es que ahora se considera en más profundidad las relaciones que pueden existir entre los mismos. De este modo, este modelo considera que un conjunto de factores ("inputs") son combinados a través de los procesos que ocurren

dentro de los equipos obteniéndose una serie de resultados, como queda reflejado en la Figura 1.

FIGURA 1 EL MODELO *INPUT*-PROCESO-*OUTPUT*



Fuente: Elaboración propia.

Los insumos (o *inputs*) hacen referencia al conjunto de características y recursos tanto externos como internos que tienen influencia sobre el equipo. Dichos recursos pueden ser a su vez considerados a distintos niveles (individual, equipo y organizativo). En primer lugar, aspectos relacionados con el contexto de la organización, como los sistemas de dirección de recursos humanos, el propio diseño de la organización o el clima y la cultura organizativos, tienen una importante influencia sobre la eficacia de los equipos (Rico *et al.*, 2010). Con respecto los factores relativos al propio equipo se han destacado aquellos relacionados con el diseño de la tarea como son: la autonomía (e.g. Gibson y Vermeulen, 2003; Hoegl y Parboteeah, 2006; Langfred, 2005; Stewart y Barrick, 2000), la

interdependencia (e.g. Harrison, Price, Gavin y Florey, 2002; Saavedra *et al.*, 1993; Stewart y Barrick, 2000; Van Der Vegt, Van De Vliert y Oosterhof, 2003; Van der Vegt y Janssen, 2003; Van Der Vegt *et al.*, 2000; Wageman, 1995), o más recientemente la virtualidad de los equipos (e.g. DeRosa, Hantula, Kock y D'Arcy, 2004; Montoya-Weiss, Massey y Song, 2001; Rosen, Furst y Blackburn, 2006); así como el liderazgo (e.g. Dionne, Yammarino, Atwater y Spangler, 2004; Foo, Sin y Yiong, 2006; Keller, 2006; Stewart, 2006), ya sea este último ejercido de forma externa, compartida o mediante *coaching*. No obstante, son los estudios relacionados con la composición del equipo los que sin duda han tenido una mayor difusión en los últimos años. De esta forma han sido numerosos los estudios que han analizado los efectos que el tamaño del equipo (e.g. Simons, Pelled y Smith, 1999; Somech, 2006; Stewart, 2006; Taylor y Greve, 2006) y sobre todo la diversidad (e.g. Horwitz y Horwitz, 2007), tienen sobre el rendimiento del equipo. Especialmente destacable es la atención prestada al efecto de la heterogeneidad. Pese a los numerosas investigaciones realizadas, considerando tanto características demográficas como otras más profundas (valores, actitudes y creencias), diversos meta-análisis realizados (e.g. Stewart, 2006) han mostrado que los resultados son poco concluyentes y en ocasiones incluso contradictorios, lo que demuestra la necesidad de seguir avanzando en este tema.

Con respecto a los procesos, lo primero que habría que destacar es que en los últimos años se ha optado por cambiar este concepto por el de mediadores, con vistas a reflejar de forma más precisa los mecanismos que permiten a los miembros de un equipo combinar sus recursos para alcanzar los objetivos establecidos (Ilgen, *et al.*, 2005). De esta forma, dentro de estos mediadores podemos distinguir: procesos, estados emergentes y

mediadores mixtos (Rico *et al.*, 2010). Los procesos dentro de los equipos se refieren a las interacciones que tienen lugar entre los miembros del mismo con el objeto de combinar sus recursos para cumplir con la tarea encomendada. Aunque existen otras clasificaciones (e.g. Marks, Mathieu y Zaccaro, 2001), de forma simple podemos distinguir los procesos relacionados con la tarea (como la ayuda que se prestan los miembros o la comunicación entre los mismos) de los procesos con un componente más interpersonal (como serían por ejemplo los conflictos). Por contra, los estados emergentes no pueden ser considerados como procesos ya que no representan ni acciones ni interacciones dentro del equipo que conduzcan a un resultado, sino que más bien son actitudes surgidas como consecuencia de las experiencias del equipo (Marks, *et al.*, 2001). En este sentido, las investigaciones sobre estados emergentes se han centrado en conceptos como la cohesión, la potencia, el clima, la confianza o la cognición compartida (Rico *et al.*, 2010). Por último los mediadores mixtos hacen referencia al conjunto de mediadores que son difícilmente clasificables como procesos o estados emergentes, como pueden ser el aprendizaje del equipo o la memoria transactiva (Mathieu *et al.*, 2008).

Finalmente, los resultados vendrían a representar la forma en que se concreta la efectividad del equipo. La efectividad de los equipos ha sido considerada como un concepto multidimensional. Cohen y Bailey (1997) distinguen tres dimensiones básicas: 1) rendimiento, valorado en términos de cantidad y calidad de los resultados obtenidos; 2) actitud de los miembros; 3) resultados relacionados con el comportamiento. Dentro de la primera dimensión podemos encontrar medidas sobre eficiencia, productividad o calidad. Ejemplos sobre la efectividad relacionada con la actitud de los miembros del equipo podrían ser la satisfacción, el compromiso o la confianza con los directivos. Por último, los

resultados relacionados con el comportamiento se refieren a aspectos como el absentismo, la rotación negativa o la seguridad. Además de éstos, también habría que destacar la innovación como otro resultado que tradicionalmente ha sido objeto de estudio (Bantel y Jackson, 1989; Taylor y Greve, 2006; Van der Vegt y Janssen, 2003, entre otros).

Además de las condiciones del entorno, no se puede obviar en esta introducción que la proliferación de estudios sobre los equipos de trabajo también se encuentra relacionada con el desarrollo de técnicas estadísticas que permiten abordar las complejidades derivadas de su análisis. Los equipos son considerados entes multinivel en la medida en que se trata de una serie de individuos que se agrupan en entes superiores (equipos) que a su vez están integrados en otras unidades contextuales de mayor categoría (organizaciones). Por tanto a la hora de realizar un análisis sobre equipos, éste podría llegar a abarcar hasta tres niveles, lo cual incrementa la complejidad de los mismos. Desde el punto de vista metodológico, se han desarrollado una serie de técnicas estadísticas que han permitido controlar este carácter multinivel.

En concreto, habría que destacar los avances realizados dentro de los modelos multinivel o modelos jerárquicos, que permiten estimar por separado la varianza entre los miembros de un equipo y la varianza entre equipos. De esta forma se puede controlar la ausencia de independencia de las observaciones realizadas sobre los miembros de un equipo al poder controlar a aquellas variables que les afectan por el hecho de pertenecer al mismo. Del mismo modo, otra de las aplicaciones de los modelos multinivel es la posibilidad de realizar análisis de medidas repetidas que permiten determinar cómo evoluciona una variable en el tiempo. Aunque metodológicamente estos modelos no son

una novedad, su uso se ha incrementado notablemente en los últimos años gracias al importante desarrollo diversos programas informáticos.

1.4 OBJETIVO E INTERÉS DE LA INVESTIGACIÓN

La complejidad que entraña la gestión de un equipo explica la proliferación de trabajos al respecto y a su vez hace necesario seguir incidiendo en su análisis con el objeto de resolver algunas de las cuestiones que aún permanecen sin resolver.

Con esa finalidad nace el presente trabajo. A través de tres artículos se pretende analizar distintas cuestiones relacionadas con el rendimiento y comportamiento de los miembros de un equipo, así como las consecuencias de éstos sobre el rendimiento del equipo. El objetivo central de este trabajo es intentar abordar algunas de las cuestiones que requieren de un análisis más profundo.

De este modo, el primer trabajo analiza cómo la heterogeneidad en la destreza para llevar a cabo una tarea puede afectar al rendimiento de los equipos de acción, considerando que los miembros del equipo pueden diferir tanto en el nivel de destreza poseído como en la forma en que distribuyen esta destreza entre las distintas dimensiones de la tarea.

Por otra parte, el segundo trabajo presta atención a cómo evoluciona el rendimiento de los recién llegados a un equipo y cómo el rendimiento de sus compañeros puede afectar a su rendimiento inicial.

Finalmente, el último trabajo se centra en el proceso de toma de decisiones en equipo. En concreto se analiza si el grado de preferencia hacía una decisión medioambiental más proactiva fomenta la participación de los miembros en la toma de decisiones y así como los efectos de la misma sobre la decisión del equipo.

Como se puede comprobar, los tres artículos tienen un carácter independiente y en consecuencia cada uno de ellos trata de alcanzar una serie de objetivos específicos que serán comentados de forma expresa cuando se profundice en los mismos. Sin embargo, se pueden exponer de forma general algunos motivos por los que la presente investigación resulta de especial interés.

En primer lugar, se abordan una serie de cuestiones que han sido poco analizadas en estudios previos sobre gestión de equipos y que se consideran relevantes, como son:

1.- Heterogeneidad en la destreza para llevar a cabo la tarea.

Los estudios sobre los efectos de la heterogeneidad dentro de los equipos se han centrado principalmente en características sociodemográficas de los miembros, como pueden ser la edad, el género, la nacionalidad, el nivel educativo o la experiencia funcional (Hortwitz y Horwitz, 2007). Dichos análisis han analizado cómo la heterogeneidad puede afectar a las relaciones interpersonales de los miembros del equipo y en consecuencia al rendimiento del mismo. Sin embargo, la literatura ha dejado más de lado otras características que tienen un impacto más directo sobre la forma de llevar a cabo la tarea. Con el objeto de intentar cubrir ese hueco, el primer artículo focaliza su atención en la destreza relacionada con la tarea. Este tipo de destrezas tienen una relación más directa con

el rendimiento lo que permite analizar en mayor profundidad las diferentes contribuciones de los miembros al equipo y cómo éstas afectan a la efectividad del mismo. Además este rasgo tiene la peculiaridad de que los individuos pueden ser diferentes no sólo cualitativamente (tipo de destreza que poseen), sino también cuantitativamente (grado o nivel de destreza poseído). Realizar un análisis sobre la heterogeneidad en un rasgo en el que se puede diferir cuantitativamente añade la complejidad de que el efecto de la heterogeneidad puede depender del nivel general de dicho rasgo dentro del equipo, cuestión que hasta ahora no ha sido tratada por parte de la literatura.

2.- Equipos de acción.

Los equipos de acción son un tipo concreto de equipo que se caracteriza por tener un alto grado de interdependencia de sus miembros y a la vez por enfrentarse a un alto grado de incertidumbre (Sundstrom *et al.*, 1990). Ejemplos de este tipo de equipos son un equipo de cirugía o un equipo de bomberos, donde sus miembros deben actuar de forma altamente coordinada y que además deben enfrentarse a las situaciones imprevistas que se les pueden ir planteando. Dado que las organizaciones se enfrentan a entornos cada vez más dinámicos e inciertos puede resultar de especial interés conocer con mayor profundidad cómo actúan estos equipos de acción y cuáles son algunos de los factores que pueden condicionar su rendimiento. Sin embargo, pese a esta importancia y al creciente uso por parte de las organizaciones, hasta ahora los investigadores han prestado poca atención ha este tipo concreto de equipos. Los dos primeros artículos de esta investigación tratan de paliar en cierto modo esta carencia analizando tanto el rendimiento de estos equipos (en el primer artículo) como el de los individuos que lo forman (en el segundo artículo).

3.- Efecto de los compañeros sobre la adaptación al equipo.

Estudios previos han abordado el efecto de los compañeros sobre la adaptación de los recién llegados a un equipo, sobre todo centrándose en cómo los compañeros pueden facilitar apoyo e información a los nuevos miembros (e.g. Ostroff y Kozlowski, 1992). No obstante, pocos estudios han considerado el efecto de los compañeros sobre la adaptación de los recién llegados en entornos que requieren de una gran interacción entre los individuos, como puede ser el caso de los equipos. El segundo artículo de este trabajo aborda dicha cuestión al considerar cómo el rendimiento de los compañeros puede influir sobre la adaptación de los nuevos integrantes del equipo. Dicho análisis resulta relevante ya que viene a poner de manifiesto hasta que punto el rendimiento alcanzado dentro de un equipo se debe a la propia actuación individual o puede encontrarse condicionado por el resto de compañeros. Resolver esta cuestión resulta especialmente interesante a la hora de establecer valoraciones sobre el rendimiento de los miembros de un equipo.

4.- Análisis de variables a nivel individual.

De los tres niveles que pueden abarcar un análisis sobre equipos (individual, equipo y organizativo), lo más habitual dentro de la literatura ha sido considerar al equipo como unidad de análisis El uso de variables a nivel de equipo implica agregar las contribuciones de los distintos miembros y considerar al equipo como un todo. Por ejemplo, a la hora de analizar el rendimiento o procesos como el de la comunicación, se ha considerado el rendimiento o la comunicación del equipo en su conjunto en lugar de considerar el rendimiento o la comunicación individual de cada uno de los miembros. No obstante, en los últimos años algunos investigadores (e.g. Sonnentag y Volmer, 2009) han comenzado a resaltar la necesidad de examinar también variables a nivel individual dentro del contexto

de un equipo. Este trabajo responde a este llamamiento. Concretamente en el segundo artículo se estudia el rendimiento individual de los recién llegados a un equipo y en el tercero se considera la participación y la satisfacción individual de los miembros del equipo. Realizar el análisis a nivel individual en lugar de hacerlo a nivel de equipo tiene la ventaja de permitir determinar con mayor exactitud y detalle qué es lo que realmente está ocurriendo dentro del equipo.

5.- Decisiones medioambientales en el contexto de un equipo.

Aunque el trabajo en equipo ha sido considerado como una herramienta fundamental para lograr una correcta gestión medioambiental dentro de la organización (Del Brío, Junquera y Ordiz, 2008; Fernández, Junquera y Ordiz, 2006), lo cierto es que hasta ahora no ha sido una cuestión que haya sido analizada en profundidad por parte de la literatura. En el tercer artículo de esta tesis se pretende cubrir este vacío al analizar la toma de decisiones medioambientales dentro de un equipo. Dada la complejidad que entraña tomar una decisión como equipo, ya que sus miembros tienen que hacer frente a puntos de vista y opiniones diferentes, se hace necesario profundizar en dicho proceso con vistas a poder mejorar el rendimiento del equipo. Esta situación es especialmente relevante para las decisiones medioambientales debido al alto componente afectivo de las mismas. Resulta por tanto interesante conocer el papel que juegan aquellos miembros que prefieren tomar decisiones medioambientalmente más avanzadas. Concretamente en este trabajo se pretende analizar la predisposición de estos miembros a participar durante el proceso, su influencia sobre la decisión final, así como el grado de satisfacción con el equipo en función de la decisión final adoptada por este.

Además de abordar estas cuestiones que han recibido poca atención por parte de la literatura, otro aspecto interesante de esta tesis y que resulta apropiado resaltar es la metodología utilizada.

1.- En los dos primeros artículos se usa como muestra a equipos de baloncesto. El utilizar equipos de baloncesto como muestra no es trivial, ya que en nuestro caso ofrecían una serie de ventajas que han permitido mejorar considerablemente los análisis realizados.

- Los equipos de baloncesto son un ejemplo claro de equipos de acción. Durante un partido los jugadores de un equipo de baloncesto han de interactuar de forma continua con sus compañeros, haciendo frente a las situaciones imprevistas que les plantea el equipo rival, tal y como ocurre normalmente en la empresa en su búsqueda de ventaja competitiva.

- Los equipos de baloncesto ofrecen, a través de las numerosas y detalladas estadísticas disponibles, la posibilidad de obtener una serie de medidas objetivas sobre la destreza y el rendimiento de los jugadores. De este modo, en el primer artículo se ha podido analizar de forma objetiva la destreza a la hora de realizar la tarea, en lugar de tratar de inferir dicha destreza a través de otras variables como la experiencia funcional o el nivel educativo. El uso de medidas objetivas es uno de las limitaciones más recurrente en la investigación estratégica.

2.- En el tercer artículo se optó por utilizar como muestra a estudiantes universitarios a los que se les pidió que tomaran una decisión empresarial tanto de forma individual como en equipo. El uso de este tipo de ejercicios con estudiantes es bastante

habitual dentro de las investigaciones sobre grupos. En este caso resultaba especialmente útil ya que, como hemos comentado previamente, el nivel de análisis de este trabajo es individual y la realización de este ejercicio nos permitía tener un mayor control y un mejor conocimiento sobre el proceso llevado a cabo a la hora de tomar la decisión.

1.5 ESTRUCTURA DEL TRABAJO DE INVESTIGACIÓN

El trabajo de investigación está compuesto de tres partes perfectamente diferenciadas: la presente introducción, los tres artículos de investigación que conforman la parte central de la tesis y finalmente un capítulo recopilatorio donde se comentan las principales conclusiones alcanzadas tras la realización de este trabajo. A continuación, se presentará de forma más detallada cada uno de los artículos que, como hemos mencionado anteriormente, suponen la base de la investigación realizada.

El capítulo dos presenta el artículo de investigación titulado: "Heterogeneidad en las destrezas relacionadas con la tarea y su efecto sobre el rendimiento de los equipos de acción". Entre los factores que pueden influir en el rendimiento de un equipo, la heterogeneidad de los miembros ha sido especialmente analizada en los últimos años. Estos estudios se han centrado básicamente en analizar qué efectos tiene sobre el rendimiento del equipo el hecho de que los miembros sean diferentes entre sí. A pesar de la gran cantidad de estudios realizados, los resultados no han sido concluyentes y en algunos casos incluso resultan contradictorios (Kauer, Waldeck y Schäffer, 2007; Reagans, Zuckerman y McEvily, 2004). Aunque estos estudios han supuesto un importante avance dentro de los análisis sobre la composición de los equipos, la mayor parte de ellos han

estado centrados en las relaciones interpersonales entre los miembros. Por ese motivo, este trabajo se centra su atención en otro tipo de características más directamente relacionadas con el rendimiento. Las destrezas relacionadas con las tareas son aquellos conocimientos y habilidades requeridos para llevar a cabo una determinada actividad. Realizar un análisis sobre la heterogeneidad en este tipo de destrezas resulta especialmente interesante puesto que los miembros pueden diferir no sólo en el nivel de destreza poseído sino también en las dimensiones de la tarea que son capaces de cubrir. Es decir, se trata de un rasgo en el que los miembros de un equipo pueden diferir tanto cualitativa (tipo de destreza que poseen) como cuantitativamente (grado o nivel de dichas destrezas). La mayor relación entre este tipo de destrezas y el rendimiento permite realizar análisis más profundos sobre la contribución, tanto cuantitativa como cualitativa, de los distintos miembros a la realización de la tarea del equipo y sobre cómo esas diferentes contribuciones pueden afectar al rendimiento del equipo. De este modo, en este artículo en primer lugar se analiza si la heterogeneidad en el nivel de destreza tiene un efecto positivo o negativo sobre el rendimiento del equipo y si dicho efecto depende del nivel medio de destreza del equipo. En segundo lugar, se analiza hasta que punto es positivo o negativo para el rendimiento del equipo el que sus miembros tengan su destreza concentrada en una única habilidad o bien tengan dicha destreza distribuida de forma más homogénea entre las distintas dimensiones de la tarea.

Los resultados de este trabajo son especialmente interesantes para un tipo específico de equipos que están aumentando su presencia dentro de las organizaciones, los equipos de acción. Como se ha comentado anteriormente, estos equipos de acción se caracterizan por desarrollar de forma simultánea una alta interdependencia de la tarea y enfrentarse a un

elevado grado de incertidumbre (Sundstrom *et al.*, 1990). Ejemplos claros de este tipo de equipos pueden ser los equipos quirúrgicos, donde el cirujano, el anestesista, los enfermeros y el resto de auxiliares deben trabajar de forma altamente coordinada pudiendo enfrentarse a acontecimientos totalmente imprevistos que pueden surgir durante una operación. Otro ejemplo, pueden ser los equipos deportivos altamente interdependientes, como los equipos de baloncesto, donde los jugadores deben interactuar constantemente con sus compañeros y deben enfrentarse a las diferentes situaciones que le van planteando sus adversarios, al igual que ocurre con los equipos que se constituyen dentro de la empresa. Por ello, es precisamente este último tipo de equipos el que ha sido utilizado como muestra para nuestro análisis.

El capítulo tres presenta el artículo de investigación titulado: "El rendimiento de los recién llegados un equipo: ¿Importa el rendimiento de los compañeros?". Aunque el tema de la socialización de los recién llegados a una organización ha sido abordado por la literatura, hasta la fecha no se habían realizado análisis en profundidad sobre cómo evoluciona el rendimiento de estos recién llegados a un equipo y la forma en que el rendimiento de los compañeros puede afectar a su adaptación. Este análisis es sumamente relevante cuando la tarea que llevan a cabo los miembros del equipo es altamente interdependiente y por tanto todos los miembros dependen en alto grado los unos de los otros a la hora de realizarla. La necesidad de llevar a cabo una tarea con un alto grado de coordinación requiere de un cierto tiempo de adaptación entre los miembros del equipo en pos de desarrollar una serie de automatismos entre ellos. En este trabajo se plantea que dicho tiempo de aprendizaje tendrá un efecto directo en el rendimiento del recién llegado al equipo y que por tanto, hasta que no transcurra el mismo no es de esperar que se produzca

una mejora en su rendimiento. Pese a la importancia de este hecho, hasta ahora no se había tenido en cuanta la necesidad de este tiempo de adaptación cuando la tarea es altamente interdependiente y se consideraba que los miembros del equipo debían incrementar su rendimiento en el mismo desde el mismo momento en que inician su actividad en él (e.g. Chen, 2005).

Asimismo, este artículo también aborda una cuestión que tampoco ha recibido hasta la fecha excesiva atención, el efecto que el rendimiento de los compañeros puede tener sobre la adaptación al equipo. Aunque a priori podría pensarse que el recién llegado podría beneficiarse de que sus compañeros tuviesen un rendimiento mayor, lo cierto es que este mayor rendimiento puede dificultar su adaptación al encontrar una menor cantidad de oportunidades de demostrar su capacidad. Este hecho también es analizado en este segundo artículo. Los resultados de este estudio deben ser tenidos en cuanta a la hora de llevar a cabo valoraciones sobre el rendimiento de los miembros de un equipo, ya que ponen de manifiesto hasta que punto el rendimiento de un recién llegado depende no sólo de su propia capacidad sino también de sus compañeros.

Hemos considerado que los equipos de baloncesto cumplen una serie de características similares a las de los equipos desarrollados en las empresas, y que por tanto, encajan perfectamente con el objetivo de análisis planteado en los dos primeros artículos. La alta interdependencia de los miembros así como la posibilidad de obtener una serie de medidas objetivas sobre el rendimiento de los recién llegados a lo largo del tiempo, hacían especialmente útil el análisis de estos equipos.

El capítulo cuatro presenta el artículo de investigación titulado "Cuando las preferencias medioambientales de los individuos influencian al equipo: decisiones y consecuencias". Pese a que el trabajo en equipo ha sido considerado como una herramienta fundamental a la hora de implementar la estrategia medioambiental de la empresa, hasta la fecha no han sido analizado en profundidad cómo de compleja puede ser la toma de decisiones medioambientales en equipo. Estudios previos sobre decisiones medioambientales han considerado las mismas como un fenómeno mayoritariamente individual y por tanto, se han centrado en determinar qué factores caracterizan a aquellos que adoptan decisiones medioambientalmente más responsables. De esta forma, varias investigaciones han resaltado que las decisiones medioambientales tienen un claro componente afectivo y que son tomadas por aquellos con actitudes positivas hacia el medioambiente (e.g. Aragón-Correa, Matías-Reche y Senise-Barrio, 2004; Cordano y Frieze, 2000). No obstante, las decisiones medioambientales dentro de una empresa no suelen tomarse de forma individual sino que dichas decisiones recaen sobre un equipo (generalmente equipos directivos). En la medida en que los miembros de un equipo pueden diferir en sus percepciones e ideas pueden existir dudas a la hora de determinar cómo estas diferencias convergirán a la hora de adoptar una decisión común. Es decir, que un individuo tenga claras preferencias por tomar una decisión medioambientalmente más avanzada no implica necesariamente que dicha preferencia vaya a verse reflejada en la decisión del equipo. En este artículo intentamos arrojar un poco de luz a este asunto analizando qué miembros del equipo tienen una mayor capacidad para conseguir que sus preferencias individuales no difieran de la decisión final del grupo así como los mecanismo a través de los cuales puede lograr imponer sus ideas. Adicionalmente, en este artículo también se considera el efecto que la divergencia entre las preferencias individuales y la

decisión del equipo puede tener sobre la satisfacción de los miembros. Dicho análisis resulta especialmente relevante en este contexto, ya que la satisfacción de los miembros con el equipo puede condicionar la efectividad el mismo e incluso su viabilidad futura.

Para realizar este estudio se utilizó una muestra diferente a la de los dos artículos anteriores. En este sentido, se llevó a cabo un ejercicio con estudiantes universitarios, con conocimientos en el área de la gestión de empresas, con el objeto de contestar a las preguntas de investigación planteadas por este trabajo. El uso de esta muestra permitió contrastar las hipótesis de una forma más adecuada, al poder obtener un mayor control sobre la situación y poder obtener una información más detallada sobre el proceso de decisión. De esta forma, a dichos estudiantes se les planteó una situación en la que tenían que decidir la cantidad que invertían en una serie de proyectos dentro de la empresa. Dicha decisión fue tomada tanto de forma individual como en equipos de tres. El uso de estudiantes para la realización de investigaciones sobre equipos no resulta una novedad y ha sido una herramienta profusamente utilizada en campos como el de la psicología social. En este caso concreto hemos de considerar que los participantes eran mayoritariamente estudiantes de economía o gestión de empresas, por lo que puede ser una muestra significativa sobre la forma de pensar de los que serán los directivos del futuro.

Finalmente, en el último capítulo de esta tesis se lleva a cabo una recapitulación de los resultados alcanzados tras la realización de este trabajo de investigación, haciendo especial hincapié en las implicaciones tanto para el ámbito académico como para el ámbito empresarial.

1.6 BIBLIOGRAFÍA

Aragón-Correa, J.A., Matías-Reche, F. y Senise-Barrio, M.E. (2004). Managerial discretion and corporate commitment to the natural environment. *Journal of Business Research*, 57: 964-975.

Allen, N.J. y Hecht, T.D. (2004). The 'romance of teams': Toward an understanding of its psychological underpinnings and implications. *Journal of Occupational and Organizational Psychology*, 77: 439.

Aquilano, N.J. (1977). Multiskilled work teams: Productivity benefits. *California Management Review*, 19(4): 17-22.

Bantel, K.A. y Jackson, S.E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal*, 10: 107.

Barney, J.B. y Wright, P.M. (1998). On becoming a strategic partner: The role of human resources in gaining competitive advantage. *Human Resource Management*, 37(1): 31.

Campion, M.A., Medsker, G.J. y Higgs, A.C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, 46(4): 823-850.

Campion, M.A., Papper, E.M. y Medsker, G.J. (1996). Relations between work team characteristics and effectiveness: A replication and extension. *Personnel Psychology*, 49(2): 429-452.

Chen, G. (2005). Newcomer adaptation in teams: Multilevel antecedents and outcomes. *Academy of Management Journal*, 48(1): 101-116.

Cohen, S.G. y Bailey, D.E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23(3): 239.

Cordano, M. y Frieze, I.H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behavior. *Academy of Management Journal*, 43: 627-641.

Cross, R., Ehrlich, K., Dawson, R. y Helferich, J. (2008). Managing collaboration: Improving team effectiveness through a network perspective. *California Management Review*, 50(4): 74-98.

Dahlin, K.B., Weingart, L.R. y Hinds, P.J. (2005). Team diversity and information use. *Academy of Management Journal*, 48(6): 1107-1123.

Del Brío, J.A., Junquera, B. y Ordiz, M. (2008). Human resources in advanced environmental approaches- a case analysis. *International Journal of Production Research*, 21: 6029-6053.

DeRosa, D.M., Hantula, D.A., Kock, N. y D'Arcy, J. (2004). Trust and leadership in virtual teamwork: A media naturalness perspective. *Human Resource Management*, 43(2): 219-232.

Devine, D.J., Clayton, L.D., Philips, J.L., Dunford, B.B. y Melner, S.B. (1999). Teams in organizations: Prevalence, characteristics, and effectiveness. *Small Group Research*, 30(6): 678.

Dierickx, I. y Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12): 1504-1511.

Dionne, S.D., Yammarino, F.J., Atwater, L.E. y Spangler, W.D. (2004): Transformational leadership and team performance. *Journal of Organizational Change Management*, 17(2): 177-193.

Fernández, E., Junquera, B. y Ordiz, M. (2006). Managers' profile in environmental strategy: A review of the literature. *Corporate Social Responsibility and Environmental Management*, 13: 261-274.

Foo, M., Sin, H-P. y Yiong, L-P. (2006). Effects of team inputs and intrateam processes on perceptions of team viability and member satisfaction in nascent ventures. *Strategic Management Journal*, 27(4): 389-399.

García-Olaverri, C., Huerta-Arribas, E. y Larraza-Kintana, M. (2006). Human and organizational capital: Typologies among Spanish firms. *The International Journal of Human Resource Management*, 17(2): 316-330.

Gibson, C. y Vermeulen, F. (2003). A healthy divide: Subgroups as a stimulus for team learning behavior. *Administrative Science Quarterly*, 48(2): 202-239.

Gigone, D. y Hastie, R. (1997). Proper analysis of the accuracy of group judgments. *Psychological Bulletin*, 121(1): 149.

Gil, F., Alcover, C. y Peiro, J. (2005). Work team effectiveness in organizational contexts: Recent research and applications in Spain and Portugal. *Journal of Managerial Psychology*, 20(3-4): 193-218.

Gladstein, D.L. (1984). Groups in context: A model of task group effectiveness. *Administrative Science Quarterly*, 29(4): 499.

Guzzo, R.A. y Dickson, M.W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology*, 47(1): 307-338.

Hackman, J.R. (1987). The design of work teams, en J. W Lorsch (Ed.), Hanbook of organizational behavior, (pp. 315-342). Ed. Prentice Hall, New Jersey.

Hambrick, D.C. y Mason, P.A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2): 193.

Harrison, D.A., Price, K.H., Gavin, J.H. y Florey, A.T. (2002). Time, teams, and task performance: Changing effects of surface- and deep-level diversity on group functioning. *Academy of Management Journal*, 45(5): 1029-1045.

Hoegl, M. y Parboteeah, P. (2006). Autonomy and teamwork in innovative projects. *Human Resource Management*, 45(1): 67-79.

Horwitz, S.K. y Horwitz, I.B. (2007). The effects of team diversity on team outcomes: A meta-analytic review of team demography. *Journal of Management*, 33(6): 987-1015.

Ilgen, D.R., Hollenbeck, J.R., Johnson, M. y Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models. *Annual Review of Psychology*, 56(1): 517-543.

Jenkins, A. (1994). Teams: From 'Ideology' to analysis. *Organization Studies*, 15(6): 849.

Kauer, D., Waldeck, T.C.P. y Schäffer, U. (2007). Effects of top management team characteristics on strategic decision making: Shifting attention to team member personalities and mediating processes. *Management Decision*, 45(6): 942-967.

Keller, R.T. (2006). Transformational leadership, initiating structure, and substitutes for leadership: A longitudinal study of research and development project team performance. *Journal of Applied Psychology*, 91(1): 202-210.

Kozlowski, S.W.J. y Ilgen, D.R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7(3): 77-124.

Langfred, C.W. (2005). Autonomy and performance in teams: The multilevel moderating effect of task interdependence. *Journal of Management*, 31(4): 513-529.

Levine, J.M. y Moreland, R.L. (1990). Progress in small group research. *Annual Review of Psychology*, 41: 585-634.

Marks, M.A., Mathieu, J.E. y Zaccaro, S.J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26(3): 356-376.

Mathieu, J., Maynard, M., Rapp, T. y Gibson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34(3): 410.

McGrath, J.E. (1984). Groups: Interaction and performance. Englewood Cliffs, NJ: Prentice-Hall.

McGrath, J.E., Arrow, H. y Berdahl, J.L. (2000). The study of groups: Past, present, and future. *Personality & Social Psychology Review*, 4(1): 95-105.

Montoya-Weiss, M.M., Massey, A.P. y Song, M. (2001). Getting it together: Temporal coordination and conflict management in global virtual teams. *Academy of Management Journal*, 44(6): 1251-1262.

Osterman, P. (1994). How common is workplace transformation and who adopts it. *Industrial & Labor Relations Review*, 47(2): 173-188.

Osterman, P. (2000). Work reorganization in an era of restructuring: Trends in diffusion and effects on employee welfare. *Industrial & Labor Relations Review*, 53(2): 179.

Ostroff, C. y Kozlowski, S.W.J. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, 45(4): 849-874.

Parent-Thirion A., Macias E.F., Hurley J. y Vermeylen G. (2007). Fourth European Working Conditions Survey. Office for the Official Publications of the European Communities. Luxembourg.

Procter, S. y Burridge, M. (2008). Teamworking and performance: The extent and intensity of teamworking in the 1998 UK workplace employee relations survey (WERS98). *International Journal of Human Resource Management*, 19(1): 153-168.

Reagans, R., Zuckerman, E. y McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly*, 49(1): 101-133.

Reed, R. y Defillippi, R.J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15(1): 88-102.

Reich, R.B. (1987). Entrepreneurship reconsidered - the team as hero. *Harvard Business Review*, 65(3): 77-83.

Rico Muñoz, R., Alcover de la Hera, C.M. y Tabernero, C. (2010). Efectividad de los equipos de trabajo, una revisión de la última década de investigación (1999-2009). *Revista de Psicología del Trabajo y de las Organizaciones*, 26(1): 47-71.

Rosen, B., Furst, S. y Blackburn, R. (2006). Training for virtual teams: An investigation of current practices and future needs. *Human Resource Management*, 45(2): 229-247.

Saavedra, R., Earley, P.C. y Dyne, L.V. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78(1): 61-72.

Simons, T., Pelled, L.H. y Smith, K.A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42(6): 662-673.

Simpson, J.A. y Wood, W. (1992). Where is the group in social psychology? An historical overview, en Worchel, S., Wood W. y Simpson, J.A. (Eds.), Group Process and Productivity (pp. 1-10). Ed. Sage Publications, Londres.

Somech, A. (2006). The effects of leadership style and team process on performance and innovation in functionally heterogeneous teams. *Journal of Management*, 32(1): 132-157.

Sonnentag, S. y Volmer, J. (2009). Individual-level predictors of task-related teamwork processes the role of expertise and self-efficacy in team meetings. *Group & Organization Management*, 34(1): 37-66.

Steiner, I.V. (1986). Paradigms and groups, en Berkowitz, L. (Ed.), Advances in Experimental Social Psychology (pp. 251-289). Ed. Academic Press, Nueva York.

Stewart, G.L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management,* 32(1): 29-55.

Stewart, G.L. y Barrick, M.R. (2000). Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. *Academy of Management Journal*, 43(2): 135-148.

Sundstrom, E. (1999). The challenges of supporting work team effectiveness, en Sundstrom, E. Associates (Eds.), Supporting Work Team Effectiveness (pp. 3-23). Ed. Jossey-Bass, San Francisco.

Sundstrom, E., Demeuse, K.P. y Futrell, D. (1990). Work teams - applications and effectiveness. *American Psychologist*, 45(2): 120-133.

Taylor, A. y Greve, H.R. (2006). Superman or the fantastic four? knowledge combination and experience in innovative teams. *Academy of Management Journal*, 49(4): 723-740.

Van Der Vegt, G.S, Emans, B. y Van De Vliert, E. (2000). Team members' affective responses to patterns of intragroup interdependence and job complexity. *Journal of Management*, 26(4): 633-655.

Van der Vegt, G.S. y Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management*, 29(5): 729.

Van Der Vegt, G.S., Van De Vliert, E. y Oosterhof, A. (2003). Informational dissimilarity and organizational citizenship behavior: The role of intrateam interdependence and team identification. *Academy of Management Journal*, 46(6): 715-727.

Wageman, R. (1995). Interdependence and group effectiveness. *Administrative Science Quarterly*, 40(1): 145-180.

Zahra, S.A., Ireland, R.D., Gutiérrez, I. y Hitt, M.A. (2000). Privatization and entrepreneurial transformation: Emerging issues and a future research agenda. *Academy of Management Review*, 25(3): 509-524.

CAPÍTULO 2

JOB RELATED SKILL HETEROGENEITY AND ACTION TEAM PERFORMANCE

ABSTRACT

The purpose of this paper is to focus on job-related skill heterogeneity and action team performance by considering that team members may differ in the levels of their job-related skill, as well as in the way that their job-related skill is spread over the different dimensions of the task. We used data from 30 National Basketball Association (NBA) teams collected over 21 seasons (1986/87 through 2006/07). The total number of team-seasons analyzed was 584. We found a positive relationship between job-skill level heterogeneity and action team performance that declines as average job-skill level in the team grows. Furthermore action teams showed poorer performance when their members with a low job-related skill level have a high specialization. From the practical perspective, it is of special interest to an action team manager to know that job-related skill heterogeneity has a positive influence on team performance - mainly when the average ability level in the team is low- and that highly specialized member may have a negative influence on action team performance. Our results contribute to the team literature by focusing on action teams. This kind of team has not received attention despite their increasing importance within organizations. Additionally, using sports teams as sample offers the possibility of gathering a large amount of objective job-related skill data as well as the possibility of testing hypotheses in a relatively controlled environment, but with real actions instead of experimental actions.

Keywords: Action team, team performance, heterogeneity, job-related skill, skill level, specialization.

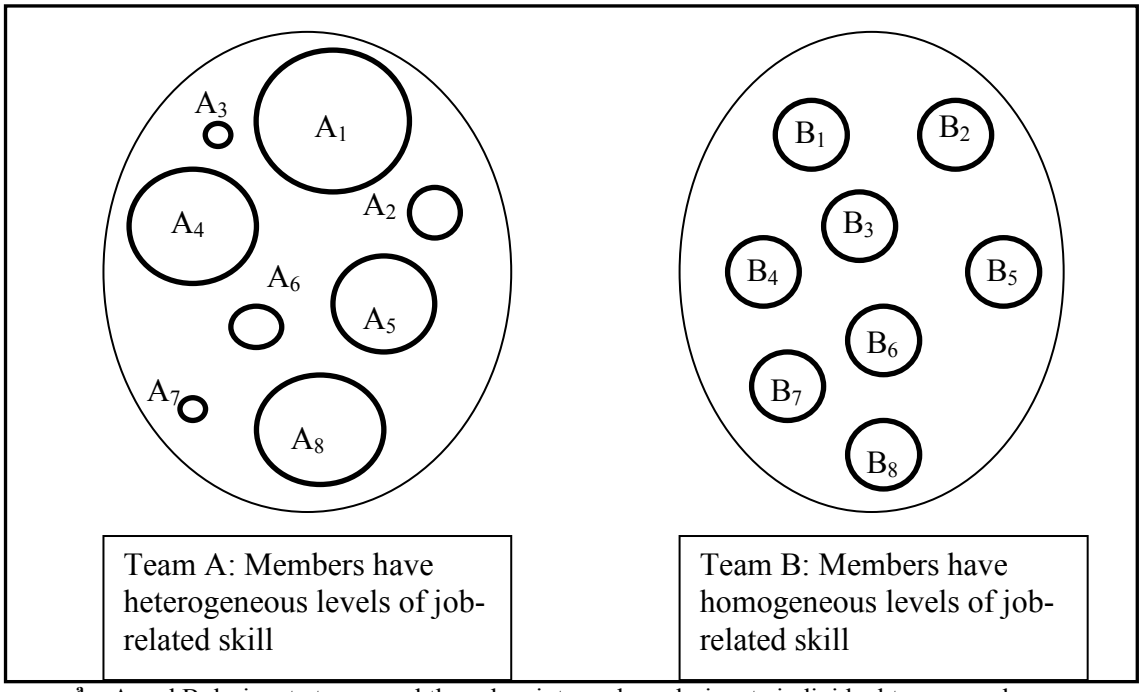
2.1 INTRODUCTION

The business environment's growing complexity and uncertainty has forced organizations into creating more flexible systems to gain rapid and effective adaptation to change. Consequently, team structures in organizations are increasing and their importance is undeniable (Cross, Ehrlich, Dawson, and Helferich, 2008). This situation creates a managerial challenge because of the complexity involved in managing teamwork (Parry, Tranfield, Smith, Foster, and Wilson, 1998). A team's performance depends on several factors related to the task, organizational context, and team composition (MacBryde and Mendibil, 2003). Due to its influence on team performance, a team's composition is one design factor that has received much attention (Guzzo and Dickson, 1996). Since a team implies a set of individuals working interdependently to accomplish a task (Cohen and Bailey, 1997; Guzzo and Dickson, 1996), studies about team composition have focused primarily on how to manage diverse members' characteristics to improve team performance (e.g. Stewart, 2006). However, the results of such studies - focusing primarily on socio-demographical traits - have proven inconclusive (Stewart, 2006) and as a consequence, some researchers have begun to question the logic of using those characteristics to evaluate team composition (e.g. Kauer, Waldeck, and Schäffer, 2007; Reagans, Zuckerman, and McEvily, 2004). This study analyzes whether team performance is a function of the different levels of job-related skills that team members possess. Job-related skills include the knowledge, skills, and abilities required to perform specific tasks (Humphrey, Morgerson, and Mannor, 2009). Examining job-related skills is essential here because these skills have been found to have a direct influence on performance

(Morgerson, Delaney-Klinger, and Hemingway, 2005; Neuman and Wright, 1999; Sternberg, Wagner, Williams, and Horvath, 1995).

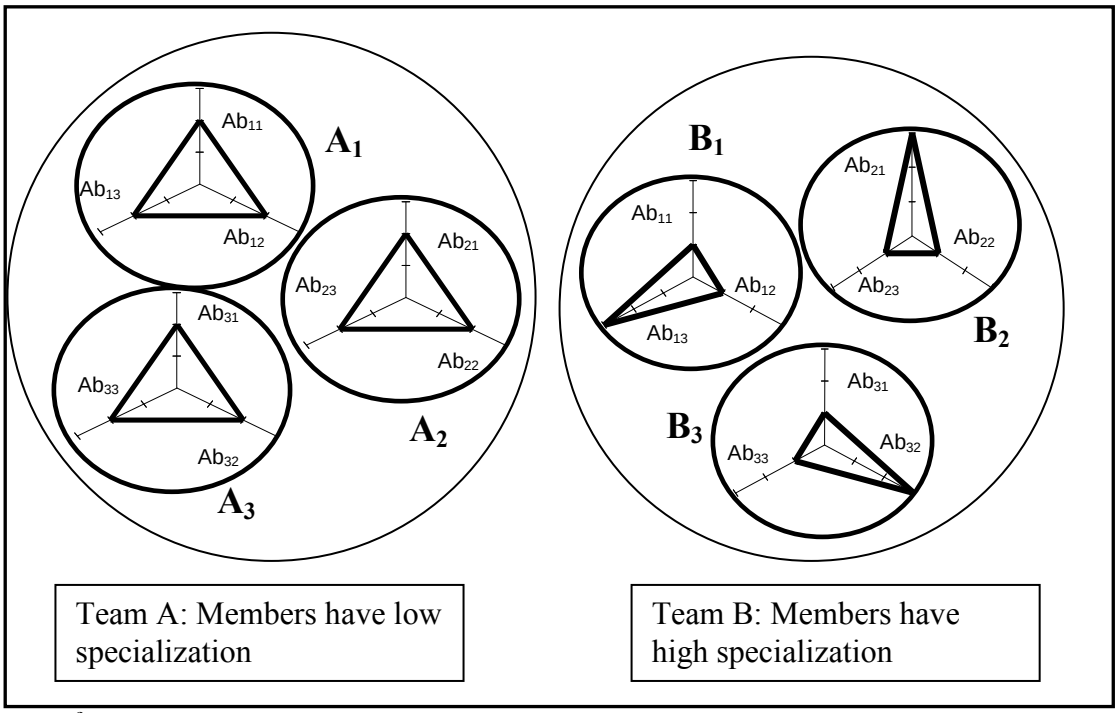
Researchers give little attention to the combinative effects of team members' different levels and specializations of knowledge, skills, and abilities on teams' performance (Horwitz and Horwitz, 2007; Smith, 2001). Analyzing job-related skills heterogeneity adds complexity to any analysis. Team members may have different levels of job-related skills - i.e. they may have more or less proficiency to accomplish a task - but additionally, team members may also differ in the number of dimensions that they are able to perform. Consequently, two research questions underlie this study. First, is heterogeneous or homogeneous skill level among team members preferable? Second, are team members whose job-related skill levels concentrate on a specific task dimension preferable to members whose skill are homogeneously distributed over all of the dimensions necessary to accomplish the task? Figures 2 and 3 illustrate these two research questions. Figure 2 illustrates the differences between a team whose members have different skill levels and a team consisting of members with similar skill levels. Figure 3 shows the difference between individuals with low and high degrees of specialization. In this paper, we highlight how the answers to these two questions predict team performance.

FIGURE 2 HETEROGENEOUS AND HOMOGENEOUS AVERAGE JOB-RELATED SKILL ON A TEAM [a]



[a] A and B designate teams and the subscript numbers designate individual team members.

FIGURE 3 HIGH AND LOW SPECIALIZATION [a]



[a] A and B designate teams and the subscript numbers (A_i and B_i) designate individual team members. Ab designates abilities and the subscript numbers (Ab_{ij}) designate abilities for each team member i on dimension j.

Understanding these relationships is especially essential in the case of action teams. An action team is defined as a team facing intense and unpredictable circumstances that require improvisation and continuous member cooperation (Sundstrom, Demeuse, and Futrell, 1990). Emergency medical teams, operating room teams, cockpit crews, sport teams, investigate units, and government regulatory teams exemplify action teams (Edmonson, 2003; Sundstrom, 1999). The uncertain and complex business environment has led organizations to rely increasingly on action teams (Ellis, Bell, Ployhart, Hollenbeck, and Ilgen, 2005). Improving employee efficiency and commitment, adopting action teams has shown to provide substantial benefits to companies (Hershock, Cowman, and Peters, 1994; Dulye, 2009). Since action teams must adapt to volatile environmental conditions (Marks, Zaccaro, and Mathieu, 2000), it is especially important to examine the effects job-related skill heterogeneity has on team performance.

The contribution of this paper is threefold. First, we contribute to the team literature concerning the influence of team members' job-related skills on action team performance. In comparison with easily measured variables such as social-demographic traits (that have shown to have contradictory results on team performance), scarce attention has been given to the value of team member skills despite recognition of the strategic value of such skills (e.g. Stewart, 2006). This issue is especially important in the interdependent and uncertain conditions of action teams. Second, we highlight that the influence of job-related skill heterogeneity on team performance is contingent on other team features such as the average job-related skill level of team members. Finally, despite its managerial and theoretical importance, task multidimensionality and the simultaneous analysis of the

distribution and level of job-related skills for each action team member has been absent in extant research.

2.2 LITERATURE REVIEW

The increasing importance of organizational teams has resulted in researchers paying attention to those factors that determine team performance (MacBryde and Mendibil, 2003) with team composition especially examined (Cohen and Bailey, 1997; Guzzo and Dickson, 1996; Stewart, 2006). Analyzing team composition is complex because of the interdependent nature of team tasks. Interdependence here is taken to mean, "the extent to which team members cooperate and work interactively to complete tasks" (Stewart and Barrick, 2000: 137). Based on the assumption that each member of a team depends on others to accomplish tasks, analyses concerning composition focus primarily on team members' heterogeneity.

In recent years, there has been great interest in determining how team member differences such as gender, nationality, or personality affect team performance (e.g. Horwitz and Horwitz, 2007; Stewart, 2006). Among all of these analyzed dimensions, we are interested in those that are strictly job-related. According to Pelled (1996), job relatedness refers to the degree to which a trait captures the pertinent skill necessary to carry out a task. Analyzing job relatedness diversity is fundamental in knowing whether task-related knowledge, skills, and abilities increase and whether diversity improves team performance (Simons, Pelled, and Smith, 1999). Until now, analyses concerning job-related attributes have focus primarily on how categorization of team members based on

traits - such as their functional background or educational level - affects team performance (e.g. Goll, Johnson, and Rasheed, 2008). These studies suggest a positive (e.g. Barsade, Ward, Turner, and Sonnenfeld, 2000; Taylor and Greve 2006; Van Knippenberg, De Dreu, and Homan, 2004), a negative (e.g. Ancona and Caldwell, 1992; Boone, Van Olffen, Van Witteloostuijn, and De Brabander, 2004; Dahlin, Weingart, and Hinds, 2005; Knight *et al.*, 1999; Simons *et al.*, 1999), or no relationship between educational and functional background heterogeneity and team performance (e.g. Bantel and Jackson, 1989; Smith *et al.*, 1994).

These results imply interesting advances in understanding team member interrelationships. In this paper, we do not consider what the relationship among team members is; we analyze a trait as a more direct influence on performance. Comprised of several components such as procedural and declarative knowledge, task skills, and physical abilities (Humphrey *et al.*, 2009), job-related skill refers to the knowledge, skills, and abilities required to perform specific tasks. These skills have shown to be different and independent of other concepts such as cognitive ability or job experience (Morgerson *et al.*, 2005; Neuman and Wright, 1999; Sternberg *et al.*, 1995). Determining accurate team composition may be especially important in those teams that carry out interdependent tasks in unpredictable situations. Sundstrom *et al.* (1990) call these teams "action teams." According to these authors, action teams are those “cooperating in brief performance events that require improvisation in unpredictable circumstances” (Sundstrom *et al.*, 1990: 121). Contrary to other teams, action teams not only make decisions but also have a direct influence on the task by physically manipulating their operating environment (Hirschfeld and Bernerth, 2008). The environmental uncertainty that organizations face makes the

action team an increasingly important strategic component (Ellis *et al.*, 2005). Action teams have proven to be effective tools for promoting innovation capability and at the same time for improving the efficiency of task completion. A clear example is 3M's Occupational Health and Environmental Safety Division where action teams are able to design, build, and introduce new products in less than half the time it previously took (Hershock *et al.*, 1994). The special characteristics of the task make it necessary to know the level and the kind of job-related skills that teams must possess in unpredictable situations. Multiple team members with both different levels and types of skills make apprehending an accurate definition of team composition difficult.

2.3 HYPOTHESES

2.3.1 Heterogeneity versus Homogeneity in Team Members' Job-Related Skill Levels

Levels of job-related skills vary across team members; within a team, there are members with higher task proficiencies than others. The interdependent nature of a team's task forces skillful members to cooperate and interact with other members who exhibit less expertise. This skill heterogeneity causes disruptions and conflict within the team because more skillful members sometimes feel disappointed and get upset about the lower performance of other teammates (Knight *et al.*, 1999). On the other hand, members with less expertise often feel inadequate if they try to contribute more to the team but are not able to raise their levels of proficiency to match those of other members. This can cause mutual reproaches and leverage interpersonal conflicts within the team.

Focusing on action teams, some factors may refute these arguments. First, some studies show how teams whose members have high interdependence among themselves are able to reduce interpersonal conflicts (Saavedra, Earley, and Van Dyne, 1993). When team members depend largely on their teammates to perform a task, they forget their differences and work cooperatively to achieve team objectives (Van der Vegt, Van De Vliert, and Oosterhof, 2003). Second, according to psychological theories based on individual self-expansion, one of the most important human motivations is the desire to expand the self, "to acquire resources, perspectives, and identities that enhance one's ability to accomplish goals" (Aron, McLaughlin-Volpe, Mashek, Lewandowski, Wright, and Aron, 2004:103). For this reason, action team members with lower levels of skill may positively value differences in skills because others who are more skilful may complement their own and allow the team to reach its objectives (Oosterhof, Van der Vegt, Van de Vliert, and Sanders, 2009). Thus, it is expected that heterogeneity in job-related skill does not have a negative influence on team members' relations. However, does this imply that heterogeneity instead of homogeneity in job-related skill level is always preferable? We propose that this preference is contingent on the general level of job-related skill within a team. When the average team-ability level is low, the team is composed primarily of individuals with low ability. In this situation, ability level diversity implies the presence of members with high individual ability, a presence that would avoid the negative effect of having a team homogeneously composed of low-ability members (Tziner and Eden, 1985). However, it is important to note that job-related skill level homogeneity may be positive if all of a team's members show high levels of job-related skills. In this situation, a synergy may emerge among all team members resulting in a positive effect on team performance. That is, to analyze the effect of job-related skills level heterogeneity, we have to consider

opposite ends of the spectrum. As teams go from a situation of having all members with low job-related skill level to a situation of having all members with high job-related skill level, the effect of job-related skill level heterogeneity will have less positive effects on team performance. Thus, we hypothesize:

Hypothesis 1: The job-related skill level of an action team moderates the relationships between job-related skill level heterogeneity and team performance in such way that the positive effect of heterogeneity on team performance is stronger when the job-related skill level is low rather than high.

2.3.2 Degree of Specialization: Distribution of Job-Related Skill

So far, we have analyzed job-related skill level, disregarding the fact that team members also may differ in the distribution of that skill. The capabilities of individuals with similar skill levels may be distributed in different ways (Laughlin and Branch, 1972). For example, in an action team (e.g. a surgery team), a member may have a high skill level to accomplish a specific dimension of the task and a low skill level for other dimensions (e.g. anesthesia). Another member may not have any high level skills but is able to accomplish more of one dimension of the job competently (e.g. surgeon's assistant).

The literature on team members' skills has not completely addressed this issue. While several studies analyze only the dominant function - the main dimension in which an individual is most proficient (Bunderson and Sutcliffe, 2002; Knight *et al.*, 1999; Van der Vegt *et al.*, 2003) - others analyze the effects of different individual team member's

experiences but disregard the extent of proficiency gained in each one (Barsade *et al.*, 2000; Carpenter, 2002; Taylor and Greve, 2006). To overcome this limitation, Bunderson and Sutcliffe (2002) propose the distinction between specialists, who are individuals with high proficiency in a few functional areas, and generalists, who are able to accomplish tasks in multiple areas. The literature suggests that when teams are in charge of developing a specific task, it is more appropriate that the team be composed of specialists rather than generalists (Canella, Park, and Lee, 2008; Rulke and Galaskiewicz, 2000; Thomas-Hunt, Ogden, and Neale, 2003) because generalist have a higher capacity to share knowledge.

Analyzing job-related skills also demands special attention not only to the dispersion of skills over different work dimensions, but to the different skill levels included in this dispersion. We argue that the performance of action teams with high percentages of specialized members will be different according to the job-related skill level of those members. For this reason and due to the uncertain nature of action team tasks, it is especially interesting to make differentiated analyses (and hypotheses) for diverse performance outcomes of action teams that include significant percentages of members with high (or low) degrees of specialization when these members exhibit high or low job-related skill levels.

First, we are going to focus on action teams comprised of a high percentage of specialists with low job-related skills. These individuals have proficiency only on a specific dimension of the task and are unable to manage other areas. Extant literature focuses on analyzing the complementary nature of resources – the extent to which the value of each one depends on the value of others (Teece, 1986) - emphasizing that these

resources must be heterogeneous to leverage performance (Ennen and Richter, 2010; Grandori and Furnari, 2008). Bonaccorsi and Thoma (2007) suggest that inventors with different skills have more effective performance than do inventors with similar skill sets. Do these results imply that teams composed only of specialists perform better than the rest? We propose that action teams deal with circumstances that impede this specialization. Due to the unpredictable nature of action team tasks, it is impossible for teams to anticipate or train for every possible situation (Chen, Thomas, and Wallace, 2005; Marks *et al*., 2000). As action team members are highly interdependent and must respond to unexpected events, they need successful and coordinated contributions from each one of the members to perform the task (Edmonson, 2003; Marks *et al*., 2000). These teams need members who are able to adjust spontaneously to rapidly changing conditions. To the extent that specialists are able to manage only one dimension of the task, they will not be able to overcome these sudden circumstances and, subsequently, to fulfill planned objectives. Thus, specialists may become a burden to the rest of the members when other dimensions - different to those in which specialists have proficiency - are required. Thus, we hypothesize:

Hypothesis 2: A high percentage of specialist members with a low job-related skill level has a negative effect on action team performance.

Negative effects on team performance due to a high proportion of specialists do not exist when individuals have a high job-related skill level. When action team members have a high job-related skill level, they will be able to develop more than one dimension of the team's task (to at least an acceptable level). Team members with high job-related skills are

especially useful to action teams because they increase the capacity to respond to unexpected changes (LePine, 2003). When individuals with high job-related skill levels have high degrees of specialization, it means that they will be able to contribute an extra quality in some specific situations and still be useful in other contexts. We expect that in the case of high job-related skills, degree of specialization is not as important a determinant of team performance.

Hypothesis 3: A high percentage of members with a high job-related skill levels has a positive effect on action team performance independently of these members' degree of specialization.

2.4 METHODS

2.4.1 Sample

We used data from 30 National Basketball Association (NBA) teams collected over 21 seasons (1986/1987 through 2006/2007). Since some teams did not exist over all the sampled seasons, the total number of team-seasons analyzed was 584. The Appendix lists all the teams in the sample and the number of analyzed seasons for each one. The selection of basketball teams as the sample for our study was made because they fulfill all the prerequisites to carry out our analyses. First, basketball teams are a clear example of action teams (Edmonson, 2003). Basketball is considered a sport with a high degree of interdependence between their players (Keidel, 1984). One basketball player cannot win the game alone; all players have to work cooperatively. Additionally, basketball teams face the uncertain situation posed by rival teams. Basketball teams also have direct influence on

the task. Finally, sport teams offer the possibility of gathering a great amount of objective and easily interpretable job-related skill measures (Humphrey *et al.*, 2009).

Use of sport teams to analyze organizational issues is not a novelty. Indeed, the management literature has accepted the use of sport teams as samples (e.g. Espitia-Escuer and García-Cebrián, 2006), basketball being one of the sports that has received much attention (e.g. Berman, Down, and Hill, 2002; Berri, 1999; Pfeffer and Davis-Blake, 1986; Staw and Hoang, 1995; Wright, Smart, and Mcmahan, 1995). Objective data and the relatively controlled environment that basketball teams offer are especially appealing as a sample in our study because they provide the opportunity of managing objective measures of individual abilities during a determined period of time (Katz, 2001; Wolfe *et al.*, 2005). The data for each team were obtained from the database Basketball-Reference, which offers detailed statistics on all NBA teams and players from the 1946/1947 season to the present.

2.4.2 Measures

Team performance. We used the percentage of victories in each regular season (excluding play-offs) as have other investigations that used NBA teams as part of a sample (Berman *et al.*, 2002; Pfeffer and Davis-Blake, 1986).

Average job-related skill level on a team. Job-related skill represents the specific skill needed for a task. Staw and Hoang (1995) used three different measures of the general skill of basketball players: scoring, toughness, and quickness. Scoring consisted of points per minute, field-goal percentage, and free-throw percentage. Toughness included

rebounds per minute and blocks per minute. Finally, quickness was composed of assists per minute and steals per minute. For each of these three aspects of ability, we standardized the component measures, summed them, and then divided by the total number of items in the index. We calculated the individual skill of a member as the average of the scores on the three indices for each player. Finally, to obtain the mean skill level within a group, we averaged the skill levels of all the members who formed each team.

However, a low time participating in a game might distort a player's statistics. For instance, if one player participated one minute in a season but scored two points, that player's statistics would be two points per minute; this represents a better but unreal measure of individual performance in comparison to top players who have more playtimes. For this reason, we omitted from the sample those players who played less than the mean minus one standard deviation of the average time all players played in a season.

Skill level diversity on a team. For the first hypothesis, we needed a measure that reflected how skill was distributed among team members. We chose the standard deviation of the individual job-related skill of each team's members. Job-related skill level diversity on the team is high if the standard deviation is high.

Classification by job-related skill level and degree of specialization. We classified team members into three job-related skill categories: high, medium, and low. Players whose average skill levels were among the top one-third of all average skill levels were categorized as high-skill team members, the middle one-third as medium skill, and the lower one-third as low skill (Rulke and Galaskiewicz, 2000).

To calculate the degree of concentration of skill (specialization) within individuals, we calculated the centrality of the skills of each member to better limit the distance between skills with more proficiency and the rest. Centrality (see Bunderson, 2003) was defined as:

$$\frac{\sum_{i=1}^{k} \left[AL_{\max} - AL_i \right]}{(k-1)},$$

where AL_{max} is the highest ability skill within an individual, AL_i is the level of the rest of the individual skills i, and k is the number of individual skills (a constant of three for this study). If this measure is high, it means that an individual has a skill that stands out with respect to the others - that is, a high degree of specialization. We classified team members as either high or low on degree of specialization. To split the sample, we used the average.

Additionally we also classified team members into three global job-related skill level categories: high, medium, and low. The individuals whose average job-related skill levels were among the top one-third of all job-related skill levels were categorized as high-skill team members, the middle one-third, as medium ability, and the lower one-third, as low skill (Rulke and Galaskiewicz, 2000).

Finally, four groups of players were considered: high job-related skill and high degree of specialization (HH), high job-related skill and low degree of specialization (HL), low job-related skill and high degree of specialization (LH), and low job-related skill and low degree of specialization (LL).

We calculated the percentages of players within each team who belonged to each one of these groups as has been done in other studies that analyze how specific types of members affect team performance (Barry and Stewart, 1997). The percentage of players with medium job-related skill level was not included to avoid problems of multi-collinearity and diffuse interpretation of results.

Control variables. Finally, we included *previous team performance* and *coaching experience* as control variables. Prior performance often serves as a control variable in studies with sport teams as their sample (Berman *et al.*, 2002; Giambatista, 2004; Pfeffer and Davis-Blake, 1986). The prior percentage of wins was used to correct for regression-to-the-mean effects, lower autocorrelation problems, subsume a wide array of potential nuisance variables, and yield a default prediction for current performance (Giambatista, 2004). Additionally, we calculated how long a coach had been with a team at the end of each season to control for the impact of a team's coach on its performance (Giambatista, 2004; Pfeffer and Davis-Blake, 1986).

2.5 RESULTS

We were dealing with panel data as we had different observations for each team in each season. For this reason, we chose to calculate a multilevel hierarchical linear model using the statistics program MLwin2. This method was especially appropriate for our data because it allowed us to analyze hierarchical structures in the population and to control for the variation that can be produced between teams. In our case, level 1 was the set of measurement occasions for a team and level 2 was the 30 teams that formed the sample (Snijders, 1996). Contrary to others traditional pooled time series approaches, this method enabled us to use 30 teams because of its capacity to handle unbalanced data. Table 2.1 presents the descriptive statistics and correlations between all variables in the study.

The hierarchical nature of this study made it necessary to first calculate a baseline model. This analysis clarified how much variance resided within teams (79%) and how much resided between teams (21%). Further analyses showed non-significant variation in the –2 log-likelihood ratio when we added other random components. Consequently, there was no variation in the coefficient of the independent variables because of characteristics in the teams.

Table 2.2 shows the results of the regression analyses testing the hypotheses. In model 1, which contains only the control variables, both the coefficient for previous team performance and the coefficient for coach experience are statistically significant and positive. In model 2, we added job-related skill level heterogeneity and the average job-related skill level variables. Both variables have a statistically significant, positive relationship with team performance ($p < .001$).

TABLE 2.1 DESCRIPTIVE STATISTICS AND CORRELATIONS

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. Team performance	0.5	0.16								
2. Previous team performance	0.5	0.16	.67**							
3.Coach experience	2.94	2.61	.32**	.36**						
4. Job-related skill level heterogeneity in the team	0.43	0.11	.40**	.29**	.21**					
5. Average job-related skill level in the team	0.01	0.18	.30**	.19**	.02	-.02				
6. Percentage of HH	0.18	0.12	.20**	.10*	.00	.06	.70**			
7. Percentage of HL	0.16	0.11	.17**	.14**	.05	-.04	.53**	.08**		
8. Percentage of LH	0.11	0.09	-.24**	-.17**	.00	.10*	-.54**	-.42**	-.27**	
9. Percentage of LL	0.21	0.14	-.07	-.05	.07	.20**	-.68**	-.47**	-.43**	.10*

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

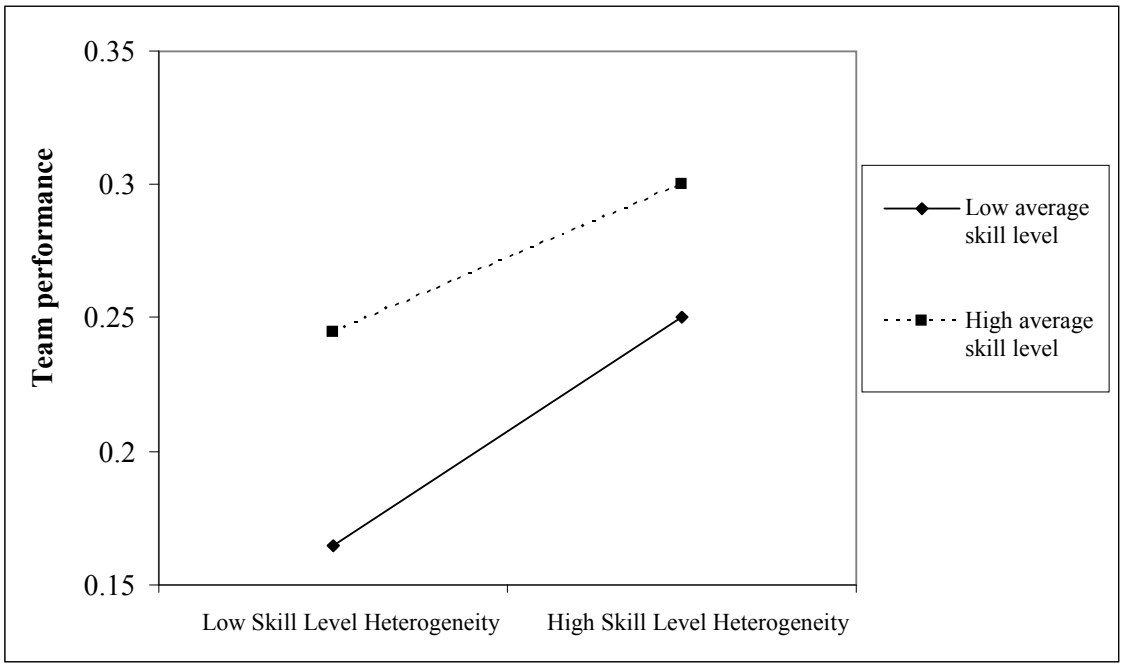
In Hypothesis 1, we argue that average job-related skill level moderates the relationship between job-related skill level heterogeneity and team performance. We tested this hypothesis by adding the interaction between job-related skill level heterogeneity and average job-related skill level resulting in model 3. The resulting coefficient was negative and significant ($p < .10$). We plotted this interaction effect using procedures outlined in Aiken and West (1991). Figure 4 presents the resulting graph. As predicted by Hypothesis 2, the relationship between job-related skill level heterogeneity and team performance was stronger when average job-related skill level was low rather than high.

TABLE 2.2 RESULTS

	Model 1		Model 2		Model 3		Model 4	
Variables	**β**	**s.e.**	**β**	**s.e.**	**β**	**s.e.**	**β**	**s.e.**
Intercept	.18***	.02	.23***	.02	.24***	.03	.17***	.02
Previous team performance	.62***	.03	.51***	.03	.50***	.03	.59***	.03
Coach experience	.01**	.00	.01**	.00	.01**	.00	.01**	.00
Job-related skill level heterogeneity			.32***	.04	.32***	.01		
Average job-related skill level			.18***	.02	.18***	.03		
Job-related skill level heterogeneity X average job-related skill level					-.38†	.22		
Percentage of HH							.17***	.05
Percentage of HL							.11*	.05
Percentage of LH							-.13*	.06
Percentage of LL							.05	.05
Δ -2*log-likelihood	-283.49***		-89.96***		-3.03†		-37.29***	

†p <.10 *p < .05 **p < .01 ***p < .001 Two-tailed tests

FIGURE 4 INTERACTION OF JOB-RELATED SKILL LEVEL HETEROGENEITY AND AVERAGE JOB-RELATED SKILL LEVEL ON A TEAM



Additionally, results suggest that average job-related skill level has a positive and direct effect for team performance, as is consistent with other work emphasizing the importance of forming teams with individuals who possess high levels of skills and abilities (Harris and McMahan, 2008).

The results of the regression analyses depicted in model 4 of Table 2.2 provide information related to Hypothesis 2 and Hypothesis 3. Examining the variance inflation factors (VIFs) suggests that multi-collinearity among some of the percentages of types of players and average skill level may affect the interpretation of the results. For this reason in model 4, we added the percentage of types of individuals and we removed job-related skill level heterogeneity, average job-related skill level, and the interaction term.

Hypothesis 2 proposes that teams including a high percentage of members with a low job-related skill level will have poorer performance if these members have their job-related skills concentrated in a few task dimensions - if they have a high degree of specialization. As shown in Table 2.2 model 4, the percentage of members with low job-related skills and high specialization (LH) is statistically significant and negative ($p < .05$). However, the percentage of members with low job-related skill and low degree of specialization (LL) has no effect on team performance. These results support Hypothesis 2.

Hypothesis 3 suggests that teams with a high percentage of members with a high job-related skill level will have better team performance independent of the degree of specialization. Shown in model 4, the results support this hypothesis. Both the percentage of players with high job-related skills and high specialization (HH) and the percentage of players with high job-related skills and low specialization (HL) have a positive, significant relationship with team performance (HH, $p < .001$; HL, $p < .01$). Hence, Hypothesis 3 is supported.

2.6 DISCUSSION

2.6.1 Contributions

Until now, studies about the effect of team member heterogeneity on team performance have focused primarily on analyzing socio-demographic traits such as gender, age, nationality, educational, and functional background (e.g. Stewart, 2006; Hortwitz and Hortwitz, 2007). However, researchers should analyze the value of team members' skill by considering how this skill is combined with the skills of teammates. In this study, we

consider that teams include members with heterogeneous job-related skill while keeping in mind that heterogeneity may exist both between the members of a group and within each member. In doing this, we focus on a specific kind of team - action teams - that has gained relevance within organizations due to increasing uncertainty in business environments (Ellis *et al.*, 2005).

Our results supported Hypothesis 1 by showing that differences in the level of job-related skills have positive effects on team performance. Additionally, our study contributes to the team literature by highlighting how the effect of heterogeneity based on abilities may be contingent on the average level of this job-related skill within the team. In this sense, our results suggest how the positive effect of job-related skill heterogeneity diminishes when the average job-related skill of the team increases. In a team where job-related skill level is low, heterogeneity is positively associated with team performance because this means that within the team there are at least some members capable of developing the task. However, homogeneity is preferable when teams are composed of members with high job-related skills. This result complements progresses in recent literature that uses a contingent approach to analyze team heterogeneity (Joshi and Roth, 2009; Kerney, Gebert, and Voelpel, 2009) and demonstrates the importance of considering the level of members' job-related skills as a continuous variable.

Team members may also differ in how they distribute their job-related skill among the different dimensions of the task. Individuals can develop skills in one or several dimensions. The uncertain nature of action teams' tasks makes this issue especially interesting. In an action team, it is essential that team members are able to manage more

than one dimension of the task at an acceptable level because of the unpredictable situations with which the team must deal. For this reason, once individuals obtain this level of expertise, the fact that their job-related skill is more or less concentrated is no longer important. Results suggest that a high percentage of team members with high job-related skill levels have a positive influence on team performance regardless of their degree of specialization (Hypothesis 3). However, when action teams include individuals with low job-related skill levels, a high degree of specialization within them means that they can only manage one dimension of the activity. These individuals are only able to participate in specific circumstances that conform to their skills while in other situations they become a burden on their teammates. Action teams face unpredictable situations; they must to be prepared to adapt spontaneously to change. Thus, having a high percentage of specialists with low skills may be harmful to action team performance (Hypothesis 2).

2.6.2 Implications for Practitioners, Limitations, and Future Research

The possibility for managers to manipulate team composition underpins the importance granted to studies of team design. The proliferation of teams within organizations has expanded understanding of the factors that lead to team performance. Deciding which individuals will be team members becomes one of the main challenges for team managers. Since job-related skill has a direct influence on performance, such knowledge should be among the most important components when deciding whether it is appropriate to hire a new team member. Thus, it is of special interest to a team manager to know how different members' skill levels combine in a team. In the world of sports and

business, there exist multiple examples of teams that have failed in their objectives despite having people with considerable individual ability.

The increasing presence of action teams in organizations makes necessary improvement of our understanding about factors that determine performance. Frequent interaction of these teams with the environment and the unpredictable nature of that environment increase the complexity to manage them. From the results of this study, managers may begin to understand that job-related skill heterogeneity does not have a negative influence on team performance - mainly when the average ability level of the team is low - and that highly specialized members may complicate the capacity of adaptation of the team and, consequently, diminish its performance.

Clearly, this study contains some limitations. First, we specifically focused on job-related skills due to their importance on team performance. However, other individual characteristics such as demography, personality, or cognitive ability may also affect team performance (e.g. Horwitz and Horwitz, 2007; Stewart, 2006). Future research should test the effect that the heterogeneity or the average level of these characteristics has on action team performance.

Another limitation of this study was that this set of results might be idiosyncratic to the basketball context. However, we believe that there are some reasons why this is not a concern. First, basketball teams are a clear example of an action team (Sundstrom *et al.*, 1990). As we argued in our hypotheses on the general characteristics of action teams (high interdependence and unpredictable situations), we believe that the results presented here

are replicable to other action teams such as investigation units or government regulatory teams (Sundstrom, 1999). Second and apart from this, sport teams share some other characteristics with teams found in organizations (Humphrey *et al.*, 2009). Similar to organizational teams, basketball teams have long life spans, working continuously 3 hours a day and 6 days a week during the season. Finally, previous research has defended use of sport teams to analyze high interdependence (Espitia-Escuer and García-Cebrián, 2006; Katz, 2001; Keidel, 1984; Wolfe *et al.*, 2005). Specifically, basketball teams have been used to examine several organizational phenomena and their results have been considered replicable in other contexts (e.g., Berman *et al.*, 2002; Berri, 1999; Pfeffer and Davis-Blake, 1986; Staw and Hoang, 1995; Wright *et al.*, 1995).

This study serves as the starting point for future research on both team heterogeneity and action teams literature. Within team heterogeneity, the literature may be interested in analyzing whether the presence of a leader influences the effect of job-related skills heterogeneity on team performance. It may be necessary for a leader to mobilize members toward team objective. Additionally, this study serves future studies concerning training in action teams (Chen *et al.*, 2005; Marks, *et al.*, 2000). It would be interesting to analyze whether organizations can overcome the problem of highly specialized team members by means of training. Further, discovering what the best way to carry out this training is would shed more light on this subject of job-specific skills.

APPENDIX A

TABLE 2.3 TEAMS AND SEASONS IN THE SAMPLE

Atlanta Hawks	21	Milwaukee Bucks	21
Boston Celtics	21	Minnesota Timberwolves	18
Chicago Bulls	21	New Jersey Nets	21
Charlotte Bobcats	3	New Orleands Hornets	19
Cleveland Cavaliers	21	New York Knicks	21
Dallas Mavericks	21	Orlando Magic	18
Denver Nuggets	21	Philadelphia 76ers	21
Detroit Pistons	21	Phoenixs Suns	21
Golden State Warriors	21	Portland Trail Blazers	21
Houston Rockets	21	Sacramento Kings	21
Indiana Pacers	21	San Antonio Spurs	21
Los Angeles Clippers	21	Seattle Supersonics	21
Los Angeles Lakers	21	Toronto Raptors	12
Memphis Grizzlies	12	Utah Jazz	21
Miami Heat	19	Washington Wizards	21

2.7 REFERENCES

Aiken, L.S. and West, S.G. (1993). *Multiple regression: Testing and interpreting interactions*, Sage, Newbury Park, CA.

Ancona, D.G. and Caldwell, D.F. (1992). Demography and design: Predictors of new product team performance. *Organization Science*, 3(3): 321-341.

Aron, A., McLaughlin-Volpe, T., Mashek, D., Lewandowski, G., Wright, S., and Aron, E.N. (2004). Including others in the self. *European Review of Social Psychology*, 15: 101-132.

Bantel, K.A. and Jackson, S.E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal*, 10(1): 107-124.

Barry, B. and Stewart, G.L. (1997). Composition, process, and performance in self-managed groups: The role of personality. *Journal of Applied Psychology*, 82(1): 62-78.

Barsade, S.G., Ward, A.J., Turner, J.D.R., and Sonnenfeld, J.A. (2000). To your heart's content: A model of affective diversity in top management teams. *Administrative Science Quarterly*, 45(4): 802-836.

Berman, S.L., Down, J., and Hill, C.W.L. (2002). Tacit knowledge as a source of competitive advantage in the national basketball association. *Academy of Management Journal*, 45(1): 13-31.

Berri, D.J. (1999). Who is 'most valuable'? Measuring the player's production of wins in the national basketball association. *Managerial & Decision Economics*, 20(8): 411-427.

Bonaccorsi, A. and Thoma, G. (2007). Institutional complementarity and inventive performance in nano science and technology. *Research Policy*, 36(6): 813-831.

Boone, C., Van Olffen, W., Van Witteloostuijn, A., and De Brabander, B. (2004). The genesis of top management team diversity: Selective turnover among top management teams in Dutch newspaper publishing, 1970-94. *Academy of Management Journal*, 47(5): 663-656.

Bunderson, J.S. (2003). Team member functional background and involvement in management teams: Direct effects and the moderating role of power centralization. *Academy of Management Journal*, 46(4): 458-474.

Bunderson, J.S. and Sutcliffe, K.M. (2002). Comparing alternative conceptualizations of functional diversity in management teams: Process and performance effects. *Academy of Management Journal*, 45(5): 875-893.

Canella, A.A., Park, J-H., and Lee, H.U. (2008). Top management team functional background diversity and firm performance: Examining the roles of team member collocation and environmental uncertainty. *Academy of Management Journal*, 51(4): 768-784.

Carpenter, M.A. (2002). The implications of strategy and social context for the relationship between top team management heterogeneity and firm performance. *Strategic Management Journal*, 23(3): 275-284.

Chen, G., Thomas, B., and Wallace, J.C. (2005). A multilevel examination of the relationships among training outcomes, mediation regulatory processes, and adaptive performance. *Journal of Applied Psychology*, 90(5): 827-841.

Cohen, S.G. and Bailey, D.E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23(3): 239-290.

Cross, R., Ehrlich, K., Dawson, R., and Helferich, J. (2008). Managing collaboration: Improving team effectiveness through a network perspective. *California Management Review*, 50(4): 74-98.

Dahlin, K.B., Weingart, L.R., and Hinds, P.J. (2005). Team diversity and information use. *Academy of Management Journal*, 48(6): 1107-1123.

Dulye, L. (2009). Using communication to drive change at Rolls-Royce: Ten steps toward instigating a cultural turnaround. *Strategic Communication Management,* 13(1): 32-35.

Edmonson, A.C. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies*, 40(6): 1419-1452.

Ellis, A.P.J., Bell, B.S., Ployhart, R.E., Hollenbeck, J.R., and Ilgen, D.R. (2005). An evaluation of generic teamwork skills training with action teams: Effects on cognitive and skill-based outcomes. *Personnel Psychology*, 58(3): 641-672.

Ennen, E. and Richter, A. (2010). The whole is more than the sum of its parts – or is it? A review of the empirical literature on complementarities in organizations. *Journal of Management*, 36(1): 207-233.

Espitia-Escuer, M. and García-Cebrián, L.I. (2006). Performance in sport teams: Results and potential in the professional soccer league in Spain. *Management Decisions*, 4(8): 1020-1030.

Giambatista, R.C. (2004). Jumping through hoops: A longitudinal study of leader life cycles in the NBA. *Leadership Quarterly*, 15(5): 607-624.

Goll, I., Johnson, N.B., and Rasheed, A.A (2008). Top management team demographic characteristics, business strategy, and firm performance in the US airline industry: The role of managerial discretion. *Management Decision*, 46(2): 201-222.

Grandori, A. and Furnari, S. (2008). A chemistry of organization: Combinatory analysis and design. *Organization Studies*, 29(3): 459-485.

Guzzo, R.A. and Dickson, M.W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology*, 47(1): 307-338.

Harris, C.M. and McMahan, G.C. (2008). An empirical investigation of human capital and performance: NCAA men's basketball teams. *Academy of Management Proceedings*, pp. 1-6.

Hershock, R.J., Cowman, C.D., and Peters, D. (1994). From experience: Action teams that work. *Journal of Product Innovation Management*, 11(2): 95-104.

Hirschfeld, R.R. and Bernerth, J.B. (2008). Mental efficacy and physical efficacy at the team level: Inputs and outcomes among newly formed action teams. *Journal of Applied Psychology*, 93(6): 1429-1437.

Horwitz, S.K. and Horwitz, I.B. (2007). The effects of team diversity on team outcomes: A meta-analytic review of team demography. *Journal of Management*, 33(6): 987-1015.

Humphrey, S.E., Morgerson, F.P., and Mannor, M.J. (2009). Developing a theory of the strategic core of teams: A role composition model of team performance. *Journal of Applied Psychology*, 94(1): 48-61.

Joshi, A. and Roh, H. (2009). The role of context in work team diversity research: A meta-analytic review. *Academy of Management Journal*, 52(3): 599-627.

Katz, N. (2001). Sports teams as a model for workplace teams: Lessons and liabilities. *Academy of Management Executive*, 15(3): 56-67.

Kauer, D., Waldeck, T.C.P., and Schäffer, U. (2007). Effects of top management team characteristics on strategic decision making: Shifting attention to team member personalities and mediating processes. *Management Decision*, 45(6): 942-967.

Kearney, E., Gebert, D., and Voelpel, S.C. (2009). When and how diversity benefits teams: The importance of team members' need for cognition. *Academy of Management Journal*, 52(3): 581-598.

Keidel, R.W. (1984). Baseball, football, and basketball: Models for business. *Organizational Dynamics*, 12(3): 4-18.

Knight, D., Pearce, C.L., Smith, K.G., Olian, J.D., Sims, H.P., Smith, K.A., and Flood, P. (1999). Top management team diversity, group process, and strategic consensus. *Strategic Management Journal*, 20(5): 445-465.

Laughlin, P.R. and Branch, L.G. (1972). Individual versus tetradic performance on a complementary task as a function of initial ability level. *Organizational Behavior and human performance*, 8(2): 201-216.

LePine, J.A. (2003). Team adaptation and postchange performance: Effects of team composition in terms of members' cognitive ability and personality. *Journal of Applied Psychology*, 88(1): 27-39.

MacBryde, J. and Mendibil, K. (2003). Designing performance measurement systems for teams: Theory and practice. *Management Decision*, 41(8): 722-733.

Marks, M.A., Zaccaro, S.J., and Mathieu, J.E. (2000). Performance implications of leader briefings and team-interaction training for team adaptation to novel environments. *Journal of Applied Psychology*, 85(6): 971-986.

Morgeson, F.P., Delaney-Klinger, K., and Hemingway, M.A. (2005). The importance of job autonomy, cognitive ability, and job-related skill for predicting role breadth and job performance. *Journal of Applied Psychology*, 90(2): 399-406

Neuman, G.A. and Wright, J. (1999). Team effectiveness: Beyond skills and cognitive ability. *Journal of Applied Psychology*, 84(3): 376-389.

Oosterhof, A., Van der Vegt, G.S., Van de Vliert, E., and Sanders, K. (2009). Valuing skill differences: Perceived skill complementarity and dyadic helping behavior in teams. *Group & Organization Management*, 34(5): 536-562.

Parry, I.J., Tranfield, D., Smith, S., Foster, M., and Wilson, S. (1998). Reconfiguring your organisation: A teamwork approach. *Team Performance Management*, 4(4): 166-176.

Pelled, L.H. (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization Science*, 7(6): 615-631.

Pfeffer, J. and Davis-Blake, A. (1986). Administrative succession and organizational performance: How administrator experience mediates the succession effect. *Academy of Management Journal*, 29(1): 72-83.

Reagans, R., Zuckerman, E., and McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly*, 49(1): 101-133.

Rulke, D.L. and Galaskiewicz, J. (2000). Distribution of knowledge, group network structure, and group performance. *Management Science*, 46(5): 612-625.

Saavedra, R., Earley, P.C., and Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78(1): 61-72.

Simons, T., Pelled, L.P. and Smith, K.A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42(6): 662-673.

Smith, K.G., Smith, K. A., Sims, Jr., Henry, P., O´Bannon, D.P., Scully, J.A., and Olian, J.D. (1994). Top management team demography and process: The role of social integration and communication. *Administrative Science Quarterly*, 39(3): 412-438.

Smith, E.A. (2001). The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, 5(4): 311-321.

Snijders, T. (1996). Analysis of longitudinal data using the hierarchical linear model. *Quality & Quantity*, 30(4): 405-426.

Staw, B.M., and Hoang, H. (1995). Sunk costs in the NBA: Why draft order affects playing time and survival in professional basketball. *Administrative Science Quarterly*, 40(3): 474-494.

Sternberg, R.J., Wagner, R.K., Williams, W.M., and Horvath, J.A. (1995). Testing common sense. *American Psychologist*, 50(11): 912-927.

Stewart, G.L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management*, 32(1): 29-55.

Stewart, G.L. and Barrick, M.R. (2000). Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. *Academy of Management Journal*, 43(2): 135-148.

Sundstrom, E. (1999). The challenges of supporting work team effectiveness", in Sundstrom, E. Associates (Eds.), *Supporting work team effectiveness*, Jossey-Bass, San Francisco, pp. 3-23.

Sundstrom, E., Demeuse, K.P., and Futrell, D. (1990). Work teams - applications and effectiveness. *American Psychologist*, 45(2): 120-133.

Taylor, A. and Greve, H.R. (2006). Superman or the fantastic four? Knowledge combination and experience in innovative teams. *Academy of Management Journal*, 49(4): 723-740.

Teece, D.J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6): 285-305.

Thomas-Hunt, M.C., Ogden, T.Y., and Neale, M.A. (2003). Who's really sharing? Effects of social and expert status on knowledge exchange within groups. *Management Science*, 49(4): 464-477.

Tziner, A. and Eden, D. (1985). Effects of crew composition on crew performance: Does the whole equal the sum of its parts? *Journal of Applied Psychology*, 70(1): 85-67.

Van Der Vegt, G.S., Van De Vliert, E., and Oosterhof, A. (2003). Informational dissimilarity and organizational citizenship behavior: The role of intrateam interdependence and team identification. *Academy of Management Journal*, 46(6): 715-727.

Van Knippenberg, D., De Dreu, C.K.W. and Homan, A.C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology*, 89(6): 1008-1022.

Wolfe, R.A., Weick, K.E., Usher, J.M., Terborg, J.R., Poppo, L., Murrell, A. J., Dukerich, J. M., Core, D.C., Dickson, K.E., and Jourdan, J.S. (2005). Sport and organizational studies: Exploring synergy. *Journal of Management Inquiry*, 14(2): 182-210.

Wright, P.M., Smart, D.L., and Mcmahan, G.C. (1995). Matches between human-resources and strategy among NCAA basketball teams. *Academy of Management Journal*, 38(4): 1052-1074.

CAPÍTULO 3

PERFORMANCE OF NEWCOMERS IN TEAMS: DOES THE PERFORMANCE OF CO-WORKERS MATTER?

ABSTRACT

This study completes prior analyses on socialization, by focusing on newcomers in the interactive environment of teams. This work tested a multilevel model using longitudinal data from 132 newcomers in 30 NBA teams. The results highlighted the importance of the socialization process in the analysis of a newcomer's performance and showed how newcomers improved their performance after they had spent sufficient time working with other team members. Additionally, although the prior performance of these newcomers has a positive influence on their initial performance in the new team, the prior performance of the old-timers may make their adaptation harder. We find that old-timers' prior performance has a negative effect on newcomers' initial performance.

Keywords: newcomers, newcomers' performance improvement, coworkers, initial performance.

3.1 INTRODUCTION

The current changing and turbulent business environment has increased worker mobility (Rollag, Parise, and Cross, 2005). As an illustration, the average job tenure in the United States of America was 4.1 years in January 2008 (U.S. Bureau of Labor Statistics, 2008). Consequently, organizations have had to, frequently, deal with workers without prior experience in that particular organization— newcomers as they have been named by previous studies. Newcomers may find a fresh environment in their organizations that motivates their own contribution and this has an impact on the efficiency of these organizations (Perretti and Negro, 2007), but at the same time, they may also face difficulties in integrating their potential in a new environment (Bauer, Bodner, Erdogan, Truxillo, and Tucker, 2007). Consequently newcomers' performance may be difficult to advance.

Additionally, in the last few years organizations have relied more on teams as an effective way to organize work (Procter and Burridge, 2008). One of the main characteristics of teams is the interdependence between its members (Katzenbach and Smith, 2005; Saavedra, Earley and Dyne, 1993). This interdependence implies that team members may work in an interactive way to accomplish a task. Thus, in this team context, analyses about newcomers are especially appealing. Although the literature has paid limited attention to newcomers in teams (e.g. Chen, 2005; Chen and Klimosky, 2003; Puck, Mohr, and Rygl, 2008), the analysis of the performance of these newcomers is especially important because it may influence subsequent team performance (Chen, 2005)

and innovation (Perretti and Negro, 2007). Newcomers in the team—new team members—must not only learn how to deal with a task, but must also learn how to work with co-workers. Newcomers in teams need to work for a while with their co-workers to gain this knowledge. For this reason, we propose that in such a situation the improvement in the performance of newcomers needs a certain period of learning experience.

However, prior skill acquisition literature (e.g Hofmann, Jacobs, and Baratta, 1993; Murphy, 1989; Ployhart and Hakel, 1998) has assumed that the performance of newcomers shows greater improvement, early in the process of socialization in the organization, while they are learning new tasks. We want to point out that this situation may be rendered more complex when newcomers have to learn how to work in a team because an important part of the knowledge cannot be acquired by asking others, but it may be obtained through practice, by working with other team members.

Furthermore, a key aspect with the potential to influence the performance of a newcomer has remained unexplored: the role of the performance of co-workers in the initial performance of the newcomer. The expertise of co-workers, and more importantly, the information that they may support, may be especially important for the socialization of newcomers (Ostroff and Kozlowski, 1992). Although we do not reject that this effect is possible when newcomers have to learn how to deal with a new individual task, we propose that when a newcomer joins a team composed of individuals with a high level of performance, paradoxically, the newcomers may find it harder to adapt, because they will initially find less opportunities to show how well they may accomplish the task.

In this sense, two research questions underlie our work: First, do newcomers who join a team need to spend some time working with their co-workers before their performance improves? Second, is the role of co-workers on a newcomer's performance a negative one in this situation?

Our article tries to add information about the yet under-analyzed effectiveness of newcomers in a team context. Hence, the contributions of this article are two-fold. First, it contributes to both the socialization literature and literature about skill acquisition by showing how the growth path which underlies a newcomer's performance may require some time within a highly interdependent team. Second, we also contribute to the same theoretical background by analyzing how the role of co-workers is very relevant for a newcomer's performance and showing how the presence of old-timers who are high performers may be an obstacle to the performance of newcomers.

This paper is divided into three sections. The first one presents the theoretical background and the hypothesis behind the study. The second section will introduce the data and methodology used. Finally we will discuss the results and we will comment the conclusions of this study.

3.2 LITERATURE REVIEW AND HYPOTHESES

3.2.1 Newcomers' Performance Improvement as a Learning Process

The growing uncertainty within the environment and the increase in worker transition within and outside organizations make studies about newcomer effectiveness especially

appealing. When newcomers go into an organization they have to acquire the knowledge and skills needed to perform his or her job. This process has been called "organizational socialization" (Chow, 2002). Previous scholars have stated different models to explain the organizational socialization process (Chao, O'Leary-Kelly, Wolf, Klein, and Gardner, 1994; Cooper-Thomas and Anderson, 2006; Feldman, 1976; Ostroff and Kozlowski, 1992; Taormina, 2004). Despite some specific variations, all of these works have highlighted the importance of the newcomers learning about their new job environment. This learning must cover several organizational domains, such as task demands, role attributes, work group norms, and organizational climate and culture (Feldman, 1981). Among these, the development of necessary skills and abilities to accomplish the task has to be among the main objectives in organizational socialization. Thus, the concept of task socialization, that is, acquiring task knowledge, learning how to perform relevant task behavior and learning how to interact with others in the course of performing a specific task have been discussed in socialization literature (e.g. Adkins, 1995; Haueter, Macan, and Winter, 2003; Ostroff and Kozlowski, 1992). For newcomers, the acquisition of these skills is critical to keep the job, increase wellbeing, and reduce stress (Cooper-Thomas and Anderson, 2006; Ostroff and Kozlowski, 1992). In this study we focus on the acquisition of these skills which has a direct expression through newcomers' performance and it is especially important because it may influence subsequent team performance (Chen, 2005) and team innovation (Perretti and Negro, 2007).

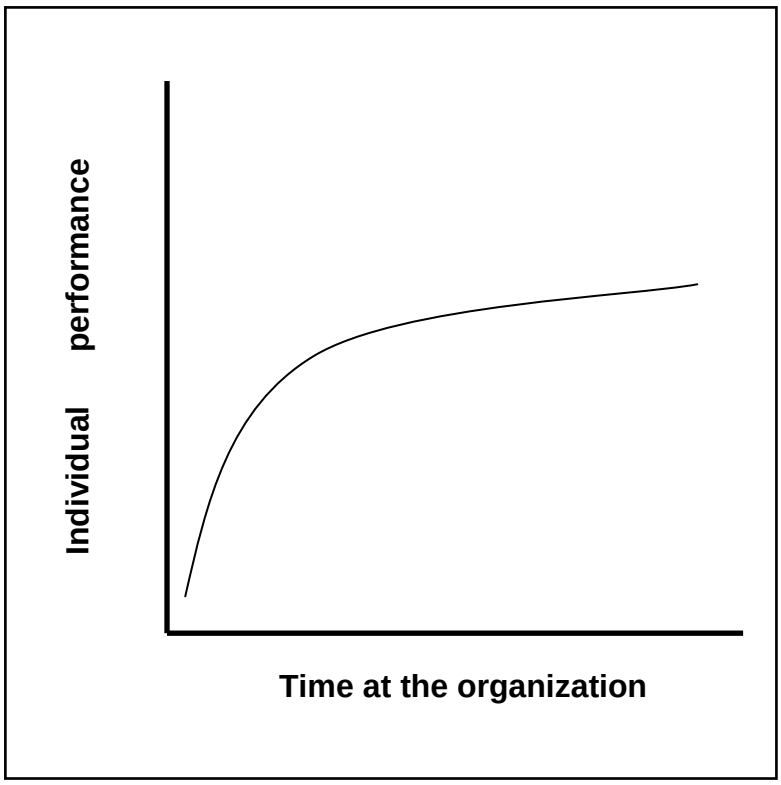
3.2.2 Newcomer's Performance Change

Earlier literature had begun to analyze how a newcomer's performance evolves in the first months in the new organization and what factors may influence this development (e.g. Chan and Schmitt, 2000; Thoresen, Bradley, Bliese, and Thoresen, 2004). Previous studies have mostly shown that the performance of newcomers in organizations grows more during the first stages of the task socialization process (Chen, 2005; Murphy, 1989) and that individual characteristics such as cognitive ability (Deadrick, Bennett, and Russell, 1997; Yeo and Neal, 2004) or some personality traits (Ployhart and Hakel, 1998; Stewart and Nandkeolyar, 2006; Thoresen *et al.*, 2004; Yeo and Neal, 2004) are factors that explain the differences in individual performance trajectories.

According to skill acquisition literature (e.g. Hofmann *et al*., 1993; Murphy, 1989; Ployhart and Hakel, 1998) these results, showing more improvement of newcomers' performance during the first months in their new organization, are related to the importance of cognitive abilities in the process of task socialization. According to the information processing approach (Anderson, 1982), when individuals learn a new task, they first gain declarative knowledge about the task and then, progressively, they convert this knowledge into practical actions, which are finally refined and strengthened. Thus, when individuals are learning, their cognitive abilities are critical and the improvement in performance is greater. However, when they have completed the process of learning they go into a procedural stage where the cognitive ability is less relevant and their performance improves to a lesser extent. Based on this model, it is expected that newcomers show a higher improvement in their performance in the first stages of the socialization process, when they have to learn how to work in a new job environment (Murphy, 1989; Thoresen

et al., 2004). However, once the task is learned well, it becomes routine and procedural, thus the probability of improvement is weaker, as it is produced through practice (Ackerman, 1987; Avolio, Waldman, and McDaniel, 1990). Figure 5 shows the way in which the process happens.

FIGURE 5 NEWCOMER'S PERFORMANCE IMPROVEMENT IN AN ORGANIZATION

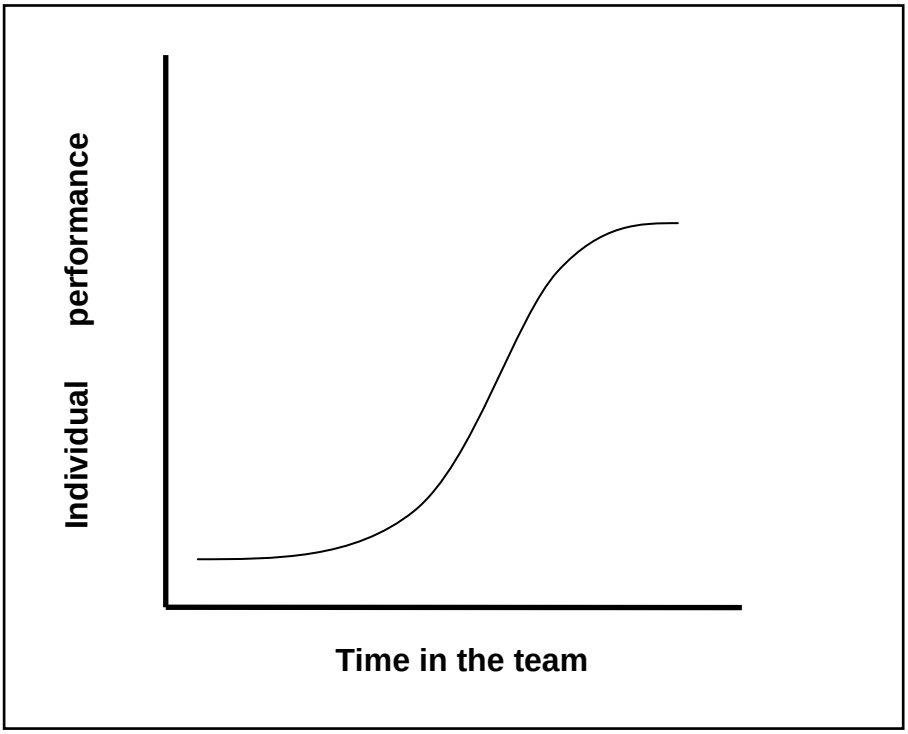


Chen (2005) used the earlier arguments to explain why newcomers to project teams from high-tech firms record greater performance improvement, early rather than late, in the process of task socialization. It is not our intention to refuse this broadly accepted theory, but we want to emphasize that this trend may not be so clear in all situations involving teams.

According to Chen (2005), newcomers show an improvement in their performance as soon as they enter a new team. However we propose that the fact of improving the performance at the beginning of the learning process may be possible when their jobs have some individual components that allow them to improve their performance through individual practice. Most team members have to do their task in a highly interdependent manner. Team members have to combine their knowledge in order to accomplish the task (Zarraga and Bonache, 2003). That is, newcomers in high interdependent teams have to learn how their team mates work and learn how to coordinate their own ability with that of other team members. Thus, newcomers must first adapt themselves to their new team mates as well as other team members may increase their knowledge about them. We propose that this process requires some time.

Team members need to go through the process of working with others in the team and of spending time together to improve their coordination and consequently be able to anticipate each other's behavior (Berman, Down, and Hill, 2002; Murnighan and Conlon, 1991). As team members spend time working together, the recognition of members' expertise is easier and their utilization is more effective (Baumann and Bonner, 2004; Littlepage, Robison, and Reddington, 1997). Similarly, co-workers also will need time to gain accurate knowledge of the ability of these newcomers (Lewis, Belliveau, Herndon and Keller, 2007). When this learning process is advanced, collaboration with co-workers will help make the newcomers perform more effectively in the team. For this reason, it is expected that within a team, a newcomer's performance shows more improvement when this process of task socialization with the other members is over, as in Figure 6.

FIGURE 6 NEWCOMER'S PERFORMANCE IMPROVEMENT IN A TEAM



Thus we state:

Hypothesis 1: Newcomers in teams improve their performance over time, in such a way that performance improvement is more pronounced late rather than early in the process of task socialization.

3.2.3 Determinants of Newcomers' Initial Performance

Although our previous hypothesis tries to shed some light on how the performance of newcomers in the team changes in the process of task socialization, it is also important to complete this view by analyzing the initial performance of the newcomers when they start to work in the team.

Team members usually prefer to rely on the most skilful members in order to accomplish a task (Baumann and Bonner, 2004) and these, more expert members tend to gain more participation in the activity of the team (Bunderson, 2003; Karakowsky and McBey, 2001) and more assistance from other team members (Van der Vegt, Bunderson and Oosterhof, 2006). For these reasons, we stated that those team members showing a higher performance will have more opportunities to participate in team activity and consequently this will have a positive influence on their individual performance.

Taking this into account, the prior performance of newcomers—a successful record in a previous job—may have a determinant effect on their initial performance in the new team. As Beyer and Hannah (2002) have pointed out, individuals may not be considered a "blank slate" when they enter a new organization. Although some newcomers may have limited job experience, most have a functional background that provides them with knowledge that may be used in the new job context. This knowledge will be especially useful when the task in the new team requires the utilization of it (Armstrong and Mahmud, 2008; Molleman and Van der Vegt, 2007). Additionally, a high prior performance improves team members' perception about the newcomer's performance (Chen and Klimoski, 2003). The demonstration of competence in the immediate context will increase the imputed expertise of newcomers, and as a consequence, will increase their involvement with team activity (Karakowsky and McBey, 2001), which provides more opportunity to practice the task. Further, according to Eden's work on the Galatea effect (1992), employees' own performance expectations increase their motivation and their confidence at work. Thus, when newcomers in a team have a good prior performance

record, it is expected that they feel more confident in the new organization and consequently, are able to adapt more easily. Hence, the following hypothesis:

Hypothesis 2: Newcomers with a higher prior performance will have better initial performance within a team.

However, it is important to highlight that the initial performance of newcomers will not be determined completely based on their previous performance. The fact that newcomers carry out highly interdependent tasks in their new team has to be analyzed. As we have stated above, when a newcomer has to carry out a highly interdependent task, he or she has to learn how to work in an interactive way with the rest of the team members. Hence, not only the previous performance of newcomers but also the previous performance of co-workers in the team, both old-timers and other newcomers, may be relevant.

The role of co-workers in newcomers' task socialization process has been broadly analyzed in previous studies. In general terms, these studies have shown how newcomers may use their cognitive ability to process and use information from both the organization and from other members to gain the necessary knowledge to accomplish the task (e.g. Ashforth, Saks, and Lee, 1998; Cooper-Thomas and Anderson, 2002; Jones 1986; Morrison, 1993; Zahrly and Tosi, 1989). In this situation, co-workers are considered an important source of information about both the task and the organization (Chan and Schmitt, 2000; Cooper-Thomas and Anderson, 2006; Ostroff and Kozlowski, 1992). Newcomers could process the information supported by co-workers and put it into practice when they carry out the task. While not rejecting this idea, we want to highlight that co-

workers may be especially useful when newcomers want to accomplish an individual task, but their role may be more controversial when the task has to be accomplished in an interdependent way.

Regarding co-workers, we distinguish between old-timers and other newcomers. First, old-timers are co-workers who have been in the team before the entry of the newcomers. Old-timers may influence several of the socialization outcomes of the newcomers such as role conflict, role ambiguity, and organizational involvement (Slaughter and Zickar, 2006). In this article, we propose that within a team, the previous performance of the old-timers may have a negative influence on the initial performance of newcomers and also may moderate the positive effect of the newcomers' prior performance on their initial performance.

Team members will tend to rely more on those colleagues whom they already know. Old-timers use their prior experience of working together to determine their expectations about the expertise of team members (Lewis *et al.*, 2007). Thus, although newcomers may have displayed good prior performance and may have shown their proficiency previously, if old-timers also have a good prior performance record, the other team members will tend to rely on them because they already know their expertise and how they work. Consequently, despite their prior performance, newcomers will have fewer opportunities to participate in the work and their initial performance will not be as good as it could be. For that reason, we propose that, within a team, when the old-timers' prior performance is of a high order, the effect of the newcomers' prior performance is a less relevant factor in predicting newcomers' initial performance.

Hypothesis 3: The prior performance of old-timers has a negative influence on the initial performance of newcomers within a team.

Hypothesis 4: The prior performance of old-timers moderates the relationships between the prior performance of newcomers and their initial performance within a team in such a way that the effect of the newcomers' prior performance on their initial performance is more positive when the prior performance of the old-timers is low rather than high.

Finally, regarding the prior performance of the other newcomers in the team, we might expect that a high prior performance record on the part of the other newcomers also diminishes the potential of the analyzed newcomer for gaining confidence. As we have stated above, when newcomers enter a team, their main reference is their prior experience. However, normally a newcomer does not join a team alone but several individuals may join with him or her (Lewis *et al.*, 2007). These other newcomers also have prior performances which serve as a reference for the other team members. For this reason, we propose that a single newcomer will have more difficulty in showing his or her proficiency when he or she joins along with other individuals with a better prior performance showing. Additionally, having others newcomers with a higher prior performance record may diminish the influence that their own prior performance has on their initial performance.

Thus we state:

Hypothesis 5: The prior performance of the other newcomers has a negative influence on a newcomer's initial performance within a team.

Hypothesis 6: The prior performance of the other newcomers in a team moderates the relationships between the prior performance of a newcomer and his or her initial performance within a team in such a way that the effect is more positive, when the performance of the other newcomers is low rather than high.

3.3 METHODS

3.3.1 Sample

To test our hypotheses, we used data from 132 newcomers allocated to 30 teams of the National Basketball Association (NBA) in the 2007–08 season. From the 218 players who changed their team in 2007–08, we chose all those who had started the new season with the new team, that is, we excluded those players who had joined the team in the middle of the season to avoid external bias. Because we were interested in analyzing the improvement of newcomers' performance, we only included those players whose performance had been observed for over a month in the new team.

We chose this sample because newcomers in NBA teams fit well with the specific situation that we have tried to analyze in this article. Basketball players cannot do their job in an individual way. They must coordinate with the other team members during the game. Thus, when they enter a new team they must learn to interact with their team mates. They need to spend some time playing with their new mates to know how the team acts.

The use of basketball to analyze team issues has been broadly accepted in management literature (e.g. Berman *et al.*, 2002; Berri, 1999; Pfeffer and Davis-Blake, 1986; Staw and Hoang, 1995; Wright, Smart, and Mcmahan, 1995). The objective data and the relatively controlled environment that basketball teams offer are especially appealing to our study, because they provide us with the opportunity of managing objective measures of individual performance during a specific period of time (Katz, 2001; Wolfe *et al.*, 2005). Additionally, basketball teams may be considered to be action teams (Edmonson, 2003), composed of highly specialized members who cooperate in intense and unpredictable circumstances (Sundstrom, Demeuse, and Futrell, 1990). Such teams are commonly found in organizational settings and as a consequence the lessons learned about basketball teams may be transferred to others kinds of organizational teams.

The data for newcomers' performance were obtained from the database, Basketball-Reference, which offers detailed statistics on all NBA teams and players from the season 1946–47 to the present. Information about a newcomer's performance in National Collegiate Athletic Association (NCAA) or European basketball teams—necessary to calculate the newcomers' prior performance—was obtained from the database of Entertainment Sports Programming Network (ESPN) and Doudiz Basket, respectively.

3.3.2 Measures

Newcomers' performance. To calculate the performance of the newcomers, we used the Game score index (Gmsc) for the players during their first months with the new team.

Gmsc is a common and a broadly accepted method in the basket industry to quantify individual performance. The formula of Gmsc is: Points + 0.4 x Field Goals - 0.7 x Field Goals Attempts - 0.4 x (Free Throw Attempts – Free Throws) + 0.7 x Offensive Rebounds + 0.3 x Defensive Rebounds + Steals + 0.7 x Assists + 0.7 x Blocks - 0.4 x Personal Fouls - Turnovers. This index allowed us to control for the different influences that each of these abilities may have on the individual performance of players in a given game. This index was aggregated by months. The aggregation of data into month blocks is helpful for increasing reliability and for assessing trends (Ployhart and Hakel, 1998). The range of months observed ranged from two to six. Since some players left the team once the season had started or suffered injuries, not all the newcomers had 6 performance observations. We used the natural logarithm transformation of the data to obtain the necessary normal distribution.

Newcomers' performance improvement. Newcomers' performance scores from times 2 to 6 composed a trajectory of performance improvement analyzed using random coefficient modeling (RCM). To analyze the shape of this trajectory, a factor time—designated as 0, 1, 2, 3, 4 and 5—was included in the model as an independent variable. The significance of this variable implies that newcomer's performance grows in a linear way.

Prior newcomers' performance. The newcomers' overall Gmsc in the season before the season used for the analysis was used as newcomers' prior performance. In our sample, we consider that the existing differences related to the preceding leagues (Europe leagues, college or other NBA team) in which newcomers have played are not a problem to

the extent that we were assumed that their prior performance is understood as a reference point when newcomers enter in a new team. The prior statistics of these newcomers were used as a proxy of their potential with regard to the independence of where these statistics proceed. It was not possible to obtain this information for 4 of the players because they proceeded from teams and/or leagues which did not facilitate information to the consulted databases.

Old-timers' prior performance. We calculated the average Gmsc in the previous season for all those players who remained in the team at the beginning of the analyzed season. To avoid potential bias, we excluded from the analysis, 13 players who had played at less than the average minus two standard deviations of the games. Thus, we finally considered 280 old-timers.

Other newcomers' prior performance. For each newcomer, the prior performance of the remaining newcomers was measured as the averaged Gmsc of all newcomers in the previous season, excluding the performance of the corresponding newcomer.

Control variable. Finally, we included prior experience as a control variable. This variable was measured using the number of prior seasons that newcomers had played in the NBA. Although we have previously stated that the origin of newcomers' statistics does not affect the influence of their prior performance, we can not deny that the prior experience of these newcomers may have direct consequences on their adaptation. For this reason we control for the influence that prior experience at the NBA has on a newcomer's performance (Armstrong and Mahmud, 2008; Avolio *et al*., 1990; Carr, Pearson, Vest, and

Boyar, 2006; Molleman and Van der Vegt, 2007). This issue is especially important for newcomers in NBA teams. Having a prior experience in other NBA team may facilitate the adaptation to a new team because these players have accumulated knowledge about the league, the rules and the characteristics of others teams which may be especially useful by their development in the new team.

3.3.3 Level of Analysis

Our hypotheses involved relationships between variables at two levels: individual (newcomer) and within-individual (within-newcomer). To test these cross-level relationships, RCM analyses was conducted using version 2.0 of the statistical program Mlwin. RCM analyses appropriately model cross-level relationships by separating the parameter estimates and the variance terms into two levels: the within-individual level (level 1) and the individual level (level 2). RCM analyses have been shown to be specially useful for longitudinal (repeated or time) data analysis to examine growth over time (Bliese and Ployhart, 2002; Tood, Crook, and Barilla, 2005). In addition, this methodology allows us to avoid problem derived from unbalanced data (Snijder, 1996).

3.4 RESULTS

Table 3.1 provides the means, standard deviations, and correlations among the variables in our study.

TABLE 3.1 DESCRIPTIVE STATISTICS AND CORRELATIONS

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9
1.Newcomers' performance, time 1	1.81	0.49									
2.Newcomers' performance, time 2	1.84	0.56	.67**								
3.Newcomers' performance, time 3	1.88	0.51	.72**	.69**							
4.Newcomers' performance, time 4	1.94	0.51	.59**	.65**	.72**						
5.Newcomers' performance, time 5	1.99	0.51	.64**	.60**	.70**	.68**					
6.Newcomers' performance, time 6	2.07	0.48	.57**	.56**	.63**	.61**	.61**				
7. Newcomers' prior performance	7.79	4.55	.26**	.11	.29**	.36**	.39**	.39**			
8.Old-timers' prior performance	7.65	1.69	-.15	-.24**	-.22**	-.06	-.29**	-.03	.03		
9. Other newcomers' prior performance	7.67	2.56	.14	.08	-.03	-.02	-.04	.05	-.05	.04	
10. Prior experience	3.87	4.08	.21*	.21*	.24**	.07	.00	-.02	-.31**	-.03	.12

[a] $n = 132$ * $p < .05$ ** $p < .01$

To test our hypotheses, we followed the steps suggested by Bliese and Ployhart, (2002). We first tested a null model using RCM to assess the amount of variance in performance between and within newcomers. The intraclass correlation (ICC[1]) suggested that 65 percent of the total performance variance resided within newcomers and 35 percent of the total performance variance resided between newcomers.

Second, a time factor (designated as 0, 1, 2, 3, 4 and 5) was set to predict six performance scores for each newcomer. This model involved regressing performance on time (see table 3.2).

TABLE 3.2 GROWTH MODEL PARAMETER ESTIMATES OF PREDICTORS OF NEWCOMER'S PERFORMANCE

Variable	**Estimate**	**s.e.**	***df***	***t***	***P***
Intercept	1.68	0.05	668	13.90	.000
Time	0.04	0.01	668	5.71	.000
Newcomers' prior performance (N)	0.03	0.01	648	4.75	.000
Old-timers' prior performance (O)	-0.06	0.02	668	-3.25	.001
Other newcomers' prior performance (OT)	0.01	0.01	668	1.08	.281
N X O	-0.01	0.00	648	-2.2	.028
N X OT	0.01	0.00	648	1.67	.095
Newcomers' prior experience	0.03	0.01	668	3.67	.000

[a] n = 676 performance observations nested in 132 newcomers

Results indicated that the rate of performance change was positive (.04, $p < .001$) supporting Hypothesis 1. This implies that, on average, a newcomer's performance improved by .04 points each month. Additionally, and corroborating Hypothesis 1,

dependent sample *t*-test show that a newcomer's performance improved significantly only from time 5 ($\overline{X}$ = 1.99, SD = .51) to time 6 ($\overline{X}$ = 2.07, SD. = .48), t_{95} = -2.32, $p < .05$. Thus, as Hypothesis 1 predicted, a newcomer's average performance improved to a greater extent much later in the task socialization process.

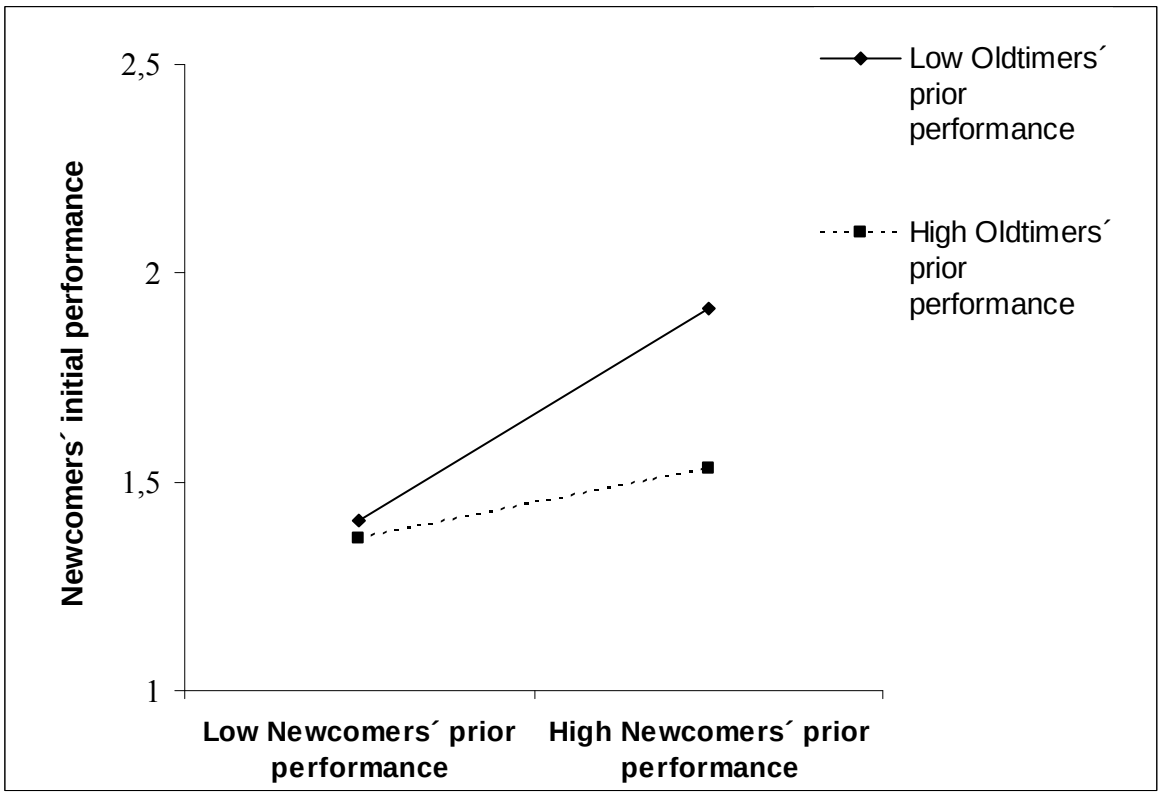
Third, we had to determine whether this trend varied significantly across newcomers. As Bliese and Ployhart (2002) stated, we used a model in which the parameters were allowed to randomly differ across newcomers. The variation in the Likelihood Ratio was not significant for between-individual variability. Finally, additional tests did not show a heterogeneous error structure in the linear trend.

Fourth, we examined whether level-2 variables were related to initial levels of the newcomer's performance, that is, the intercept variation. As we can see in table 3.2, the newcomer's prior performance has a significant and positive influence on his or her initial performance (.03, $p < .001$), thus supporting Hypothesis 2. On the other hand, old-timers' prior performance has a significant and negative influence on newcomers' initial performance (-.06, $p < .001$). This result also supports Hypothesis 3.

Fifth, Hypothesis 4 proposes that old-timers' prior performance moderates the relationship between newcomers' prior performance and their initial performance. We tested this hypothesis by adding an interaction term between the newcomers' prior performance and the old-timers' prior performance. The resulting coefficient was negative and significant ($p < .05$). We plotted this interaction effect using procedures outlined in Aiken and West (1993). Figure 7 represents the resulting graph. As predicted by

Hypothesis 4, the relationship between a newcomer's prior performance and initial performance was stronger when old-timers' prior performance was low rather than high.

FIGURE 7 INTERACTION OF ABILITY LEVEL DIVERSITY AND ABILITY LEVEL AVERAGE ON A TEAM



However, contrary to our prediction, the prior performance of the remaining newcomers did not have a direct influence on the initial performance of a newcomer. Furthermore, the interaction between the prior performance of the remaining newcomers and that of the newcomers in the study has a weak and positive influence on the initial performance of the newcomers ($p < .10$), contrary to our prediction. Hence, Hypotheses 5 and 6 were not supported.

Additionally, we can see how as in previous studies (Avolio *et al.*, 1990; Carr *et al.*, 2006; Molleman and Van der Vegt, 2007; Armstrong and Mahmud, 2008), newcomers with longer periods of prior experience will display better initial performance in their new team (.03, $p < .001$).

3.5 DISCUSSION

3.5.1 Theoretical Contributions

This study develops upon earlier studies which analyzed the evolution of the performance of newcomers to a team (e.g. Chen and Klimosky, 2003; Chen, 2005). Earlier literature examined how the performance of newcomers evolves in organizations and showed that the improvement is higher in the first stages of integration (Murphy, 1989). This trend is explained through the cognitive approach of learning (e.g. Ackerman, 1987). According to this, in the first stage of learning, individuals improve their performance to a greater extent because they focus on learning the cognitive abilities required in the new organization. Applying this approach to the performance of newcomers, it would imply that newcomers entering a new organization will display an increase in their individual performance from the beginning, but with negative acceleration.

However, our article has highlighted the importance of the socialization process, showing that it is not so clear in all the situations to carry out an improvement of the individual performance from the beginning. We have paid particular attention to newcomers in the context of interdependent teams. As newcomers have to work in an interdependent way, they must know how the other team members work. Newcomers must

learn how to coordinate their own skills with the skills of the rest of the team. Team members must develop some implicit actions that allow them to work in a more efficient way and this process takes some time (Berman *et al.*, 2002). Spending time working together allows team members to identify better the skills of others (Littlepage *et al*., 1997; Lewis *et al.*, 2007). Hypothesis 1 supports this argument on how the performance of newcomers improves over time, but mainly when newcomers have spent some time working with the rest of the team. This study shows how the effect of learning on individual performance is not immediate when the task has to be accomplished in an interdependent way. When the newcomers' performance relies on others, they may learn how to work in an interactive way with their team mates, and this learning process is more difficult, so consequently, their effect on individual performance will not be immediate. Once this learning process is over, the skills of the newcomers may be used properly within the team and consequently this has a positive effect on individual performance.

Our collaborative context contrasts with situations where a newcomer might learn how to deal with a new individual task. In those contexts, in which newcomers partially (or completely) may work in an individual way, they might more easily improve their performance since they may practice their individual tasks from the beginning. They do not need to work with the other team mates to accomplish them, so their individual practice may have a direct and immediate effect on their individual performance. This individual component of the task may explain why Chen (2005) found that the performance of newcomers in teams also improves over time with negative acceleration.

The first part of our article discussed how the performance of newcomers improves. Additionally, the second part of our article paid detailed attention to understand better the initial performance of the newcomers. Although prior studies have shown how some individual traits such as cognitive ability (e.g. Deadrick *et al.*, 1997; Yeo and Neal, 2004) or some personality factors (e.g. Stewart and Nandkeolyar, 2006; Thoresen *et al.*, 2004) may affect the initial performance of newcomers, we want to highlight how within a team, prior performance may play a fundamental role. The prior performance of a newcomer serves as a reference of how he or she may work in the new team. When newcomers join a team, they are an unknown factor to the remaining members. Thus, their prior performance may serve as a "cover letter", showing what they are capable of doing. In this sense it is expected that other team members tend to rely on those newcomers who have shown proficiency in earlier jobs (Baumann and Bonner, 2004; Bunderson, 2003; Karakowsky and McBey, 2001). Hypothesis 2 supports this idea, showing how the prior performance of newcomers has a positive influence on their initial performance. However, we showed that not only can their own prior performance affect a newcomer's initial performance but the performance of the rest of the team members, consisting of both old-timers and the other newcomers, may also be a determinant.

Although co-workers may be a useful source of information for newcomers (Ostroff and Kozlowski, 1992), our results show that having old-timers with high performance may be even detrimental to newcomer adaptation. This apparently surprising result has its explanation in the interdependence of team tasks. Team members are conscious that they depend on others to accomplish a task. For this reason, they will prefer to rely on well-known individuals who have previously shown that are able to accomplish a task in an

effective way (Lewis *et al.*, 2007). Thus, when a newcomer enters a team that is composed of individuals who have shown a high prior performance, they may have fewer opportunities to show their proficiency, especially in the early stages of the task socialization process. Hypotheses 3 and 4 support this idea, showing how performance of the other members has a direct detrimental effect on the initial performance of newcomers and additionally reduces the positive effect of newcomers' prior performance on their initial performance. Hence the presence of old-timers within the team who have displayed their proficiency in the past makes the newcomers' adaptation harder, as the other team members will prefer to rely on these old-timers and newcomers will have fewer opportunities to practice and show their ability.

This preference for well-known co-workers may be additionally supported by the rejection of Hypothesis 5. We proposed that the prior performance of the other newcomers to the team may also be detrimental to a newcomer's initial performance. However, our results showed that the prior experience of the other newcomers does not have a direct negative influence and only a weak and positive influence on the relationship between the newcomers' prior performance and their initial performance. Thus, this result could confirm how team members prefer to rely mostly on well-known old-timers, but that the performance of other newcomers does not negatively affect a newcomer's performance since both are unknown to the rest of team members. Consequently, the performance of one newcomer does not have a detrimental influence on the perception of the performance of other newcomers. Further, our results show how the prior performance of the other newcomers may have a positive effect on the effect that the prior performance of a considered newcomer has on his or her performance. Although this is a previously

unexpected result, its explanation could also be that all newcomers are seen as a part of the same group. Scholars drawing on the social focus of organizations, such as categorization theory (Tajfel, 1982), state that individuals are more prone to infer others' characteristics based on their membership of a group (Cunningham, 2007). Thus, as newcomers may be seen as being part of a "new" group, the perception about one newcomer's expertise may affect the perception of the other newcomers. If all the newcomers have high prior experience, team members may perceive this as being a more valuable group. Consequently, the fact that the rest of the newcomers have a high prior performance record may cause that newcomer's prior performance to have a more positive effect on that newcomer's initial performance. However, regarding this aspect, our results showed a weak relationship, so further analyses are necessary to come to a definite conclusion.

3.5.2 Implications, Limitations and Future Research

This study may have some important implications for practitioners. The increasing importance of teams within organizations (Procter and Burridge, 2008) makes it necessary to improve our knowledge about them. Team managers need to know which individuals will deliver a better performance. In this sense, the results of this study are especially interesting because they analyze newcomers' performance during the first months in the team. Although the importance of the social aspect in the socialization process has already been highlighted by previous studies (e.g. Jones, 1986; Takeuchi and Takeuchi 2009), team managers need to be conscious that the performance of newcomers will show greater improvement as soon as newcomers learn how to work with the other team members.

Thus, managers may avoid underestimating the contribution of newcomers based only on their first months in the team.

Additionally team managers have to determine how to obtain the most of the potential of team members. The results of this study point out that the performance of old-timers may hinder newcomers from adapting to team. Consequently, team managers have to avoid this situation by establishing the necessary mechanisms to ensure that newcomers have the opportunity of showing their value (Lewis *et al.*, 2007) and they can be encouraged to practice in order to learn quickly how to work with the rest of the team.

Clearly, generalizations from sports teams to the business world should be made with care. Thus, the obtained results should be replicated in other interdependent teams working in different sectors to draw a generalized conclusion. In spite of this, we believe that this study provides a starting point for work that analyzes in detail the performance of newcomers when they carry out highly interdependent tasks within a new team. Sports teams allowed us to analyze objective individual performance over a period of time.

Second, though it was out of the scope of this article, and contrary to earlier studies about the performance of newcomers (Chen and Klimoski, 2003; Chen, 2005), we did not find that the improvement in the performance is due to any inter-individual differences. This would imply that the improvement in their performance will be produced at the same rate. This result would show that newcomers need to spend the same amount of time working with their team mates before they improve their performance. However, the fact that newcomers achieve an improvement in the last analyzed period will not allow us to

state it in a totally convincing nature. Additional analyses in other team contexts could confirm the duration of this improvement and could determine when newcomers enter a procedural stage, or detect external factors influencing this evolution (e.g. differences in compensation between newcomers and previous members).

Similarly, it may be necessary to develop our results with other studies which consider three levels of analysis and determine whether factors such as team expectation (Chen, 2005), team climate (Chen and Mathieu, 2008), or initial team performance (Chen, 2005) affect newcomers' performance. Additionally it might also be interesting to analyze whether the development of the team (e.g. Kuiper and Stoker, 2009) may have some influence on newcomers' adaptation and performance. Perhaps there are some phases of team development that are more favorable than others to make the newcomers' adaptation easier.

In conclusion, this study shows the importance of continuing to analyze the performance of newcomers in diverse situations. We have discussed the importance of considering the interdependence of the task to be accomplished by a new team. We want to highlight that technical and economic complexities probably reinforce the importance of collaborative teams to solve problems, making these results particularly attractive.

3.6 REFERENCES

Ackerman, P.L. (1987). Individual differences in skill learning: An integration of psychometric and information processing perspectives. *Psychological Bulletin*, 102(1): 3-87.

Adkins, C.L. (1995). Previous work experience and organizational socialization: A longitudinal examination. *Academy of Management Journal*, 38(3): 839-862.

Aiken, L.S. and West, S.G. (1993). *Multiple regression: Testing and interpreting interactions* (3rd ed.). Newbury Park, CA: Sage.

Anderson, J.R. (1982). Acquisition of cognitive skill. *Psychological Review*, 89(4): 369-406.

Armstrong, S.J. and Mahmud, A. (2008). Experiential learning and the acquisition of managerial tacit knowledge. *Academy of Management Learning & Education*, 7(2): 189-208.

Ashforth, B.E., Saks, A.M., and Lee, R.T. (1998). Socialization and newcomer adjustment: The role of organizational context. *Human Relations*, 51(7): 897-926.

Avolio, B.J., Waldman, D.A., and McDaniel, M.A. (1990). Age and work performance in nonmanagerial jobs: The effects of experience and occupational type. *Academy of Management Journal*, 33(2): 407-422.

Bauer, T.N., Bodner, T., Erdogan, B., Truxillo, D.M., and Tucker, J.S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology*, 92(3): 707-721.

Baumann, M.R. and Bonner, B.L. (2004). The effects of variability and expectations on utilization of member expertise and group performance. *Organizational Behavior & Human Decision Processes*, 93(2): 89-101.

Berman, S.L., Down, J., and Hill, C.W.L. (2002). Tacit knowledge as a source of competitive advantage in the national basketball association. *Academy of Management Journal*, 45(1): 13-31.

Berri, D.J. (1999). Who is 'most valuable'? Measuring the player's production of wins in the national basketball association. *Managerial & Decision Economics*, 20(8): 411-427.

Beyer, J.M. and Hannah, D.R. (2002). Building on the past: Enacting established personal identities in a new work setting. *Organization Science*, 13(6): 636-652.

Bliese, P.D. and Ployhart, R.E. (2002). Growth modeling using random coefficient models: Model building, testing, and illustrations. *Organizational Research Methods*, 5(4): 362-387.

Bunderson, J.S. (2003). Team member functional background and involvement in management teams: Direct effects and the moderating role of power centralization. *Academy of Management Journal*, 46(4): 458-474.

Carr, J., Pearson, A., Vest, M., and Boyar, S. (2006). Prior occupational experience, anticipatory socialization, and employee retention. *Journal of Management*, 32(3): 343-359.

Chan, D. and Schmitt, N. (2000). Interindividual differences in intraindividual changes in proactivity during organizational entry: A latent growth modeling approach to understanding newcomer adaption. *Journal of Applied Psychology*, 85(2): 190-210.

Chao, G.T., O'Leary-Kelly, A.M., Wolf, S., Klein, H.J., and Gardner, P.D. (1994). Organizational socialization: Its content and consequences. *Journal of Applied Psychology*, 79(5): 730-743.

Chen, G. (2005). Newcomer adaptation in teams: Multilevel antecedents and outcomes. *Academy of Management Journal*, 48(1): 101-116.

Chen, G. and Klimoski, R. (2003). The impact of expectations on newcomer performance in teams as mediated by work characteristics, social exchanges, and empowerment. *Academy of Management Journal*, 46(5): 591-607.

Chen, G. and Mathieu, J.E. (2008). Goal orientation dispositions and performance trajectories: The roles of supplementary and complementary situational inducements. *Organizational Behavior & Human Decision Processes*, 106(1): 21-38.

Chow, I.H. (2002). Organizational socialization and career success of Asian managers. *International Journal of Human Resource Management*, 13: 720-737.

Cooper-Thomas, H. and Anderson, N. (2002). Newcomer adjustment: The relationship between organizational socialization tactics, information acquisition and attitudes. *Journal of Occupational & Organizational Psychology*, 75(4): 423-437.

Cooper-Thomas, H. and Anderson, N. (2006). Organizational socialization: A new theoretical model and recommendations for future research and HRM practices in organizations. *Journal of Managerial Psychology*, 21(5): 492-516.

Cunningham, G. B. (2007). Opening the black box: The influence of perceived diversity and a common in-group identity in diverse groups. *Journal of Sport Management*, 21: 58-78.

Deadrick, D., Bennett, N., and Russell, C. (1997). Using hierarchical linear modeling to examine dynamic performance criteria over time. *Journal of Management*, 23(6): 745-757.

Eden, D. (1992). Leadership and expectations: Pygmalion effects and other self-fulfilling prophecies in organizations. *Leadership Quarterly*, 3(4): 271-305.

Edmonson, A.C. (2003). Speaking Up in the Operating Room: How Team Leaders Promote Learning in Interdisciplinary Action Teams. *Journal of Management Studies*, 40: 1419-1452.

Feldman, D.C. (1976). A contingency theory of socialization. *Administrative Science Quarterly*, 21(3): 433-452.

Feldman, D.C. (1981). The multiple socialization of organization members. *Academy of Management Review*, 6: 309-318.

Haueter, J.A., Macan, T.H., and Winter, J. (2003). Measurement of newcomer socialization: Construct validation of a multidimensional scale. *Journal of Vocational Behavior*, 63(1): 20-39.

Hofmann, D.A., Jacobs, R., and Baratta, J.E. (1993). Dynamic criteria and the measurement of change. *Journal of Applied Psychology*, 78(2): 194-204.

Jones, G.R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustments to organizations. *Academy of Management Journal*, 29(2): 262-279.

Karakowsky, L. and McBey, K. (2001). Do my contributions matter? the influence of imputed expertise on member involvement and self-evaluations in the work group. *Group & Organization Management*, 26(1): 70.

Katz, N. (2001). Sports teams as a model for workplace teams: Lessons and liabilities. *Academy of Management Executive*, 15(3): 56-67.

Katzenbach, J.R. and Smith, D.K. (2005). The discipline of teams. (cover story). *Harvard Business Review*, 83(7): 162-171.

Kuiper, B.S. and Stoker, J.I. (2009). Development and Performance of Self-Managing Work Teams: A Theoretical and Empirical Examination. *International Journal of Human Resource Management*, 20: 399-419.

Lewis, K., Belliveau, M., Herndon, B., and Keller, J. (2007). Group Cognition, Membership Change, and Performance: Investigating the Benefits and Detriments of Collective Knowledge. *Organizational Behavior and Human Decision Processes*, 103: 159-178.

Littlepage, G., Robison, W., and Reddington, K. (1997). Effects of task experience and group experience on group performance, member ability, and recognition of expertise. *Organizational Behavior & Human Decision Processes*, 69(2): 133-147.

Molleman, E. and Van der Vegt, G.S. (2007). The performance evaluation of novices: The importance of competence in specific work activity clusters. *Journal of Occupational & Organizational Psychology*, 80(3): 459-478.

Morrison, E.W. (1993). Newcomer information seeking: Exploring types, modes, sources, and outcomes. *Academy of Management Journal*, 36(3): 557-589.

Murnighan, J.K. and Conlon, D.E. (1991). The dynamics of intense work groups: A study of British string quartets. *Administrative Science Quarterly*, 36(2): 165-186.

Murphy, K. (1989). Is the relationship between cognitive ability and job performance stable over time? *Human Performance*, 2(3): 183-200.

Ostroff, C. and Kozlowski, S.W.J. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, 45(4): 849-874.

Perretti, F., and Negro, G. (2007). Mixing genres and matching people: A study in innovation and team composition in Hollywood. *Journal of Organizational Behavior*, 28(5): 563-586.

Pfeffer, J. and Davis-Blake, A. (1986). Administrative succession and organizational performance: How administrator experience mediates the succession effect. *Academy of Management Journal*, 29(1): 72-83.

Ployhart, R. and Hakel, M. (1998). The substantive nature of performance variability: Predicting interindividual differences in intraindividual performance. *Personnel Psychology*, 51(4): 859-901.

Procter, S. and Burridge, M. (2008). Teamworking and Performance: The Extent and Intensity of Teamworking in the 1998 UK Workplace Employee Relations Survey (WERS98). *International Journal of Human Resource Management*, 19: 153-168.

Puck, J.F., Mohr, A.T., and Rygl, D. (2008). An Empirical Analysis of Managers' adjustment to working in multinational project teams in the pipeline and plant construction sector. *International Journal of Human Resource Management*, 19: 2252-2267.

Rollag, K., Parise, S., and Cross, R. (2005). Getting New Hires Up to Speed Quickly. *MIT Sloan Management Review*, 46: 35-41.

Saavedra, R., Earley, P.C., and Dyne, L.V. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78(1): 61-72.

Slaughter, J.E. and Zickar, M.J. (2006). A new look at the role of insiders in the newcomer socialization process. *Group & Organization Management*, 31(2): 264.

Snijders, T. (1996). Analysis of longitudinal data using the hierarchical linear model. *Quality & Quantity*, 30: 405-426.

Staw, B.M. and Hoang, H. (1995). Sunk costs in the NBA: Why draft order affects playing time and survival in professional basketball. *Administrative Science Quarterly*, 40(3): 474-494.

Stewart, G.L. and Nandkeolyar, A.K. (2006). Adaptation and intraindividual variation in sales outcomes: Exploring the interactive effects of personality and environmental opportunity. *Personnel Psychology*, 59(2): 307-332.

Sundstrom, E., Demeuse, K.P., and Futrell, D. (1990). Work Teams – Applications and Effectiveness. *American Psychologist*, 45: 120-133.

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology*, 33: 1-39.

Takeuchi, N. and Takeuchi, T. (2009). A Longitudinal Investigation on the Factors Affecting Newcomers' Adjustment: Evidence from Japanese Organization. *International Journal of Human Resource Management*, 20: 928-952.

Taormina, R.J. (2004). Convergent validation of two measures of organizational socialization. *International Journal of Human Resource Management*, 15(1): 76-94.

Thoresen, C., Bradley, J., Bliese, P., and Thoresen, J. (2004). The big five personality traits and individual job performance growth trajectories in maintenance and transitional job stages. *Journal of Applied Psychology*, 89(5): 835-853.

Todd, S.Y., Crook, T.R., and Barilla, A.G. (2005). Hierarchical linear modelling of multilevel data. *Journal of Sport Management*, 19: 387-403.

U.S. Bureau of Labor Statistics (2008). Available in www.bls.gov.

Van Der Vegt, G.S., Bunderson, J.S., and Oosterhof, A. (2006). Expertness diversity and interpersonal helping in teams: Why those who need the most help end up getting the least. *Academy of Management Journal*, 49(5): 877-893.

Wolfe, R.A., Weick, K.E., Usher, J.M., Terborg, J.R., Poppo, L., Murrell, A.J., Dukerich, J.M., Core, D.C., Dickson, K.E., and Jourdan, J.S. (2005). Sport and organizational studies: Exploring synergy. *Journal of Management Inquiry*, 14(2): 182-210.

Wright, P.M., Smart, D.L., and Mcmahan, G.C. (1995). Matches between human-resources and strategy among NCAA basketball teams. *Academy of Management Journal*, 38(4): 1052-1074.

Yeo, G. and Neal, A. (2004). A multilevel analysis of effort, practice, and performance: Effects of ability, conscientiousness, and goal orientation. *Journal of Applied Psychology*, 89(2): 231-247.

Zahrly, J. and Tosi, H. (1989). The differential effect of organizational induction process on early work role adjustment. *Journal of Organizational Behavior*, 10(1): 59-74.

Zarraga, C. and Bonache, J. (2003). Assessing the Team Environment for Knowledge Sharing: An Empirical Analysis. *International Journal of Human Resource Management*, 14: 1227-1245.

CAPÍTULO 4

WHEN INDIVIDUAL ENVIRONMENTAL PREFERENCES INFLUENCE THE TEAM: DECISIONS AND CONSEQUENCES

ABSTRACT

Literature on organizations and the natural environment has focused on the importance of individual managers and leaders. However, literature has scarcely focused on individuals in the team context, even when teamwork has been assumed to be a key for a firm's environmental progress. We used an adaptation of the legislative dilemma task with 84 subjects to show how individuals with high environmentally proactive preferences are more prone to participating in the environmental decision process carried out by a team and that this participation diminishes the deviation between the individual and the team's decision. Additionally, this work shows that this deviation does not have an impact on team members' satisfaction with the team. The results of this paper contribute to the environmental management literature by analyzing how individuals' environmentally proactive preferences influence team decisions and the consequences of the differences between such preferences and a team's final decision.

Keywords: environmental decisions, teams, participation, environmentally proactive preference, satisfaction.

4.1 INTRODUCTION

The increasing public environmental concern over environmental problems, such as climate change, the depletion of the ozone layer, and air pollution in large cities, may be considered a threat for those companies that do not accurately take into account the negative environmental impacts of their activities. However, at the same time, environmental management also has the potential to become an opportunity for firm to develop "green" firm-specific advantages (Kolk and Pinkse, 2008). Firms may improve their image, reduce their operational costs, or improve the quality of their products (Chen, 2008; Christmann, 2004, Hart, 1995). In this context, a firm's environmental decisions may be fundamental for organizational performance. Thus, it is not surprising that the literature has highlighted the role of individual environmental champions in introducing or creating environmental change associated with a product, process, or method of an organization through formal roles and/or personal activism (e.g. Anderson and Bateman, 2000; Egri and Herman, 2000). However, environmental decisions and their implementation in the firm depend on not merely a single person but several people who commonly make decisions as a group. In this sense, teamwork has been proposed as a requirement for effective environmental management due to the complexity, cross-functional nature, and implications of environmental decisions (Daily and Huang, 2001; Jabbour and Santos, 2008) and the necessary involvement of employees in environmental issues (Del Brío, Junquera, and Ordiz, 2008).

The increasing and generalized use of teams to deal with environmental issues enables one to distinguish several kinds of teams with respect to their environmental

responsibilities (Strachan, 1996): environmental steering committees, environmental action teams, process improvement teams, quality circles, and environmental circles. Indeed, many companies such as Kodak, Xerox, Apple, Volkswagen Audi, Meck & Co., Ace Hardware Corporation, Chrysler, and AT&T have adopted teamwork as a basic dimension of environmental management (Hanna, Newmand, and Johnson, 2000; Strachan, 1996).

However, teamwork involves certain complexities, and these issues have remained uncovered by the environmental management literature (Jabbour and Santos, 2008). Teamwork implies a series of interdependent acts between team members, such as communications or conflicts, in order to perform tasks (Marks, Mathieu and Zaccaro, 2001). Contrary to individuals who work alone, people in teams work in an interdependent way (Katzenbach and Smith, 2005; Saavedra, Early, and Van Dyne, 1993). That is, decisions cannot be made by a single person, since members have to coordinate themselves to accomplish the task. Usually, they need to come to an agreement in order to make a decision. Hence, if one team member has particular preferences, it does not mean that the team decision will include these preferences, especially when a clearly determined hierarchy between team members is lacking. This issue may be especially important regarding environmental decisions.

Although previous research has broadly analyzed how the environmental attitudes and preferences of managers and leaders motivate the adoption of green practices in the firm (e.g. Aragón-Correa, Matías-Reche, and Senise-Barrio, 2004; Bamberg and Möser, 2007; Cordano and Frieze, 2000; Flannery and May, 2000; González-Benito and González-Benito, 2006; Kaiser, Wölfing, and Furher, 1999; Sharma, 2000), how team

members with different environmental preferences may influence teams' environmental decisions has not been investigated. This link is essential for a complete understanding of why and how environmental strategies are developed in firms. Although research on environmental organizations has not focused on the dynamics of the team group decision process, most environmental decisions are made via groups in firms because of the significant implications and complexities associated with adopting proactive environmental positions (Jabbour and Santos, 2008). We try to bridge this gap by focusing on the involvement and influence of individuals in team decisions when the team deliberates over environmental decisions. Our work analyzes whether the environmental preferences of team members may influence the team decision and, if so, whether there is any effect on team member satisfaction as a result of team decisions that do not match member preferences. One of the aims of this study is to open the "black box" of the dynamics of such teamwork in order to increase our knowledge of environmental teamwork and the processes through which firms make environmental decisions.

This paper contributes to the environmental management literature by adding information to the yet underanalyzed research on environmental decisions within a team context. We analyze the circumstances in the environmental decision-making process that enable individuals to be more involved in team processes and the consequences of such involvement in the resulting team decision. Specifically, we analyze the involvement of individuals with more environmentally proactive preferences on team decisions process and whether they are able to influence team decisions. Second, we also contribute to the environmental management literature by analyzing whether team member satisfaction is

affected by discrepancies between individual member preferences and final team decisions, especially when such decisions are related to environmental issues.

With this objective, the next section of the work presents a brief review of decision making regarding environmental topics, linking research on the natural environment with organizations making related decisions. We then propose and test our hypotheses about the involvement and influence of environmentally proactive preferences on team decisions and their influence on team members' satisfaction with the team. Results obtained from analyses of 84 undergraduate students follow; we then discuss academic and practitioner implications, as well as limitations and directions for future research.

4.2 AN INDIVIDUAL'S ENVIRONMENTALLY PROACTIVE PREFERENCES AND TEAM DECISIONS

So far, literature on organizations and the natural environment has highlighted the role of managers and leaders in addressing a firm's environmental concerns and the motives underlying their environmental commitment (e.g. Anderson and Bateman, 2000; Egri and Herman, 2000). In this sense, environmental decisions have been shown to have a highly affective component and to be greatly influenced by decision makers' values (Egri and Herman, 2000; Scherbaum, Popovich, and Finlinson, 2008) and attitudes (Cordano and Frieze, 2000; Flannery and May, 2000; González-Benito and González-Benito, 2006). Consequently, to the extent that managers have a positive attitude toward environmental issues and interpret them as opportunities for the firm, a company will more likely adopt environmental strategies (Sharma, 2000) independently of its external constraints,

immediate economic benefits or other environmental issues (Boiral, Cayer, and Baron, 2009). As managers' environmental motivation increases, they will deliver the necessary effort to improve their organizations' environmental performance (Cordano and Frieze, 2000; Marshall, Cordano, and Silverman, 2005; González-Benito and González-Benito, 2006).

These studies have considered environmental decision as an individual process. However, some of the characteristics of these types of decisions (e.g., high investment, complex and regarding broad ranges of implied agents) require that such decisions are usually considered collectively instead of individually. Previous studies have highlighted how organizations with flatter, decentralized and more participatory decision making have more opportunities to perform environmental strategies (Griffiths and Petrick, 2001; Russo and Fouts, 1997). Hence, teams are considered fundamental within environmental management, (Del Brío *et al.*, 2008; Fernández, Junquera, and Ordiz, 2006; Daily and Huang, 2001) and as a consequence, many companies have relied on teams to implement their environmental strategies (Hanna *et al.*, 2000; Strachan, 1996). Additionally, teamwork has been considered an effective tool to enhance the necessary employee involvement regarding environmental issues (Del Brío *et al.*, 2008).

However, managing a team implies that it must deal with several complexities. The main characteristic of a team is that their members usually have to agree in order to make a decision as a group. Thus, group decisions imply the aggregation of diverse members' information and preferences. Analyzing the informative contribution of team members has been especially important for a team to perform an intellective or intellectual task where

the decision has a perfectly demonstrable best solution, and consequently, the problem of having different opinions and perspectives may be less important (Laughlin and Ellis, 1986). In these situations, team members may use objective evidence to convince the rest of the team regarding the best option. However, in many team decisions, there are no right answers, and consequently, the facts and data are less important. In such types of judgmental tasks, member contributions result from their different individual preferences until the ultimate decision is made as a group (Laughlin and Ellis, 1986). Although this diversity may improve quality, it can concurrently induce conflicts between team members, all of which can undermine team performance (Amason, 1996). This situation may be especially important when a specific hierarchy does not exist within the team. The absence of a clear hierarchy within the team means that members have to agree with a group decision regardless of whether individual preferences were taken into account or not. In this sense, firms' environmental decisions seem to fit with this last scenario, and for this reason, we analyzed the effect of team members' environmentally proactive preferences on the final decisions of teams.

4.3 HYPOTHESES

4.3.1 The Effect of Proactive Environmental Preferences on Participation in a Team's Environmental Decision

In the last few years, some scholars have highlighted the necessity of analyzing in depth the individual contributions of team members as they influence team decisions (Sonnentag and Volmer, 2009). Specifically in this study, we focus our attention on

individual participation in the interactions and decisions that go on within a team. Instead of considering participation as a team level variable as was done in previous studies analyzing team effectiveness (e.g., Bunderson, 2003; Campion, Medsker, and Higgs, 1993), we pay attention to factors that promote individual participation in the team and relevant consequences.

In this regard, LePine and Van Dyne (1998) found that some characteristics of the group members, such as their self-esteem, positively influence participation in the team. Similarly, the possession of positively valued social characteristics increases the value of the team members' contributions (Finkelstein, 1992) and, as a consequence, increases the status of team members and their participation with the decision-making process (Bonito and Lambert, 2005). Furthermore, participation within a team may also be motivated by the extent to which members have similar functional backgrounds (Bunderson, 2003) or shared information (Sargis and Larson, 2002).

Apart from these individual traits, literature also has analyzed the effect of extreme positions on involvement with the decision-making process (e.g., Kerr, 1992). Adopting extreme positions within a team decision-making process may imply some risks related with the social acceptance of the rest of the team members. Having a more extreme preference may result in becoming an outlier. For this reason, individuals who take extreme positions are totally convinced about the suitability of their positions and are often the most confident and unyielding team members (Baron, Hoppe, Kao, Brunsman, Linneweh, and Rogers, 1996; Nemeth, 1986). This confidence fosters the desire of these members to participate in the team decision-making process with the intention of

convincing other members as to why their ideas are the best for the team (Littlepage, Schimdt, Whisler, and Frost, 1995). Taking this into account, we think that these last arguments can be extrapolated to the proactive preferences of team members (the degree of proactiveness that an individual has in a team decision), which may be especially important for environmental decisions.

Environmental decisions can be considered special since they encompass several functional areas and are usually made by groups or teams (Jabbour and Santos, 2008). Traditionally, they have been classified according to how they face legal requirements (e.g. Coddington, 1993; Roome, 1992). Environmental decisions are considered more proactive to the extent that they are beyond legal requirements and are attempts to anticipate future environmental issues (Aragón-Correa, 1998). Hence, the more proactive an environmental decision, the more extreme it can be considered. As was previously mentioned, adopting a more extreme position has been related to higher motivation for and commitment to the issue being discussed (Kerr, 1992), which may foster participation in the team's decision-making process (Littlepage *et al.*, 1995). Furthermore, this higher participation derived from a higher commitment to the issue may be even more pronounced in environmental decisions, which are characterized with a highly affective component. Previous studies have shown how managers that make more pro-environment decisions have more positive environmental attitudes, beliefs and values (e.g. Cordano and Frieze, 2000; Egri and Herman, 2000; Flannery and May, 2000; González-Benito and González-Benito, 2006; Scherbaum *et al.*, 2008). Taking this into account, it is expected that those individuals that prefer to take a more proactive decision are more involved with team decisions, and

consequently, they will have higher participation in the decision-making process in order to try to impose their ideas. Thus, we state the following hypothesis:

H1: Individual environmentally proactive preferences will be positively related to that individual's participation in decision-making processes within teams.

4.3.2 The Effect of Individual Environmentally Proactive Preferences on Deviations between Individuals' and Teams' Environmental Decisions

In addition, to establish the effect of individual environmental preferences on their participation in the decision-making process, we assume that individual environmental preferences affect other aspects of the team's decisions.

Based on previous studies that have studied how individual preferences affect the final decision of the team (for a review, see Friedkin, 1999), we try to elucidate this issue when the topic involves the natural environment.

First, team decisions tend to be closer to those alternatives that have more and/or better arguments (Burnstein and Vinokur, 1977). Considering that current environmental problems, such as global warming, the depletion of the ozone layer and air pollution in big cities, have increased public concerns about environmental issues, members with environmentally proactive preferences may find more persuasive arguments to convince other team members about the necessity of adopting the aforementioned decisions. Additionally, as extreme members have a higher degree of involvement with the issue, it is

more difficult to make them change their initial positions, and consequently, the final decision of the team will be closer to their individual preferences (Kerr, 1992).

Second, when members individually make a decision, they do not have a reference point with which to determine whether they are responding with the majority or whether their position will be considered reasonable by the rest (Baron *et al.*, 1996; Sanders and Baron, 1977). However, when members make a decision as a group, they may compare themselves with others; then, if they find differences between their opinions and the group view, they may decide to follow the group's view (Sanders and Baron, 1977). Doing this, members may look for social acceptance or merely reinforce a more moderate initial opinion. Therefore, it is possible that members with less proactive environmental preferences, or those with some doubts about their position, may decide to change their initial preferences toward a more environmentally proactive team decision by looking for more social acceptance. It is also possible that members who initially are not very convinced about the need to adopt more environmentally proactive decisions will move toward such decisions when other members' opinions reinforce their initial ideas.

In any case, and based on the previous arguments, it is expected that members with environmentally proactive preferences will experience less deviation between their individual decisions and team decisions. Subsequently, we state the following:

H2: Individual environmentally proactive preferences will be negatively related to the deviation between individual and team environmental decisions.

4.3.3 Participation and its Influence on the Relationships between Environmental Preferences and Deviations between Individual and Team Decisions

Furthermore, to clearly understand how individual environmentally proactive preferences affect the final decision of the team, it is necessary to analyze in depth what happens inside the team, that is, to open "the black box." In this regard, team literature has frequently analyzed how some teams' internal processes, such as communication or conflict, mediate the relationship between team inputs and team outputs (e.g. Marks *et al*., 2001; Ilgen, Hollenbeck, Johnson, and Jundt, 2005). In this paper, as we analyze individual instead of team-level variables, we have to focus on how individual aspects may determine the decision process of the team.

In this sense, the role of participation on environmental decisions has not been conveniently studied. The fact that some individuals have higher participation in the decision-making process may have important consequences on the team decision. Previous studies have shown that individuals with higher participation during the team decision process have more influence on the final decision (Bottger, 1984; Cooper and Wood, 1974; Littlepage, *et al*., 1995) and may even be seen as leaders by the rest of the team (Mullen, Salas, and Driskell, 1989). Having many opportunities to speak during team discussions allows members to have more time to express their opinions and ideas. Furthermore, participation within a group is an interdependent phenomenon (Bonito, 2002). This means that members' speaking turns depend on the time of participation of the rest of the team

members. Consequently, dominant speakers have more opportunities to convince the rest of team to follow their own preferences (Fay, Garrod, and Carletta, 2000).

Taking this into account, we propose that through increased participation, members with more environmentally proactive preferences may have more time than their teammates to use more effective arguments in order to convince other members that their own preferences are more appropriate for the group. Hence, it is expected that higher participation of individuals with higher environmentally proactive preferences, in line with hypothesis one, allows them to impose their individual intentions and consequently reduce the deviation between the individual's and the team's environmental decisions. Therefore, we state the following:

H3: Individuals' participation in the decision-making process will mediate the relationship between individual environmentally proactive preference and the deviation between the individual's and the team's environmental decisions.

4.3.4 The Effect of Members' Influence on Satisfaction with the Team

In previous hypotheses, we focused on the influence that environmentally proactive preferences may have on both the decision-making process and the team's environmental decision. Nevertheless, it is also necessary to analyze how environmental team decisions may influence the satisfaction of the team members. Team member satisfaction is fundamental to the extent that it seems to affect the effective continuation of the team over time (Sundstrom, DeMeuse, and Futrell, 1990). Due to its importance, previous research

has analyzed some of the influencing factors on team member satisfaction such as the presence of leaders (Foo, Sin, and Yiong, 2006; Gladstein, 1984), cohesion (Barrick, Stewart, Neubert, and Mount, 1998), team member heterogeneity (Milliken and Martin, 1996; Chatman and Flynn, 2001), interdependency (Van der Vegt, Emans, and Van de Vliert, 2000; Wageman, 1995), or autonomy (Campion *et al*., 1993).

All of these previous studies have focused on the team level, while our analysis is at the individual level, considering the individual satisfaction of the team members. Prior literature has shown how satisfaction with a team is related with member influence in team decisions (Phillips, 2001; Wood, 1972). Influence on team decisions may enhance the willingness to return to the team and the self-efficacy of team members, as well as preventing task withdrawal (Phillips, 2001). According to these results, the degree to which team members perceive that their opinions are considered by the team and are close to the team's final decision will affect member satisfaction.

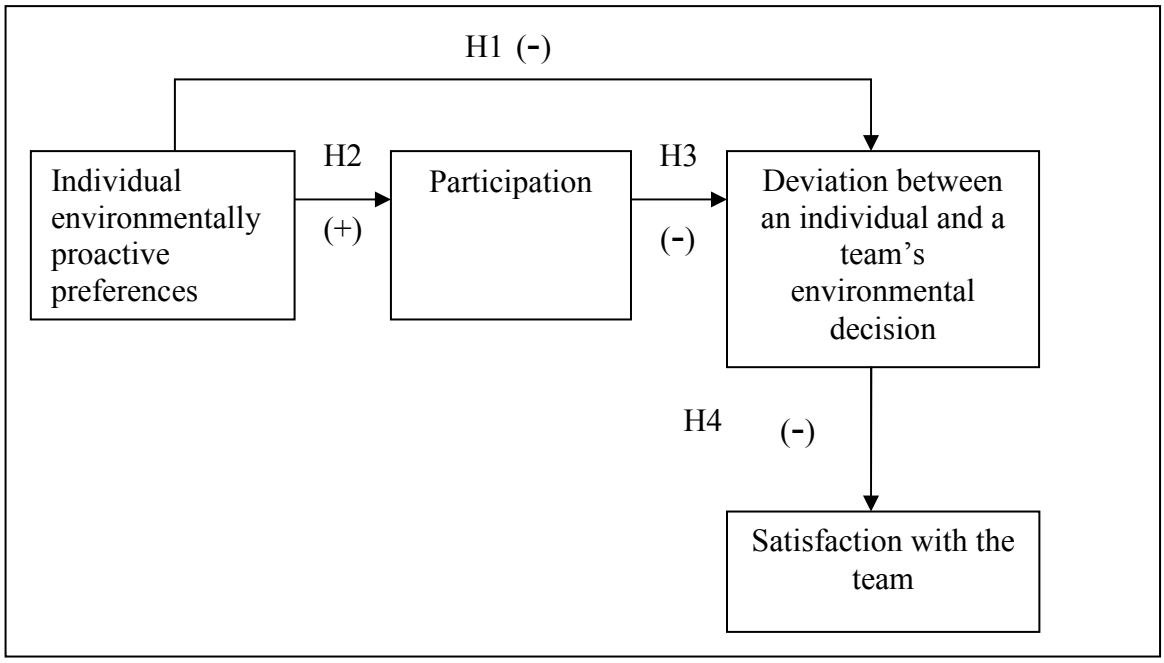
The effect of member influence on individual satisfaction may be especially relevant in the case of environmental decisions, to the extent that having high environmentally proactive preferences for a team decision implies a high commitment with the issue being discussed. As we have previously stated, environmental decisions have a highly affective component to the extent that they are influenced by individual beliefs, attitudes and personal values (e.g., Cordano and Frieze, 2000; Egri and Herman, 2000; Flannery and May, 2000; González-Benito and González-Benito, 2006; Scherbaum *et al.*, 2008). That is, environmental issues are deeply ingrained in an individual's feelings, so it is expected that they are not indifferent with the team decision. Additionally, we have also commented on

how adopting an extreme position within the team implies a risk for team members and, consequently, how extreme opinions are related with higher motivation and commitment with the issue, which is reflected in increased involvement in a team's decision-making process (Kerr, 1992). Taking this into account, it is expected that team members may feel disappointed with the team to the extent that a team's decision does not cover their environmental concerns. Therefore, those team members who face less deviation between their initial preferences and the team's environmental decision would be more satisfied because they would feel that their opinions have been taken into account. Team members may feel that they have had a direct contribution in making a decision, especially in an issue to which they are really committed. For these reasons, we state the following hypothesis:

H4: The deviation between an individual and a team's environmental decision has a negative influence on member satisfaction with the team.

Figure 8 summarizes the relationships that are analyzed in this paper.

FIGURE 8 THEORETICAL MODEL AND HYPOTHESES



4.4 METHODS

4.4.1 Procedure

We made an open call in our university for subjects interested in collaborating in a management research project. The stipend was announced in the call. Using an open call with mention of the management orientation of the experiment, we tried to avoid any biases related to the environmental interests of our study. We nevertheless maintained a profile of the subjects interested in the managerial decisions. A total of 84 students at the University of Granada participated in the final analysis. Participants first worked alone and were later randomly assigned to 28 three-person groups. A total of 77% of the individuals had majors in the fields of business, management and economics, while 18% were students

studying computer science. The rest of the students were studying other subjects. All those students were involved in management courses.

After the subjects were welcomed to the study, they read and signed a consent form that informed them about the study. They then completed an initial questionnaire that included certain control variables such as age, gender, field of study, job experience, self-efficacy for teamwork and collectivism orientation. Subsequently, the subjects were asked to complete the task privately, making an individual decision regarding investment. They were given 30 minutes to make this decision. Once they made their individual decisions, they were assigned to a three-person group and were informed that they had to again make the decision, but as a group. They were given another 30 minutes to make the decision. At the end of the group discussion and after they had made their group decisions, they privately completed a final questionnaire where they were asked about the decision process.

4.4.2 Task

Our experiment used an adaptation of the Legislative Dilemma task (Mennecke, Valacich, and Wheeler, 2000) for environmental management issues. The participants were asked to first complete the task individually and, later, to join a team to develop the same task collectively. The final decision was to allocate a budget of €300,000 to solve an environmental problem within a fictitious company. Six different investments were proposed, each one implying a higher environmental commitment than the previous one, ranging from a reactive to a very proactive decision. Participants had to choose how many

projects they wanted to finance, but in order to avoid incoherent decisions, the instructions clearly stated that investing in one step was necessary to invest in the previous steps. With each investment, it was possible to allocate an amount ranging from €25000 to €50000. Additionally, we indicated some constraints on the funding allocation. First, different combinations of investments would require a global investment of at least €50,000 to be considered legal (although a decision being illegal was acceptable in our design). Second, it was necessary to allocate at least €35,000 in each one of the investments to develop the most proactive investment. We indicated that money not invested in any environmental activity would instead be invested in a new marketing program.

To increase involvement with the decisions, we also offered incentives. All of the participating subjects received a base of €20. Additionally, they were informed that based on their team decision, they could additionally win another €20 or even lose the initial base amount of €20. A total of six prizes and three forfeits were assigned using a lottery. For each €10,000 that their team allocated to the marketing program, participants received one ticket. That is, as less money was invested in environmental programs, participants would get more tickets, representing the pressure of the market for measures that pay in the short term instead of long term. This was designed to be an incentive to avoid a social bias in the experiment and to more accurately reflect the environmental commitment of the decision makers.

4.4.3 Measures

An individual's environmentally proactive preference. To measure the environmental proactiveness of individual decisions, we computed an index by adding the amount of money assigned to each environmental investment when the task was performed individually. The proposed investments were ordered according to their proactiveness; this implies that as more investments were approved by the decision maker, the more proactive his or her preference was.

Individual environmentally proactive preference$_j$:

$$\sum_{i=1}^{6} \text{Quantity invested by the individual}_i$$

Additionally, and only for operative reasons, each participant's assignment between €25,000 and €50,000 was divided by 50,000 to obtain a measure ranging from 0 to 1 for each of the six investments. The final index ranged from 0 to 6. One participant who assigned the maximum amount of money to each investment obtained a measure of 6, with a higher value indicating higher levels of environmentally proactive preferences.

Deviation between individual and team decision. To measure this deviation, we calculated the absolute deviation among individual preference and the final group decision (Bottger, 1984; Littlepage *et al.*, 1995).

$$\text{Deviation}_j = \sum_{i=1}^{6} \left| \text{Quantity invested by the individual}_i - \text{Quantity invested by the team}_i \right|.$$

This index shows the deviation between the amount assigned to the *i*th step by the individual and the amount assigned by their team.

Participation. We assessed team members' individual participation to team decision with peer assessments. Peer evaluations are increasingly used since other team members may be the only ones who provide relevant information on teammate contributions to the team process (Duffy, Shaw, and Stark, 2000). Participants were required to evaluate the participation of one of their teammates by completing a three-item scale with seven Likert-type response options adapted from the scale used by Sonnentag and Volmer (2009) to measure individual contributions to problem analysis during team meetings (e.g. "during team decision process s/he directly addresses other participants in order to get information that is required"). Cronbach's alpha was 0.81. Additionally, to avoid possible biases related to interpersonal effects that may influence peer evaluation (Taggar and Brown, 2006), we controlled the extent to which a subject knew other team members previously, using a five-point Likert-type scale ranging from 1 (nothing) to 5 (a lot). An ANOVA test did not show any significant differences in the evaluation in relation to their interpersonal effects or acquaintanceships between the team members.

Satisfaction. We used a five-item scale with seven Likert-type response options adapted from Gladstein (1984). The questions assessed the extent to which the team members expressed satisfaction with their colleagues, the way in which the team worked together, and the results obtained (e.g., "I am very happy to work in this team"). Satisfaction constructs had a Cronbach's alpha of 0.86.

Control variables. We included some control variables in the model that had some effect on team member participation during the team's decision-making process. Specifically, we added *age*, *gender, and self-efficacy for teamwork*. Past research has shown how age and gender may affect individual participation (Baker, 1988; Bonito and Lambert, 2005); we measured age as a continuous variable and gender as a dummy variable (women were coded as 1). Self-efficacy is the individual belief that one can successfully perform a specific behavior (Bandura, 1982). Thus, self-efficacy for teamwork may affect the predisposition of individuals to participate in the team decision process. To measure this self-efficacy, we used a three-item scale with seven Likert-type response options adapted from Eby and Dobbins (1997).

Similarly, we included two control variables that may influence member satisfaction with the team: *collectivism orientation* and *team debate*. Collectivism orientation refers to individuals' effective orientation toward working within a group instead of alone (Taggar and Haines, 2006). Because a collectivist values the importance of teams and behaves cooperatively, he may be expected to be more satisfied with the team. We used a three-items scale with seven Likert-type response options adapted from the scale used by Eby and Dobbins (1997). Finally team debate is defined here as the degree to which the team develops an open and sincere discussion of task-related approaches (Schweiger, Sandberg and Rechner, 1989). We used a three-item scale with seven Likert-type response options adapted from the scale used by Simons, Pelled, and Smith (1999) to compute individual perceptions of team debate. All of the items are presented in Appendix A.

4.4.4 Data Analysis

Our hypotheses were tested using the Partial Least Squares analysis (PLS) with SmartPLS statistical software. PLS is a structural equation modeling technique used to analyze theoretical models by linking constructs and their measures. PLS is especially appealing in analyzing our data because it does not require multivariate normality for estimating model parameters or observation independence, and it is suitable for use with small samples (Fornell and Bookstein, 1982). Additionally, PLS allows the analysis of both direct and indirect relationships because it considers all path coefficients simultaneously (White, Varadarajan, and Dacin, 2000).

4.5 RESULTS

Taking into account the sample size and the number of items involved, we decided to analyze the hypotheses using two submodels. In submodel 1, the dependent variable is the deviation between the individual's proactive preferences, and in the submodel 2, this deviation is used as an independent variable. Table 4.1 shows the descriptive statistics of all of the variables involved.

We assessed the reliability of the measurement model by evaluating both convergent and discriminant validities. First, we obtained a high degree of individual item reliability by maintaining only those items with a significant factor loading greater than .50 (Hulland, 1999). Most final loadings were greater than .70. Additionally, we evaluated convergent validity using Cronbach's alpha and Composite Reliability. The Cronbach's alpha values for the constructs exceeded the .70 guidelines, with the exception of self-efficacy for

teamwork that resulted in a moderately acceptable .66 (Hair, Anderson, Tatham, and Black, 2006). For Composite Reliability, all constructs had a value that exceeds the minimum of .70 (Hair *et al*., 2006). On the other hand, to assess the discriminant validity of each construct, we tested for and confirmed that the square roots of the average variances extracted were greater than all corresponding correlations (Fornell and Larcker, 1981), as shown in Table 4.1.

TABLE 4.1 MEAN, SD, AND CORRELATIONS FOR THE MEASURES

	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Gender	0.66	0.47	**1.00**								
2. Age	21.80	2.92	-0.06	**1.00**							
3. Self-efficacy for teamwork	5.35	1.04	-0.07	-0.03	**0.71**						
4. Participation	5.54	1.43	-0.05	0.07	0.24	**0.85**					
5. Individual's environmentally proactive preference	4.64	0.80	-0.17	-0.04	-0.17	0.12	**1.00**				
6. Deviation	39.75	28.14	0.03	-0.08	0.04	-0.34	-0.24	**1.00**			
7. Collectivism	5.12	1.38						-0.06	**0.82**		
8. Debate	4.15	1.51						0.20	0.01	**0.72**	
9. Satisfaction	6.09	0.80						-0.14	0.13	-0.2	**0.79**

Notes: Numbers shown in boldface denote the square root of the average variance extracted (for reflective constructs).

To test hypothesis 3, we needed to examine the significance of the indirect path that emerged from individual environmentally proactive preferences to the deviation between individual preferences and team decisions. To accomplish this, we used the bootstrapping procedures incorporated in SmartPLS. Prior studies have shown that the bootstrapping approach is superior to other alternative methods to test the significance of indirect effects, such as the Sobel test, with respect to power and Type I and II error rates (MacKinnon,

Lockwood, and Williams, 2004). Thus, to test the indirect effect we followed the formal steps addressed by Baron and Kenny (1986): (a) the independent variable must have a significant direct effect on the dependent variable; (b) the independent variable must have a significant effect on the mediator variable; and (c) the mediator must be related to the dependent variable, after controlling for the independent variable. Once these steps are accomplished, a full mediation is thought to exist when the total effect of the independent variable on the outcome is nonsignificant; otherwise, it is a partial mediation.

Taking these findings into account, three distinct models were made to test H1, H2 and H3 in order to emulate Baron and Kenny to test mediating relationships:

(1) a direct path from an individual's environmentally proactive preferences to the deviation between that individual and a team's environmental decision (H2);

(2) a direct path from an individual's environmentally proactive preference to participation (H1);

(3) a direct path from participation to the deviation between the individual and a team's decision, after controlling for the individual's environmentally proactive preferences (H3).

Table 4.2 shows the PLS and bootstrapped parameter estimates for each of these models.

TABLE 4.2 RESULTS OF PLS ANALYSIS

Hypothesized Proposed Path	Standardized Path Coefficient	t-value
Hypothesis 1		
Individual's environmentally proactive preferences → Participation	.14†	1.8
Hypothesis 2		
Individual's environmentally proactive preference → Deviation between individual and team decision	-.24*	-2.35
Hypothesis 3		
Individual's environmentally proactive preference → Participation	.17†	1.7
Individual's environmentally proactive preference → Deviation between individual and team decision	-.20*	-1.98
Participation → Deviation between individual and team decision	-.32**	-3.31
Control paths		
Gender → Participation	.00	0.08
Age → Participation	.09	1.15
Self-efficacy for teamwork → Participation	.17***	2.69
Hypothesis 4		
Deviation between individual and team decision→ Satisfaction	-.10	-0.88
Control Path		
Debate → Satisfaction	-.18*	-2.02
Collectivism→ Satisfaction	.13†	1.69

†p <.10 *p < .05 **p < .01 ***p < .001 Two-tailed tests.

Individual's environmentally proactive preferences had a positive direct influence on participation ($p < .10$), thus moderately supporting Hypothesis 1. Similarly, individual's environmentally proactive preferences had a negative direct influence on the deviation between the individual and team decision ($p < .05$). Thus, Hypothesis 2 is also supported. Finally, after controlling for the individual proactive preference, participation had a negative influence on the deviation between an individual and the team decision ($p < .01$).

As all of the steps suggested by Baron and Kenny were moderately supported, we can conclude that participation mediates the relationship between individual's environmentally proactive preferences and the deviation between the individual and the team decision. Thus, Hypothesis 3 is supported. Additionally, we can affirm that it is a partial mediation because the relationship remains significant after controlling for participation.

Finally, the deviation between the individual and the team decision does not have any influence on member satisfaction with the team. This result does not support Hypothesis 4. We conducted more analysis to determine whether this satisfaction is related to the difference between the individual and the team's environmentally proactive preferences.

Instead of considering the different amounts invested in each step as a deviation, we measured deviation as the difference between the total individual amounts invested in the six steps and the total invested by the team. The deviations between the individual's and team's environmentally proactive preferences are calculated as follows:

$$\sum_{i=1}^{6} \text{Quantity invested by the individual}_i \; - \sum_{i=1}^{6} \text{Quantity invested by the team}_i$$

In this case, we found a moderately negative relationship between this difference and member satisfaction with the team (β = -0.20; p < .10. This means that members are less satisfied when the team decision is less proactive than their individual preferences.

Additionally, control variables showed significant relationships. Specifically, self-efficacy for teamwork has a positive influence on member participation ($p < .001$). Thus, as team members consider their capacity to work in a team, they are more prone to participate in the team processes. Collectivism orientation has been shown to have a moderately positive relation with satisfaction ($p < .10$). As members have a more positive attitude toward working in groups, they are also more satisfied. However, the perception of team debate has a negative influence on member satisfaction ($p < .05$).

4.6 DISCUSSION

The various findings of this study support three key conclusions about team member involvement and satisfaction when teams have to make environmental management decisions. First, team members with increased individual preferences toward environmentally proactive decisions show less deviation between their individual preferences and the team's final decision. Second, this fact is partially explained by the higher participation of these members during the team's decision-making process. Third, although more deviation between individual preferences and the team decision does not influence member satisfaction with the team, these members are more dissatisfied when team decisions are less proactive than when team decisions are less consistent with their individual proactive preferences.

4.6.1 Theoretical Implications

The present study advances our understanding of team decisions by focusing on the team carrying out environmental activities. Although managers utilize teams to carry out environmental activities (Hanna *et al.*, 2000; Strachan, 1996), the literature to date has hardly focused on this issue (Jabbour and Santos, 2008). Although team decision making may be more effective than individual decision making, because teams may contribute collective knowledge and views, team decision processes may naturally be more difficult (Ancona and Caldwell, 1992). Especially important for a team in making environmental decisions is the combination of team member preferences, because such preferences may determine whether and to what extent environmental issues will be taken into account (Cordano and Frieze, 2000; Egri and Herman, 2000; Flannery and May, 2000; González-Benito and González-Benito, 2006; Scherbaum *et al.*, 2008).

In this sense, our results have shown how having environmentally proactive preferences is related to member involvement in a team's decision-making process. Previous literature has shown how members who defend more extreme options in a group's decision-making process have higher participation rates as a result of greater levels of confidence (Baron *et al.*, 1996; Littlepage *et al.*, 1995; Nemeth, 1986) and increased involvement in the discussed issues (Kerr, 1992). Taking into account that more environmentally proactive preferences imply a more extreme position within the team, our results confirm that members with more proactive preferences are more prone to participate in the team's decision-making process, thus supporting Hypothesis 1.

Furthermore, our results show how environmentally proactive preferences may also be a determinant for team decisions. In this sense, Hypothesis 2 shows how members with more individual preferences have less deviation between their decision and the team's final decision. This result is in line with previous studies showing how members with more extreme positions tend to maintain their own ideas within the group, which consequently results in the team decision being closer to their individual preferences (e.g. Kerr, 1992). Although some arguments derived from previous studies may explain this fact (e.g. Baron *et al.*, 1996; Burnstein and Vinokur, 1977; Sanders and Baron, 1977), our study also analyzed whether the team member participation had some effect on their influence within the team. Indeed, it is through this participation that team members with more proactive preferences reduce the deviation between individual and team decisions, just as Hypothesis 3 had predicted. Thus, as seen in previous studies investigating participation in small groups (e.g. Bottger, 1984; Cooper and Wood, 1974; Mullen, *et al.*, 1989), members with environmentally proactive preferences have more opportunities to convince team members about the need to adopt their ideas.

Apart from analyzing how the individual environmental preferences of team members may affect teams' environmental decisions, we also analyze whether the distance between the individual's decision and the team's final decision may affect satisfaction. However, contrary to Hypothesis 4, no such relationship was found. An explanation of the nonsignificant relationship may be drawn from Vroom's (1964) theory of job satisfaction. According to this model, a reward plays a greater role in the formation of an individual's perception of job satisfaction to the extent that individual places a high value on that reward. Thus, it is possible that participants in the present study did not value their

influence on team decisions. As a consequence, the deviation between their initial preferences and the team's decision may not have had any effect on their satisfaction with the team.

Additional analyses have shown how team members are less satisfied with the team when their individual preferences are greater than the environmental proactiveness associated with the team's decision. This may imply that team members value the final proactiveness of the team's decision more than they do the total deviation between the individual's and team's decisions. More specifically, this result shows how it is not important for team members to experience team decisions that are exactly the same as their individual decisions. However, they will be dissatisfied when the final proactiveness of a team's decision is less than that of their individual decisions.

Additionally, our control variables may indicate how team member satisfaction may be affected by factors beyond the deviation between the individual and team decisions. Specifically, our results show how collective orientation has a positive influence on satisfaction with the team. Similar to previous studies (e.g. Campion *et al*., 1993), members were more satisfied with the team when they have positive attitudes toward teamwork, independent of the final team decision. On the other hand, the perception of team debate has a negative influence on satisfaction with the team. At first glance, this result may seem strange because team debate allows for different team members to contribute different perspectives to the team's decision-making process. Such debate has even been shown to have a positive influence on team performance (Simons *et al.*, 1999). Through debate, members may perceive that the team promotes member participation,

resulting in positive influences on member satisfaction. Although this concept is different from others such as task conflict (Jehn, 1995), because debate does not have a negative tone, in the present study, team members had not previously worked together and may not have felt comfortable in defending their position against one another. Thus, this result may indicate that team members are uncomfortable with any discussion of possible alternatives, instead opting for a positive tone to which they can easily agree.

4.6.2 Limitations and Directions for Future Research

Although the results of this study have notable theoretical implications for the environmental management literature, there are some accompanying limitations, mainly in terms of the sample. The current study is limited with a relatively small number of students engaged in a simulation of real-world top management decision making. Although we tried our best to maintain a real-life simulation by adding certain incentives, all of the participants were students who may have been unfamiliar with decision processes in real-life firms. Although the use of student samples has been broadly accepted in studies focusing on team processes (e.g., Rico, Molleman, Sánchez-Manzanares, and Van der Vegt, 2007; Van der Vegt, *et al.*, 2000), future research utilizing organizational teams would result in greater confidence and generalizability of the study results.

Second, the relatively small number of teams and the limited time that team members worked together did not allow us to analyze how certain specific team factors affected the results. The development of statistical technique, such as hierarchical linear models (Hoffman, 1997) may allow future researchers to analyze how certain team specific

conditions, such as the experience of working together or the heterogeneity within the team, influence the study results.

Despite these limitations, we think that the results of this study may serve as a starting point for future research that analyzes in depth the processes involved in a team's environmental decision making.

4.6.3 Managerial Implications

The results of this study also have important implications for practicing managers involved in designing or overseeing teams performing environmental activities and/or making environmental decisions. Specifically, this study sheds light on how team members combine their environmental preferences to reach a team decision by showing how final team decision is closer to the preferences of the more proactive members. The results also show how members with more environmentally proactive preferences play important roles in the team's decision making. Additionally, our results indicate that although team member satisfaction is not necessarily related to influence on team decisions, more proactive members are more dissatisfied regardless of how close the final team decision is from their individual preferences. This dissatisfaction may have very negative consequences for team performance and may diminish the common benefits attributed to teams dealing with environmental issues. Taking into account the increasing importance of teams with environmental responsibilities, this study may serve to increase managers' knowledge about factors that may affect team decisions.

APPENDIX A

TABLE 4.3 SURVEY SCALES

Variables	Items
Satisfaction	1. I am very happy to work in this team. 2. I am very satisfied with the decision adopted for this team. 3. The way in which the team worked together has been the most adequate. 4. My expectations about the positive consequences that would generate team decision are very positive. 5. The development of teamwork has not been adequate (Reverse-coded).
Debate	1. In discussions of this issue, team members stated clear disagreement with each other. 2. Different team members proposed different approaches to the issue. 3. Team members openly challenged each other's opinions.
Decision comprehensiveness	1. The team weighs multiple approaches against each other. 2. The team examines the pros and cons of several possible courses of action. 3. The team uses multiple criteria for eliminating possible courses of action. 4. From the beginning just only possibility was considered (Reverse-coded).
Participation	1. During team decision process s/he directly addresses other participants in order to get information that is required. 2. During team decision process s/he speaks to other team members and requests the information s/he needs. 3. S/he remained quiet during the most of the team decision process

	(Reverse-coded).
Self-efficacy for teamwork	1. I can easily facilitate communication between people. 2. I can effectively coordinate tasks and activities of a team. 3. I do not feel I can take on a leadership role in a group and be effective (Reverse-coded).
Collectivism	1. I prefer to work with others in my work group rather than to work alone. 2. Given a choice, I would rather do a job where I can work alone rather than do a job where I have to work with others in my work group (Reverse-coded). 3. I like it when members of my work group do things on their own, rather than working with others all the time (Reverse-coded).

4.7 REFERENCES

Amason, A.C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, 39: 123-148.

Ancona, D.G. and Caldwell, D.F. (1992). Demography and design: Predictor of new product team performance. *Organization Science*, 3: 321-341.

Anderson, L.M. and Bateman, T.S. (2000). Individual environmental initiative: Championing natural environmental issues in U.S. business organizations. *Academy of Management Journal*, 43: 548-570.

Aragón-Correa, J.A. (1998). Strategic proactivity and firm approach to the natural environment. *Academy of Management Journal*, 41: 558-567.

Aragón-Correa, J.A., Matías-Reche, F., and Senise-Barrio, M.E. (2004). Managerial discretion and corporate commitment to the natural environment. *Journal of Business Research*, 57: 964-975.

Baker, P.M. (1988). Participation in small groups: Social, physical, and situational predictors. *Small Group Research*, 19: 3-18.

Bamberg, S. and Möser, G. (2007). Twenty years after Hines, Hongerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology*, 27: 14-25.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37: 122-147.

Baron, R.S., Hoppe, S.I., Kao, C.F., Brunsman, B., Linneweh, B., and Rogers, D. (1996). Social corroboration and opinion extremity. *Journal of Experimental Social Psychology*, 32: 537-560.

Baron, R.M. and Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51: 1173-1182.

Barrick, M.R., Stewart, G.L., Neubert, M.J., and Mount, M.K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, 83: 377-391.

Boiral, O., Cayer, M., and Baron, C.M. (2009). The action logics of environmental leadership: A developmental perspective. *Journal of Business Ethics*, 85: 479-499.

Bonito, J.A. (2002). The analysis of participation in small groups: Methodological and conceptual issues related to interdependence. *Small Group Research*, 33: 412-438.

Bonito, J.A. and Lambert, B.L. (2005). Information similarity as a moderator of the effect of gender on participation in small groups: A multilevel analysis. *Small Group Research*, 36: 139-165.

Bottger, P.C. (1984). Expertise and air time as bases of actual and perceived influence in problem-solving groups. *Journal of Applied Psychology*, 69: 214-221.

Bunderson, J.S. (2003). Team member functional background an involvement in management teams: Direct effects and the moderating role of power centralization. *Academy of Management Journal*, 46(4): 458-474.

Burnstein, E. and Vinokur, A. (1977). Persuasive argumentation and social comparison as determinants of attitude polarization. *Journal of Experimental Social Psychology*, 13: 315-332.

Campion, M.A., Medsker, G.J., and Higgs, A.C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, 46: 923-850.

Chatman, J.A. and Flynn, F.J. (2001). The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Academy of Management Journal*, 44: 956-974.

Chen, Y.S. (2008). The driver of green innovation and green image – Green core competence. *Journal of Business Ethics*, 81: 531-543.

Christmann, P. (2004). Multinational companies and the natural environment: Determinants of global environmental policy standardization. *Academy of Management Journal,* 47: 747-760.

Coddington W. (1993). Environmental marketing: positive strategies for reaching the green consumer. MacGraw Hill, New York.

Cooper, M.R. and Wood, M.T. (1974). Effects of member participation and commitment in group decision making on influence, satisfaction, and decision riskiness. *Journal of Applied Psychology*, 59: 127-134

Cordano, M. and Frieze, I.H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behavior. *Academy of Management Journal*, 43: 627-641.

Daily, B.F. and Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management,* 21: 1539-1552.

Del Brío, J.A., Junquera, B., and Ordiz, M. (2008). Human resources in advanced environmental approaches- a case analysis. *International Journal of Production Research*, 21: 6029-6053.

Duffy, M.K., Shaw, J.D., and Stark, E.M. (2000). Performance and satisfaction in conflicted interdependent groups: When and how does self-esteem make a difference? *Academy of Management Journal*, 43: 772:782.

Eby, L.T. and Dobbins, G.H. (1997). Collectivistic orientation in teams: An individual and group-level analysis. *Journal of Organizational Behavior*, 18: 275-295.

Egri, C.P. and Herman, S. (2000). Leadership in the North American environmental sector: Values, leadership styles, and contexts of environmental leaders and their organizations. *Academy of Management Journal*, 43: 571-604.

Fay, N., Garrod, S., and Carletta, J. (2000). Group discussion as interactive dialogue or serial monologue: The influence of group size. *Psychological Science*, 11: 487-492.

Fernández, E., Junquera, B., and Ordiz, M. (2006). Managers' profile in environmental strategy: A review of the literature. *Corporate Social Responsibility and Environmental Management*, 13: 261-274.

Finkelstein, S. (1992). Power in top management teams: Dimensions, measurement, and validation. *Academy of Management Journal*, 35: 505-538.

Flannery, B.L. and May, D.R. (2000). Environmental ethical decision making in the U.S. metal-finishing industry. *Academy of Management Journal*, 43: 642-662.

Foo, M-D., Sin, H-P. and Yiong, L-P. (2006). Effects of team inputs and intrateam processes on perceptions of team viability and member satisfaction in nascent ventures. *Strategic Management Journal*, 27: 389-399.

Fornell, C. and Bookstein, F.L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 19: 440-452.

Fornell, C. and Larcker, D.F. (1981). Evaluating structural equations models with unobservable variables and measurement error. *Journal of Marketing Research*, 18: 39-50.

Friedkin, N.E. (1999). Choice shift and group polarization. *American Sociological Review*, 64: 856-875.

Gladstein, D.L. (1984). Groups in context: A model of task group effectiveness. *Administrative Science Quarterly*, 29: 499-517.

González-Benito, J. and González-Benito, O. (2006). The role of stakeholder pressure and managerial values in the implementation of environmental logistics practices. *International Journal of Production Research*, 44: 1353-1373.

Griffiths, A. and Petrick, J.A. (2001). Corporate architectures for sustainability. *International Journal of Operations & Production Management*, 21: 1573-1585.

Hair, J.F., Jr., Anderson, R.E., Tatham, R.L., and Black, W.C. (2006). Multivariate data analysis. Upper Saddle River, NJ: Pearson Prentice Hall.

Hanna, M.D., Newman, W.R., and Johnson, P. (2000). Linking operational and environmental improvement through employee involvement. *International Journal of Operations & Production Management*, 20: 148-165.

Hart S.L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, 20: 986-1014.

Hofmann, D.A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23: 723-744

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20: 195-204.

Ilgen, D.R., Hollenbeck, J.R., Johnson, M. and Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models". *Annual Review Psychology*, 56: 517-543.

Jabbour, C.J.C. and Santos, F.C.A. (2008). Relationships between human resource dimensions and environmental management in companies: Proposal of a model. *Journal of Cleaner Production*, 16: 51-58.

Jehn, K.A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40: 256-282.

Kaiser, F.G., Wölfing, S., and Fuhrer, U. (1999). Environmental attitude and ecological behavior. *Journal of Environmental Psychology*, 19: 1-19.

Katzenbach, J.R. and Smith, D.K. (2005). The discipline of teams. *Harvard Business Review*, 71:111-120.

Kerr, N.L. (1992). Group decision making at a multialternative task: Extremity, interfaction distance, pluralities, and issue importance. *Organizational Behavior and Human Decision Processes*, 52: 64-95.

Kolk, A. and Pinkse, J. (2008). A perspective on multinational enterprises and climate change: Learning from "an inconvenient truth"? *Journal of International Business Studies*, 39: 1359-1378.

Laughlin, P.R. and Ellis, A.L. (1986). Demonstrability and social combination processes on mathematical intellective tasks. *Journal of Experimental Social Psychology*, 22: 177-189.

LePine, J.A. and Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology*, 83: 853-868.

Littlepage, G.E., Schmidt, G.W., Whisler, E.W., and Frost, A.G. (1995). An input-process-output analysis of influence and performance in problem-solving groups. *Journal of Personality and Social Psychology*, 69: 877-839.

MacKinnon, D.P., Lockwood, C.M., and Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39: 99-128.

Marks, M.A., Mathieu, J.E. and Zaccaro, S.J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26: 356-376.

Marshall, R., Cordano, M., and Silverman, M. (2005). Exploring individual and institutional drivers of proactive environmentalism in the US Wine industry. *Business Strategy and the Environment*, 14: 92 – 110.

Mennecke, B.E., Valacich, J.S., and Wheeler, B.C. (2000). The effects of media and task on user performance: A test of the task-media fit hypothesis. *Group Decision and Negotiation*, 9: 507-529.

Milliken, F.J. and Martins, L.L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, 21: 402-433.

Mullen, B., Salas, E., and Driskell, J.E. (1989). Salience, motivation, and artifacts as contributions to the relation between participation rate and leadership. *Journal of Experimental Social Psychology*, 25: 545-559.

Nemeth, C.J. (1986). Differential contributions of majority and minority influence. *Psychological Review*, 93: 23-32.

Phillips, J.M. (2001). The role of decision influence and team performance in member self-efficacy, withdrawal, satisfaction with the leader and willingness to return. *Organizational Behavior and Human Decision Processes*, 84: 122-147.

Rico, R., Molleman, E., Sánchez-Manzanares, M., and Van der Vegt, G.S. (2007). The effects of diversity faultlines and team task autonomy on decision quality and social integration. *Journal of Management*, 33: 111-132

Roome, N. (1992). Developing environmental management strategies. *Business Strategy and the Environment*, 1: 11-24.

Russo, M.V. and Fouts, P.A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40: 534-559.

Saavedra, R., Early, P.C. and Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78: 61-72.

Sanders, G.S. and Baron, R.S. (1977). Is social comparison irrelevant for producing choice shifts? *Journal of Experimental Social Psychology*, 13: 303-314.

Sargis, E.G. and Larson J.R. (2002). Information centrality and member participation during group decision making. *Group Processes & Intergroup Relations*, 5: 333-347.

Scherbaum, C.A., Popovich, P.M., and Finlinson, S. (2008). Exploring individual-level factors related to employee energy-conservation behaviors and at work. *Journal of Applied Psychology*, 38: 818-835.

Schweiger, D.M., Sandberg, W.R., and Rechner, P.L. (1989). Experiential effects of dialectical inquiry, devil's advocacy, and consensus approaches to strategic decision making. *Academy of Management Journal*, 32: 745-772.

Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43: 681-697.

Simons, T., Pelled, L.P. y Smith, K.A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42: 662-673.

Sonnentag, S. and Volmer, J. (2009). Individual-level predictors of task-related teamwork processes: The role of expertise and self-efficacy in team meetings. *Group & Organization Management*, 34:37-66.

Strachan, P.A. (1996). Achieving environmental excellence through effective teamwork. *Team Performance Management*, 2: 25-29.

Sundstrom, E., De Meuse, K.P. and Futrell, D. (1990). Work teams: Applications and effectiveness. *American Psychologist*, 45: 120-133.

Taggar, S. and Brown, T.C. (2006). Interpersonal affect and peer rating bias in teams. *Small Group Research*, 37: 86-111.

Taggar, S. and Haines, V.Y. (2006). I need you, you need me: A model of initiated task interdependence. *Journal of Managerial Psychology*, 21: 211-230.

Van der Vegt, G.S., Emans, B., and Van der Vliert, E. (2000). Team member's affective responses to patterns of intragroup interdependence and job complexity. *Journal of Management*, 26: 633-655.

Vroom, V. (1964). Work and motivation. New York: John Wiley.

Wageman, R. (1995). Interdependence and group effectiveness. *Administrative Science Quarterly*, 40: 145-180.

White, J.C., Varadarajan, P.R., and Dacin, P.A. (2000). Market situation interpretation and response: The role of cognitive style organizational culture, and information use. *Journal of Marketing*, 67: 63-79.

Wood, M.T. (1972). Participation, influence, and satisfaction in group decision making. *Journal of Vocational Behavior*, 2: 389-399.

CAPÍTULO 5

CONSIDERACIONES FINALES

5.1 CONCLUSIONES E IMPLICACIONES PARA LA TEORÍA Y LA PRÁCTICA

El objetivo de este último capítulo es resumir las principales conclusiones que pueden extraerse de los resultados obtenidos en los tres artículos que conforman esta tesis doctoral. Dado el carácter independiente de los tres artículos, cada uno con distintos objetivos y resultados, consideramos necesario realizar un esfuerzo de síntesis que permitiese extraer las principales conclusiones del trabajo de investigación llevado a cabo. Así, se pretende destacar cómo contribuyen los resultados de este trabajo a incrementar el conocimiento dentro de los distintos campos de estudio en los que puede situarse esta investigación.

El primer artículo viene a aportar algo de luz al efecto que la heterogeneidad tiene sobre el rendimiento del equipo, al centrarse en un rasgo que tiene una relación más directa con el rendimiento (la destreza relacionada con la tarea) y en un tipo concreto de equipo (los equipos de acción). Los resultados de este artículo revelan que el efecto de la heterogeneidad en este tipo de destreza sobre el rendimiento del equipo, depende del nivel medio de destreza del equipo. De esta forma, el efecto positivo de la heterogeneidad disminuye a medida que el nivel de dicha destreza se va incrementando dentro del equipo. Estos resultados ponen de manifiesto que a la hora de analizar la heterogeneidad en un rasgo que puede variar no sólo cualitativamente sino también cuantitativamente, es necesario considerar el nivel medio de dicho rasgo dentro del equipo. Así por ejemplo, al determinar el efecto de formar un equipo con personas que difieren en sus niveles de conocimiento, destreza y habilidad, resulta necesario conocer el nivel de dichos

conocimientos, destrezas y habilidades, ya que en función de éste el efecto que la heterogeneidad tiene sobre el redimiendo puede variar.

Por otro lado, este artículo también considera que los miembros de un equipo no sólo difieren en su nivel de destreza, sino también en la forma en que distribuyen dicha destreza entre las distintas dimensiones que componen la tarea. En este sentido, ante la disyuntiva sobre si dentro de un equipo de acción es preferible tener especialistas o personas que sepan cubrir más de una dimensión de la tarea, los resultados del artículo revelan que aquellos miembros con un alto grado de especialización tienen un efecto negativo sobre el rendimiento del equipo. La alta interdependencia entre las tareas que son llevadas a cabo por el equipo hace necesaria que los miembros sean capaces de cubrir más de una dimensión de la tarea, ya que en caso contrario pueden convertirse en verdaderos obstáculos para el funcionamiento del equipo cuando la situación demande realizar aquellas dimensiones que no son capaces de cubrir.

En el segundo artículo, la atención no se centra en el rendimiento del equipo sino en el rendimiento individual de los miembros del mismo. De este modo se responde a la necesidad señalada por algunos investigadores de prestar mayor atención a las variables individuales dentro de los equipos con vistas a conocer mejor el funcionamiento de los mismos (Sonnentag y Volmer, 2009). Dado que los miembros del equipo son en última instancia los que determinan su rendimiento, realizar el análisis a nivel individual puede permitir resolver algunas de las incertidumbres que todavía quedan pendientes dentro de los estudios sobre equipos. En concreto, este trabajo establece una serie de importantes conclusiones sobre el rendimiento inicial y sobre la evolución del rendimiento de los recién

llegados a un equipo. En primer lugar, los resultados de la investigación muestran como dentro del contexto de un equipo el incremento en el rendimiento de un recién llegado no tiene lugar hasta que esté ha pasado cierto tiempo trabajando con sus compañeros. Estos resultados suponen una importante contribución dentro del ámbito de estudios sobre socialización y aprendizaje al mostrar de forma empírica como, dentro del contexto de un equipo, la mejora en el rendimiento de un recién llegado resulta compleja debido a la necesidad de tener que realizar el trabajo de forma interdependiente.

Del mismo modo, este segundo trabajo también nos ofrece algunas conclusiones relacionadas con el rendimiento inicial de los recién llegados. Así, además de la relación positiva encontrada entre el rendimiento previo de los recién llegados y su rendimiento inicial, es destacable el papel que el rendimiento de los compañeros puede tener sobre el rendimiento inicial del recién llegado. Los resultados alcanzados ponen de manifiesto como un buen rendimiento previo de los compañeros más veteranos en el equipo repercute en un peor rendimiento inicial de los recién llegados. Este resultado tiene importantes implicaciones dentro de los estudios sobre socialización. Aunque estudios previos han demostrado que los compañeros pueden facilitar la adaptación de un recién llegado, sobre todo suministrándole información valiosa (e.g. Ostroff y Kozlowski, 1992), los resultados de este trabajo revelan que tener compañeros con un rendimiento previo alto puede resultar negativo para los recién llegados. Nuestro trabajo muestra que los recién llegados tienen un rendimiento inicial menor cuando dentro del equipo ya existen miembros que en el pasado han demostrado tener un rendimiento alto. Estos resultados vienen a demostrar cómo dentro de un equipo, los recién llegados pueden encontrar dificultades a la hora de mostrar

su valía si ya existen miembros que han demostrado ser valiosos para el funcionamiento del grupo.

Finalmente el último trabajo, supone un cambio con respecto a los anteriores ya que en este caso no se analiza ni el rendimiento del equipo ni el rendimiento individual de los miembros sino el proceso de toma de decisiones dentro de un equipo. La principal contribución que hace este trabajo a la literatura sobre gestión medioambiental es analizar la toma de decisiones medioambientales dentro del contexto de un equipo, tal y como normalmente se toman este tipo de decisiones en las empresas, y no desde un contexto independiente en que los individuos pueden tomar sus decisiones sin considerar la de los demás. La principal conclusión que puede extraerse de este trabajo es que los individuos con preferencia a adoptar decisiones medioambientalmente más proactivas tenderán a imponer dicha preferencia dentro del equipo a través de una mayor participación durante el proceso de toma de decisión. Este resultado resulta especialmente relevante ya que pone de manifiesto como los equipos tenderán a tomar decisiones medioambientalmente más proactivas en la medida en la que sus miembros tengan dichas preferencias. Estos resultados, a parte de suponer una importante contribución para la literatura sobre gestión medioambiental también pueden resultar interesantes para los estudios sobre el proceso de toma de decisiones estratégicas.

Sin embargo, con respecto a la satisfacción de los miembros con las decisiones adoptadas por el equipo, los resultados obtenidos no han sido tan concluyentes ya que no se ha encontrado una relación directa entre la desviación de las decisiones individuales y las del equipo con la satisfacción, lo que habré las puertas a futuras investigaciones que

profundicen en determinar cómo dichas diferencias pueden afectar a la satisfacción de los decisores.

Dada la importancia que los temas tratados tienen sobre el funcionamiento actual de muchas empresas, debido sobre todo a la proliferación de equipos dentro de las mismas, consideramos que también resulta de especial interés destacar las implicaciones de los resultados alcanzados para la gestión empresarial. La realización del presente trabajo ha venido a poner de manifiesto la complejidad que puede entrañar la gestión de equipos de trabajo y resalta, por tanto, la necesidad de realizar un análisis profundo de las circunstancias tanto internas como externas que permita aprovechar los beneficios que sin duda esta forma de organizar el trabajo puede proporcionar. Pasar por alto esta complejidad puede provocar que los equipos de trabajo generen disfuncionalidades dentro de la organización y sean un obstáculo para la misma.

De forma más específica, este trabajo pone de manifiesto la importancia de considerar la interdependencia de los miembros de un equipo. Dicha interdependencia provoca que el efecto de los individuos sobre la efectividad del equipo dependa en gran medida de las actuaciones del resto de sus compañeros. Por lo tanto, a la hora de valorar el rendimiento individual de los miembros de un equipo no puede obviarse el contexto altamente interdependiente en el que desarrollan su actividad. De otro modo se podría, por ejemplo, minusvalorar injustamente a personas con un alto potencial por el hecho de no rendir al nivel esperado durante los primeros meses dentro de un equipo, ya que no se estaría considerando que la adaptación dentro de un equipo requiere de tiempo y que los propios compañeros pueden dificultar el mismo. De la misma manera, un gestor de equipos

podría depositar muchas esperanzas en una persona que ha demostrado un alto rendimiento en la realización de una tarea muy específica y luego encontrarse con la desagradable sorpresa de que dicha persona afecta negativamente al funcionamiento del equipo al no poder contribuir cuando se requiere de otro tipo de habilidades de las que carece.

5.2 LIMITACIONES Y FUTURAS LÍNEAS DE INVESTIGACIÓN

Finalmente consideramos necesario indicar las principales limitaciones del trabajo, tanto metodológicas como de contenido, así como las futuras líneas de investigación que podrían cubrir los huecos no cubiertos en este estudio o bien desarrollar algunas de las cuestiones planteadas por el mismo.

La primera limitación que podría atribuirse a este trabajo es que pese a usar muestras que encajan perfectamente con los objetivos de investigación, los resultados necesitan ser contrastados en otros contextos para poder proceder a generalizar los mismos a otros tipos de equipos. Así, de forma específica los resultados alcanzados en el primer y segundo trabajo podrían ser contrastados en otros equipos de acción u otros equipos con un nivel de interdependencia alto, como por ejemplo equipos médicos de emergencia, equipos quirúrgicos o unidades de investigación. Del mismo modo, el último trabajo podría ser replicado usando como muestra a equipos directivos dentro de empresas que tomen decisiones de carácter medioambiental. Si bien los experimentos realizados con estudiantes tienen una serie de ventajas, al poder controlar la variabilidad de factores externos, al no tratarse de una decisión empresarial real puede limitar la generalización de los resultados. Por ello, se considera conveniente comprobar los procesos de toma de decisiones

medioambientales en equipos directivos encargados de tomar decisiones de carácter medioambiental, pese a la gran dificultad que supone la obtención de datos.

A parte de esta limitación que podríamos considerar general, cada uno de los trabajos tiene además otra serie de limitaciones específicas. Si bien éstas ya han sido comentadas en cada uno de los capítulos correspondientes, consideramos oportuno volver a hacer referencia a las mismas en este apartado de recapitulación con vistas a destacar la posibilidad de realizar futuros trabajos que puedan solventarlas.

El primer artículo se centra en un tipo específico de heterogeneidad, aquella que tiene que ver con la habilidad relacionada con las tareas. Sin embargo, a pesar de la importancia de este tipo de habilidades sobre el rendimiento del equipo, sería necesario también considerar otro tipo de características demográficas y cognitivas que también han mostrado tener influencia sobre dicho rendimiento. De este modo, derivado de las conclusiones del primer artículo podría analizarse si el efecto de la heterogeneidad u homogeneidad en otros rasgos, como por ejemplo la edad, también es contingente al nivel de dicho rasgo dentro del equipo. Así, podría analizarse si un equipo en el que todos los miembros tienen veinte años tiene el mismo rendimiento que un equipo en el que todos tengan cincuenta años.

En el segundo artículo, el hecho de que el incremento en el rendimiento tenga lugar en el último periodo analizado impide determinar el momento en que la velocidad de crecimiento de dicho rendimiento se vuelve más lenta. Futuras investigaciones que consideren un horizonte temporal más elevado podrían determinar ese punto en que se puede considerar finalizado el proceso de aprendizaje dentro del equipo.

Otra limitación a este estudio es que, pese a que la muestra es perfectamente apropiada para nuestro objetivo de analizar el rendimiento individual de los miembros, se trata de un número reducido de equipos (30) lo que impidió poder considerar el efecto de las características de dichos equipos. De esta forma futuros estudios podrían incrementar el número de equipos considerados y así poder llevar a cabo un análisis en tres niveles que considere factores a nivel de equipo como el rendimiento inicial del equipo (Chen, 2005) o el clima del mismo (Chen y Mathieu, 2008).

Finalmente, con respecto al último artículo, el tamaño relativamente pequeño de la muestra, así como el escaso tiempo que pasan los participantes trabajando juntos, nos impidió analizar otro tipo de procesos que pueden ser importantes durante la toma de decisiones, como puede ser la cohesión del equipo o el surgimiento de conflictos dentro del mismo.

Adicionalmente, con vistas a futuras investigaciones, especialmente interesante pueden ser los resultados obtenidos en el tercer artículo con respecto a la satisfacción de los individuos con la decisión del equipo. Así, aunque la variación de la decisión individual y la del equipo no afecta a la satisfacción individual cuando se considera la variación absoluta entre las distintas decisiones adoptadas, cuando se considera el grado de proactividad final de la decisión, una mayor desviación está asociada con una menor satisfacción. Aunque estos resultados hay que tomarlos con cautela, al no resultar especialmente significativos, sí parecen indicar que los factores que pueden condicionar la satisfacción de los individuos pueden ser complejos y requieran de un análisis más

profundo. De este modo, otra limitación de este trabajo sería el no haber tenido en cuenta otras variables que pueden influir sobre la satisfacción de los miembros con la decisión del equipo, como por ejemplo la regla de decisión que ha seguido el equipo (e.g. mayoría o consenso) (Ito, Takeuchi, Kuriyama, Shoji, Tsuge y Mitani, 2009), abriendo así la posibilidad a la realización de futuras investigaciones que vengan a solventar esta limitación.

Además de las investigaciones que pueden derivarse de las limitaciones anteriormente comentadas, consideramos que este trabajo viene a demostrar las enormes posibilidades que todavía quedan abiertas dentro de un campo tan ampliamente analizado como el de los equipos. A pesar de la gran profusión de trabajos en este ámbito durante los últimos años, la enorme complejidad que conlleva el análisis de un equipo, al tener que considerar por ejemplo la interdependencia entre sus miembros, hace que sea necesario abrir nuevas líneas. En este sentido consideramos que este trabajo ha puesto su grano de arena en este cometido al plantear una serie de cuestiones que pueden ser estudiadas en más profundidad por futuras investigaciones y que enumeramos a continuación:

1.- Centrar los análisis en tipos de equipos específicos o bien tener en cuenta sus diferencias a la hora de realizar los análisis.

La gran cantidad de factores que pueden determinar la efectividad de los equipos (ver por ejemplo la revisión realizada por Rico, Alcover de la Hera y Tabernero, 2010), hacen plantearse hasta que punto es posible alcanzar conclusiones definitivas y generalizables a todos los tipos de equipos. En este sentido, este trabajo ha mostrado cómo de interesante puede ser analizar un tipo específico de equipo (en este caso los equipos de acción) ya que

permite acotar los factores que afectan al mismo y obtener así resultados más significativos. Esto ha permitido llegar a la conclusión, por citar una, de que una alta especialización es negativa dentro de un equipo de acción. Este resultado viene explicado por el alto grado de interdependencia y de incertidumbre al que se enfrentan los miembros de un equipo de acción. Sin embargo, si dicho análisis se hubiese realizado sobre un equipo con una interdependencia e incertidumbre menor, probablemente los resultados hubiesen sido distintos ya que al ser la tarea más dependiente y predecible, sería posible ajustar la habilidad específica de cada individuo a una dimensión concreta de la actividad de forma que el trabajo de cada miembro se complementara con el de los demás. Esto pone de manifiesto la importancia en la selección del tipo de equipo analizado en función de los objetivos de investigación planteados, ya que en caso contrario los resultados pueden no resultar especialmente significativos.

2.- Prestar más atención a las variables individuales.

La mayor parte de la extensa literatura que ha analizado la efectividad de los equipos ha considerado para sus análisis variables a nivel de equipo. Dada la complejidad que entraña realizar análisis sobre el funcionamiento de los equipos quizá sea necesario bajar un nivel en el ámbito del análisis y prestar más atención a variables individuales. Es posible que los distintos miembros de un equipo reaccionen de forma distinta ante factores como la heterogeneidad del equipo o los conflictos, por lo que realizar el análisis de forma agregada puede disminuir la calidad de la información. Así este trabajo ha puesto de manifiesto la importancia que puede tener el llevar a cabo análisis a nivel individual al analizar algunos factores pueden condicionar el rendimiento y los comportamientos de los miembros. El desarrollo de diversas técnicas estadísticas, como los análisis multinivel,

añaden interés a la realización de análisis a nivel individual al poder también considerar simultáneamente los factores a nivel de equipo.

3.- Centrarse en contextos hasta ahora poco considerados como la gestión medioambiental.

Pese a la importancia que se les atribuye a los equipos dentro de la gestión medioambiental hasta ahora han sido pocos los estudios que han analizado de forma específica a los equipos dentro de este contexto concreto. En este trabajo hemos avanzado en este camino al analizar el proceso de toma de decisiones dentro de un equipo cuando dicha decisión tiene un claro componente medioambiental. Sin embargo, existen muchos ámbitos dentro de la gestión medioambiental y los equipos de trabajo que quedan por analizar. Teniendo en cuenta la creciente cantidad de equipos con responsabilidades sobre la gestión medioambiental de las empresas, como los comités ejecutivos medioambientales, equipos de acción medioambientales, equipos para la mejora de procesos o los círculos de calidad y medioambientales (Strachan, 1996), resultaría necesario determinar qué factores afectan al rendimiento de dichos equipos. De este modo, queda abierta la posibilidad de realizar trabajos sobre este tipo de equipos que analicen los factores tradicionales de diseño (composición, interdependencia, autonomía, liderazgo, etc.), así como otros más recientes como la virtualidad. Del mismo modo también sería interesante analizar los procesos internos que tienen lugar con vistas a mejorar la gestión de aspectos como la comunicación o los conflictos dentro del equipo. Las peculiaridades que tiene la gestión medioambiental, debido a que se trata de actuaciones con un claro componente afectivo, hacen potencialmente interesante este tipo de estudios y pueden ser

determinantes a la hora de establecer qué factores pueden condicionar el éxito o el fracaso de la gestión medioambiental llevada por la empresa.

5.3 BIBLIOGRAFÍA

Chen, G. (2005). Newcomer adaptation in teams: Multilevel antecedents and outcomes. *Academy of Management Journal*, 48(1): 101-116.

Chen, G. y Mathieu, J.E. (2008). Goal orientation dispositions and performance trajectories: The roles of supplementary and complementary situational inducements. *Organizational Behavior & Human Decision Processes*, 106(1): 21-38.

Ito, N., Takeuchi, K., Kuriyama, K., Shoji, Y., Tsuge, T. y Mitani, Y. (2009). The influence of decision-making rules on individual preferences for ecological restoration: Evidence from an experimental survey. *Ecological Economics*, 68: 2426-2431.

Ostroff, C. y Kozlowski, S.W.J. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, 45(4): 849-874.

Rico Muñoz, R., Alcover de la Hera, C.M. y Tabernero, C. (2010). Efectividad de los equipos de trabajo, una revisión de la última década de investigación (1999-2009). *Revista de Psicología del Trabajo y de las Organizaciones*, 26(1): 47-71.

Sonnentag, S. y Volmer, J. (2009). Individual-level predictors of task-related teamwork processes: The role of expertise and self-efficacy in team meetings. *Group & Organization Management*, 34: 37-66.

Strachan, P.A. (1996). Achieving environmental excellence through effective teamwork. *Team Performance Management*, 2: 25-29.

CAPÍTULO 6

BIBLIOGRAFÍA

Ackerman, P.L. (1987). Individual differences in skill learning: An integration of psychometric and information processing perspectives. *Psychological Bulletin,* 102(1): 3-87.

Adkins, C.L. (1995). Previous work experience and organizational socialization: A longitudinal examination. *Academy of Management Journal*, 38(3): 839-862.

Aiken, L. S. and West, S. G. (1993), *Multiple regression: Testing and interpreting interactions*, Sage, Newbury Park, CA.

Allen, N.J. and Hecht, T.D. (2004). The 'romance of teams': Toward an understanding of its psychological underpinnings and implications. *Journal of Occupational and Organizational Psychology*, 77: 439.

Amason, A.C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, 39: 123-148.

Ancona, D.G. and Caldwell, D. F. (1992). Demography and design: Predictors of new product team performance. *Organization Science*, 3(3): 321-341.

Anderson, J.R. (1982). Acquisition of cognitive skill. *Psychological Review*, 89(4): 369-406.

Anderson, L.M. and Bateman, T.S. (2000). Individual environmental initiative: Championing natural environmental issues in U.S. business organizations. *Academy of Management Journal*, 43: 548-570.

Aquilano, N.J. (1977). Multiskilled work teams: Productivity benefits. *California Management Review*, 19(4): 17-22.

Aragón-Correa, J.A. (1998). Strategic proactivity and firm approach to the natural environment. *Academy of Management Journal*, 41: 558-567.

Aragón-Correa, J.A., Matías-Reche, F., and Senise-Barrio, M.E. (2004). Managerial discretion and corporate commitment to the natural environment. *Journal of Business Research*, 57: 964-975.

Armstrong, S.J. and Mahmud, A. (2008). Experiential learning and the acquisition of managerial tacit knowledge. *Academy of Management Learning & Education,* 7(2): 189-208.

Aron, A., McLaughlin-Volpe, T., Mashek, D., Lewandowski, G., Wright, S., and Aron, E.N. (2004). Including others in the self. *European Review of Social Psychology*, 15: 101-132.

Ashforth, B.E., Saks, A.M., and Lee, R.T. (1998). Socialization and newcomer adjustment: The role of organizational context. *Human Relations*, 51(7): 897-926.

Avolio, B.J., Waldman, D.A., and McDaniel, M.A. (1990). Age and work performance in nonmanagerial jobs: The effects of experience and occupational type. *Academy of Management Journal*, 33(2): 407-422.

Baker, P.M. (1988). Participation in small groups: Social, physical, and situational predictors. *Small Group Research*, 19: 3-18.

Bamberg, S. and Möser, G. (2007). Twenty years after Hines, Hongerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology*, 27: 14-25.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37: 122-147.

Bantel, K.A. and Jackson, S.E. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal*, 10(1): 107-124.

Barney, J.B. and Wright, P.M. (1998). On becoming a strategic partner: The role of human resources in gaining competitive advantage. *Human Resource Management*, 37(1): 31.

Baron, R.S., Hoppe, S.I., Kao, C.F., Brunsman, B., Linneweh, B., and Rogers, D. (1996). Social corroboration and opinion extremity. *Journal of Experimental Social Psychology*, 32: 537-560.

Baron, R.M. and Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51: 1173-1182.

Barrick, M.R., Stewart, G.L., Neubert, M.J. and Mount, M.K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, 83: 377-391.

Barry, B. and Stewart, G.L. (1997). Composition, process, and performance in self-managed groups: The role of personality. *Journal of Applied Psychology*, 82(1): 62-78.

Barsade, S.G., Ward, A.J., Turner, J.D.R., and Sonnenfeld, J.A. (2000). To your heart's content: A model of affective diversity in top management teams. *Administrative Science Quarterly*, 45(4): 802-836.

Bauer, T.N., Bodner, T., Erdogan, B., Truxillo, D.M., and Tucker, J.S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology*, 92(3): 707-721.

Baumann, M.R. and Bonner, B.L. (2004). The effects of variability and expectations on utilization of member expertise and group performance. *Organizational Behavior & Human Decision Processes*, 93(2): 89-101.

Berman, S.L., Down, J., and Hill, C.W.L. (2002). Tacit knowledge as a source of competitive advantage in the national basketball association. *Academy of Management Journal*, 45(1): 13-31.

Berri, D.J. (1999). Who is 'most valuable'? Measuring the player's production of wins in the national basketball association. *Managerial & Decision Economics*, 20(8): 411-427.

Beyer, J.M. and Hannah, D.R. (2002). Building on the past: Enacting established personal identities in a new work setting. *Organization Science*, 13(6): 636-652.

Bliese, P.D. and Ployhart, R.E. (2002). Growth modeling using random coefficient models: Model building, testing, and illustrations. *Organizational Research Methods,* 5(4): 362-387.

Boiral, O., Cayer, M., and Baron, C.M. (2009). The action logics of environmental leadership: A developmental perspective. *Journal of Business Ethics*, 85: 479-499.

Bonaccorsi, A. and Thoma, G. (2007). Institutional complementarity and inventive performance in nano science and technology. *Research Policy*, 36(6): 813-831.

Bonito, J.A. (2002). The analysis of participation in small groups: Methodological and conceptual issues related to interdependence. *Small Group Research*, 33: 412-438.

Bonito, J.A. and Lambert, B.L. (2005). Information similarity as a moderator of the effect of gender on participation in small groups: A multilevel analysis. *Small Group Research*, 36: 139-165.

Boone, C., Van Olffen, W., Van Witteloostuijn, A., and De Brabander, B. (2004). The genesis of top management team diversity: Selective turnover among top management teams in Dutch newspaper publishing, 1970-94. *Academy of Management Journal*, 47(5): 663-656.

Bottger, P.C. (1984). Expertise and air time as bases of actual and perceived influence in problem-solving groups. *Journal of Applied Psychology*, 69: 214-221.

Bunderson, J.S. (2003). Team member functional background and involvement in management teams: Direct effects and the moderating role of power centralization. *Academy of Management Journal*, 46(4): 458-474.

Bunderson, J.S. and Sutcliffe, K.M. (2002). Comparing alternative conceptualizations of functional diversity in management teams: Process and performance effects. *Academy of Management Journal*, 45(5): 875-893.

Burnstein, E. and Vinokur, A. (1977). Persuasive argumentation and social comparison as determinants of attitude polarization. *Journal of Experimental Social Psychology*, 13: 315-332.

Campion, M.A., Medsker, G.J., and Higgs, A.C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, 46: 923-850.

Campion, M.A., Papper, E.M., and Medsker, G.J. (1996). Relations between work team characteristics and effectiveness: A replication and extension. *Personnel Psychology*, 49(2): 429-452.

Canella, A.A., Park, J-H., and Lee, H.U. (2008). Top management team functional background diversity and firm performance: Examining the roles of team member collocation and environmental uncertainty. *Academy of Management Journal*, 51(4): 768-784.

Carpenter, M.A. (2002). The implications of strategy and social context for the relationship between top team management heterogeneity and firm performance. *Strategic Management Journal*, 23(3): 275-284.

Carr, J., Pearson, A., Vest, M., and Boyar, S. (2006). Prior occupational experience, anticipatory socialization, and employee retention. *Journal of Management*, 32(3): 343-359.

Chan, D. and Schmitt, N. (2000). Interindividual differences in intraindividual changes in proactivity during organizational entry: A latent growth modeling approach to understanding newcomer adaption. *Journal of Applied Psychology*, 85(2): 190-210.

Chao, G.T., O'Leary-Kelly, A.M., Wolf, S., Klein, H.J., and Gardner, P.D. (1994). Organizational socialization: Its content and consequences. *Journal of Applied Psychology*, 79(5): 730-743.

Chatman, J.A. and Flynn, F.J. (2001). The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Academy of Management Journal*, 44: 956-974.

Chen, G. (2005). Newcomer adaptation in teams: Multilevel antecedents and outcomes. *Academy of Management Journal*, 48(1): 101-116.

Chen, Y.S. (2008). The driver of green innovation and green image – Green core competence. *Journal of Business Ethics*, 81: 531-543.

Chen, G. and Klimoski, R. (2003). The impact of expectations on newcomer performance in teams as mediated by work characteristics, social exchanges, and empowerment. *Academy of Management Journal*, 46(5): 591-607.

Chen, G. and Mathieu, J.E. (2008). Goal orientation dispositions and performance trajectories: The roles of supplementary and complementary situational inducements. *Organizational Behavior & Human Decision Processes*, 106(1): 21-38.

Chen, G., Thomas, B., and Wallace, J.C. (2005). A multilevel examination of the relationships among training outcomes, mediation regulatory processes, and adaptive performance. *Journal of Applied Psychology*, 90(5): 827-841.

Chow, I.H. (2002). Organizational socialization and career success of Asian managers. *International Journal of Human Resource Management*, 13: 720-737.

Christmann, P. (2004). Multinational companies and the natural environment: Determinants of global environmental policy standardization. *Academy of Management Journal,* 47: 747-760.

Coddington W. (1993). Environmental marketing: positive strategies for reaching the green consumer. MacGraw Hill, New York.

Cohen, S.G. and Bailey, D.E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23, (3): 239-290.

Cooper, M.R. and Wood, M.T. (1974). Effects of member participation and commitment in group decision making on influence, satisfaction, and decision riskiness. *Journal of Applied Psychology*, 59: 127-134

Cooper-Thomas, H. and Anderson, N. (2002). Newcomer adjustment: The relationship between organizational socialization tactics, information acquisition and attitudes. *Journal of Occupational & Organizational Psychology*, 75(4): 423-437.

Cooper-Thomas, H. and Anderson, N. (2006). Organizational socialization: A new theoretical model and recommendations for future research and HRM practices in organizations. *Journal of Managerial Psychology*, 21(5): 492-516.

Cordano, M. and Frieze, I.H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behavior. *Academy of Management Journal*, 43: 627-641.

Cross, R., Ehrlich, K., Dawson, R., and Helferich, J. (2008). Managing collaboration: Improving team effectiveness through a network perspective. *California Management Review*, 50(4): 74-98.

Cunningham, G.B. (2007). Opening the black box: The influence of perceived diversity and a common in-group identity in diverse groups. *Journal of Sport Management,* 21: 58-78.

Dahlin, K.B., Weingart, L.R., and Hinds, P.J. (2005). Team diversity and information use. *Academy of Management Journal*, 48(6): 1107-1123.

Daily, B.F. and Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management,* 21: 1539-1552.

Deadrick, D., Bennett, N., and Russell, C. (1997). Using hierarchical linear modeling to examine dynamic performance criteria over time. *Journal of Management*, 23(6): 745-757.

Del Brío, J.A., Junquera, B., and Ordiz, M. (2008). Human resources in advanced environmental approaches- a case analysis. *International Journal of Production Research*, 21: 6029-6053.

DeRosa, D.M., Hantula, D.A., Kock, N. and D'Arcy, J. (2004). Trust and leadership in virtual teamwork: A media naturalness perspective. *Human Resource Management*, 43(2): 219-232.

Devine, D.J., Clayton, L.D., Philips, J.L., Dunford, B.B., and Melner, S.B. (1999). Teams in organizations: Prevalence, characteristics, and effectiveness. *Small Group Research*, 30(6): 678.

Dierickx, I. and Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12): 1504-1511.

Dionne, S.D., Yammarino, F.J., Atwater, L.E., and Spangler, W.D. (2004): Transformational leadership and team performance. *Journal of Organizational Change Management*, 17(2): 177-193.

Duffy, M.K., Shaw, J.D., and Stark, E.M. (2000). Performance and satisfaction in conflicted interdependent groups: When and how does self-esteem make a difference? *Academy of Management Journal*, 43: 772:782.

Dulye, L. (2009). Using communication to drive change at Rolls-Royce: Ten steps toward instigating a cultural turnaround. *Strategic Communication Management,* 13(1): 32-35.

Eby, L.T. and Dobbins, G.H. (1997). Collectivistic orientation in teams: An individual and group-level analysis. *Journal of Organizational Behavior*, 18: 275-295.

Eden, D. (1992). Leadership and expectations: Pygmalion effects and other self-fulfilling prophecies in organizations. *Leadership Quarterly*, 3(4): 271-305.

Edmonson, A.C. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies*, 40(6): 1419-1452.

Egri, C.P. and Herman, S. (2000). Leadership in the North American environmental sector: Values, leadership styles, and contexts of environmental leaders and their organizations. *Academy of Management Journal*, 43: 571-604.

Ellis, A.P.J., Bell, B.S., Ployhart, R.E., Hollenbeck, J.R., and Ilgen, D.R. (2005). An evaluation of generic teamwork skills training with action teams: Effects on cognitive and skill-based outcomes. *Personnel Psychology*, 58(3): 641-672.

Ennen, E. and Richter, A. (2010). The whole is more than the sum of its parts – or is it? A review of the empirical literature on complementarities in organizations. *Journal of Management*, 36(1): 207-233.

Espitia-Escuer, M. and García-Cebrián, L.I. (2006). Performance in sport teams: Results and potential in the professional soccer league in Spain. *Management Decisions*, 4(8): 1020-1030.

Fay, N., Garrod, S., and Carletta, J. (2000). Group discussion as interactive dialogue or serial monologue: The influence of group size. *Psychological Science*, 11: 487-492.

Feldman, D.C. (1976). A contingency theory of socialization. *Administrative Science Quarterly*, 21(3): 433-452.

Feldman, D.C. (1981). The multiple socialization of organization members. *Academy of Management Review*, 6: 309-318.

Fernández, E., Junquera, B., and Ordiz, M. (2006). Managers' profile in environmental strategy: A review of the literature. *Corporate Social Responsibility and Environmental Management*, 13: 261-274.

Finkelstein, S. (1992). Power in top management teams: Dimensions, measurement, and validation. *Academy of Management Journal*, 35: 505-538.

Flannery, B.L. and May, D.R. (2000). Environmental ethical decision making in the U.S. metal-finishing industry. *Academy of Management Journal*, 43: 642-662.

Foo, M-D., Sin, H-P., and Yiong, L-P. (2006). Effects of team inputs and intrateam processes on perceptions of team viability and member satisfaction in nascent ventures. *Strategic Management Journal*, 27(4): 389-399.

Fornell, C. and Bookstein, F.L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 19: 440-452.

Fornell, C. and Larcker, D.F. (1981). Evaluating structural equations models with unobservable variables and measurement error. *Journal of Marketing Research*, 18: 39-50.

Friedkin, N.E. (1999). Choice shift and group polarization. *American Sociological Review*, 64: 856-875.

García-Olaverri, C., Huerta-Arribas, E., and Larraza-Kintana, M. (2006). Human and organizational capital: Typologies among Spanish firms. *The International Journal of Human Resource Management*, 17(2): 316-330.

Giambatista, R.C. (2004). Jumping through hoops: A longitudinal study of leader life cycles in the NBA. *Leadership Quarterly*, 15(5): 607-624.

Gibson, C. and Vermeulen, F. (2003). A healthy divide: Subgroups as a stimulus for team learning behavior. *Administrative Science Quarterly*, 48(2): 202-239.

Gigone, D. and Hastie, R. (1997). Proper analysis of the accuracy of group judgments. *Psychological Bulletin*, 121(1): 149.

Gil, F., Alcover, C., and Peiro, J. (2005). Work team effectiveness in organizational contexts: Recent research and applications in Spain and Portugal. *Journal of Managerial Psychology*, 20(3-4): 193-218.

Gladstein, D.L. (1984). Groups in context: A model of task group effectiveness. *Administrative Science Quarterly*, 29: 499-517.

González-Benito, J. and González-Benito, O. (2006). The role of stakeholder pressure and managerial values in the implementation of environmental logistics practices. *International Journal of Production Research*, 44: 1353-1373.

Goll, I., Johnson, N.B., and Rasheed, A.A (2008). Top management team demographic characteristics, business strategy, and firm performance in the US airline industry: The role of managerial discretion. *Management Decision*, 46(2): 201-222.

Grandori, A. and Furnari, S. (2008). A chemistry of organization: Combinatory analysis and design. *Organization Studies*, 29(3): 459-485.

Griffiths, A. and Petrick, J.A. (2001). Corporate architectures for sustainability. *International Journal of Operations & Production Management*, 21: 1573-1585.

Guzzo, R.A. and Dickson, M.W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology*, 47(1): 307-338.

Hackman, J.R. (1987). The design of work teams, in J. W Lorsch (Ed.), Hanbook of organizational behavior, (pp. 315-342). Ed. Prentice Hall, New Jersey.

Hair, J.F., Jr., Anderson, R.E., Tatham, R.L., and Black, W.C. (2006). Multivariate data analysis. Upper Saddle River, NJ: Pearson Prentice Hall.

Hambrick, D.C. and Mason, P.A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2): 193.

Hanna, M.D., Newman, W.R., and Johnson, P. (2000). Linking operational and environmental improvement through employee involvement. *International Journal of Operations & Production Management*, 20: 148-165.

Harris, C.M. and McMahan, G.C. (2008). An empirical investigation of human capital and performance: NCAA men's basketball teams. *Academy of Management Proceedings*, pp. 1-6.

Harrison, D.A., Price, K.H., Gavin, J.H., and Florey, A.T. (2002). Time, teams, and task performance: Changing effects of surface- and deep-level diversity on group functioning. *Academy of Management Journal*, 45(5): 1029-1045.

Hart S.L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, 20: 986-1014.

Haueter, J.A., Macan, T.H., and Winter, J. (2003). Measurement of newcomer socialization: Construct validation of a multidimensional scale. *Journal of Vocational Behavior*, 63(1): 20-39.

Hershock, R.J., Cowman, C.D., and Peters, D. (1994). From experience: Action teams that work. *Journal of Product Innovation Management*, 11(2): 95-104.

Hirschfeld, R.R. and Bernerth, J.B. (2008). Mental efficacy and physical efficacy at the team level: Inputs and outcomes among newly formed action teams", *Journal of Applied Psychology*, 93(6): 1429-1437.

Hoegl, M. and Parboteeah, P. (2006). Autonomy and teamwork in innovative projects. *Human Resource Management*, 45(1): 67-79.

Hofmann, D.A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23: 723-744

Hofmann, D.A., Jacobs, R., and Baratta, J.E. (1993). Dynamic criteria and the measurement of change. *Journal of Applied Psychology*, 78(2): 194-204.

Horwitz, S.K. and Horwitz, I.B. (2007). The effects of team diversity on team outcomes: A meta-analytic review of team demography. *Journal of Management*, 33(6): 987-1015.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20: 195-204.

Humphrey, S.E., Morgerson, F.P., and Mannor, M.J. (2009). Developing a theory of the strategic core of teams: A role composition model of team performance. *Journal of Applied Psychology*, 94(1): 48-61.

Ilgen, D.R., Hollenbeck, J.R., Johnson, M., and Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models". *Annual Review Psychology*, 56: 517-543.

Ito, N., Takeuchi, K., Kuriyama, K., Shoji, Y., Tsuge, T., and Mitani, Y. (2009). The influence of decision-making rules on individual preferences for ecological restoration: Evidence from an experimental survey. *Ecological Economics*, 68: 2426-2431.

Jabbour, C.J.C. and Santos, F.C.A. (2008). Relationships between human resource dimensions and environmental management in companies: Proposal of a model. *Journal of Cleaner Production*, 16: 51-58.

Jehn, K.A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40: 256-282.

Jenkins, A. (1994). Teams: From 'Ideology' to analysis. *Organization Studies*, 15(6): 849.

Jones, G.R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustments to organizations. *Academy of Management Journal*, 29(2): 262-279.

Joshi, A. and Roh, H. (2009). The role of context in work team diversity research: A meta-analytic review. *Academy of Management Journal*, 52(3): 599-627.

Kaiser, F.G., Wölfing, S., and Fuhrer, U. (1999). Environmental attitude and ecological behavior. *Journal of Environmental Psychology*, 19: 1-19.

Karakowsky, L. and McBey, K. (2001). Do my contributions matter? The influence of imputed expertise on member involvement and self-evaluations in the work group. *Group & Organization Management*, 26(1): 70.

Katz, N. (2001). Sports teams as a model for workplace teams: Lessons and liabilities. *Academy of Management Executive*, 15(3): 56-67.

Katzenbach, J.R. and Smith, D.K. (2005). The discipline of teams. *Harvard Business Review*, 83(7): 162-171.

Kauer, D., Waldeck, T.C.P., and Schäffer, U. (2007). Effects of top management team characteristics on strategic decision making: Shifting attention to team member personalities and mediating processes. *Management Decision*, 45(6): 942-967.

Kearney, E., Gebert, D., and Voelpel, S.C. (2009). When and how diversity benefits teams: The importance of team members' need for cognition. *Academy of Management Journal*, 52(3): 581-598.

Keidel, R.W. (1984). Baseball, football, and basketball: Models for business. *Organizational Dynamics*, 12(3): 4-18.

Keller, R.T. (2006). Transformational leadership, initiating structure, and substitutes for leadership: A longitudinal study of research and development project team performance. *Journal of Applied Psychology*, 91(1): 202-210.

Kerr, N.L. (1992). Group decision making at a multialternative task: Extremity, interfaction distance, pluralities, and issue importance. *Organizational Behavior and Human Decision Processes*, 52: 64-95.

Knight, D., Pearce, C.L., Smith, K.G., Olian, J.D., Sims, H.P., Smith, K.A., and Flood, P. (1999). Top management team diversity, group process, and strategic consensus", *Strategic Management Journal*, 20(5): 445-465.

Kolk, A. and Pinkse, J. (2008). A perspective on multinational enterprises and climate change: Learning from "an inconvenient truth"? *Journal of International Business Studies*, 39: 1359-1378.

Kozlowski, S.W.J., and Ilgen, D.R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7(3): 77-124.

Kuiper, B.S. and Stoker, J.I. (2009). Development and Performance of Self-Managing Work Teams: A Theoretical and Empirical Examination. *International Journal of Human Resource Management*, 20: 399-419.

Langfred, C.W. (2005). Autonomy and performance in teams: The multilevel moderating effect of task interdependence. *Journal of Management*, 31(4): 513-529.

Laughlin, P.R. and Branch, L.G. (1972). Individual versus tetradic performance on a complementary task as a function of initial ability level. *Organizational Behavior and human performance*, 8(2): 201-216.

Laughlin, P.R. and Ellis, A.L. (1986). Demonstrability and social combination processes on mathematical intellective tasks. *Journal of Experimental Social Psychology*, 22: 177-189.

LePine, J.A. (2003). Team adaptation and postchange performance: Effects of team composition in terms of members' cognitive ability and personality. *Journal of Applied Psychology*, 88(1): 27-39.

LePine, J.A. and Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology*, 83: 853-868.

Levine, J.M. and Moreland, R.L. (1990). Progress in small group research. *Annual Review of Psychology*, 41: 585-634.

Lewis, K., Belliveau, M., Herndon, B., and Keller, J. (2007). Group cognition, membership change, and performance: Investigating the benefits and detriments of collective knowledge. *Organizational Behavior and Human Decision Processes*, 103: 159-178.

Littlepage, G., Robison, W., and Reddington, K. (1997). Effects of task experience and group experience on group performance, member ability, and recognition of expertise. *Organizational Behavior & Human Decision Processes*, 69(2): 133-147.

Littlepage, G.E., Schmidt, G.W., Whisler, E.W., and Frost, A.G. (1995). An input-process-output analysis of influence and performance in problem-solving groups. *Journal of Personality and Social Psychology*, 69: 877-839.

MacBryde, J. and Mendibil, K. (2003). Designing performance measurement systems for teams: Theory and practice. *Management Decision*, 41(8): 722-733.

MacKinnon, D.P., Lockwood, C.M., and Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39: 99-128.

Marks, M.A., Mathieu, J.E., and Zaccaro, S.J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26: 356-376.

Marks, M.A., Zaccaro, S.J., and Mathieu, J.E. (2000). Performance implications of leader briefings and team-interaction training for team adaptation to novel environments. *Journal of Applied Psychology*, 85(6): 971-986.

Marshall, R., Cordano, M., and Silverman, M. (2005). Exploring individual and institutional drivers of proactive environmentalism in the US Wine industry. *Business Strategy and the Environment*, 14: 92 – 110.

Mathieu, J., Maynard, M., Rapp, T., and Gibson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34(3): 410.

McGrath, J.E. (1984). Groups: Interaction and performance. Englewood Cliffs, NJ: Prentice-Hall.

McGrath, J.E., Arrow, H., and Berdahl, J.L. (2000). The study of groups: Past, present, and future. *Personality & Social Psychology Review*, 4(1): 95-105.

Mennecke, B.E., Valacich, J.S., and Wheeler, B.C. (2000). The effects of media and task on user performance: A test of the task-media fit hypothesis. *Group Decision and Negotiation*, 9: 507-529.

Milliken, F.J. and Martins, L.L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, 21: 402-433.

Molleman, E. and Van der Vegt, G.S. (2007). The performance evaluation of novices: The importance of competence in specific work activity clusters. *Journal of Occupational & Organizational Psychology*, 80(3): 459-478.

Montoya-Weiss, M.M., Massey, A.P., and Song, M. (2001). Getting it together: Temporal coordination and conflict management in global virtual teams. *Academy of Management Journal*, 44(6): 1251-1262.

Morgeson, F.P., Delaney-Klinger, K., and Hemingway, M.A. (2005). The importance of job autonomy, cognitive ability, and job-related skill for predicting role breadth and job performance. *Journal of Applied Psychology*, 90(2): 399-406

Morrison, E.W. (1993). Newcomer information seeking: Exploring types, modes, sources, and outcomes. *Academy of Management Journal*, 36(3): 557-589.

Mullen, B., Salas, E., and Driskell, J.E. (1989). Salience, motivation, and artifacts as contributions to the relation between participation rate and leadership. *Journal of Experimental Social Psychology*, 25: 545-559.

Murnighan, J.K. and Conlon, D.E. (1991). The dynamics of intense work groups: A study of British string quartets. *Administrative Science Quarterly*, 36(2): 165-186.

Murphy, K. (1989). Is the relationship between cognitive ability and job performance stable over time? *Human Performance*, 2(3): 183-200.

Nemeth, C.J. (1986). Differential contributions of majority and minority influence. *Psychological Review*, 93: 23-32.

Neuman, G.A. and Wright, J. (1999). Team effectiveness: Beyond skills and cognitive ability. *Journal of Applied Psychology*, 84(3): 376-389.

Oosterhof, A., Van der Vegt, G.S., Van de Vliert, E., and Sanders, K. (2009). Valuing skill differences: Perceived skill complementarity and dyadic helping behavior in teams. *Group & Organization Management*, 34(5): 536-562.

Osterman, P. (1994). How common is workplace transformation and who adopts it. *Industrial & Labor Relations Review*, 47(2): 173-188.

Osterman, P. (2000). Work reorganization in an era of restructuring: Trends in diffusion and effects on employee welfare. *Industrial & Labor Relations Review*, 53(2): 179.

Ostroff, C. and Kozlowski, S.W.J. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, 45(4): 849-874.

Parent-Thirion A., Macias E.F., Hurley J., and Vermeylen G. (2007). Fourth European Working Conditions Survey. Office for the Official Publications of the European Communities. Luxembourg.

Parry, I.J., Tranfield, D., Smith, S., Foster, M., and Wilson, S. (1998). Reconfiguring your organisation: A teamwork approach. *Team Performance Management*, 4(4): 166-176.

Pelled, L.H. (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization Science*, 7(6): 615-631.

Perretti, F. and Negro, G. (2007). Mixing genres and matching people: A study in innovation and team composition in Hollywood. *Journal of Organizational Behavior*, 28(5): 563-586.

Pfeffer, J. and Davis-Blake, A. (1986). Administrative succession and organizational performance: How administrator experience mediates the succession effect. *Academy of Management Journal*, 29(1): 72-83.

Phillips, J.M. (2001). The role of decision influence and team performance in member self-efficacy, withdrawal, satisfaction with the leader and willingness to return. *Organizational Behavior and Human Decision Processes*, 84: 122-147.

Ployhart, R. and Hakel, M. (1998). The substantive nature of performance variability: Predicting interindividual differences in intraindividual performance. *Personnel Psychology*, 51(4): 859-901.

Procter, S. and Burridge, M. (2008). Teamworking and Performance: The Extent and Intensity of Teamworking in the 1998 UK Workplace Employee Relations Survey (WERS98). *International Journal of Human Resource Management*, 19: 153-168.

Puck, J.F., Mohr, A.T., and Rygl, D. (2008). An Empirical Analysis of Managers' adjustment to working in multinational project teams in the pipeline and plant construction sector. *International Journal of Human Resource Management*, 19*:* 2252-2267.

Reagans, R., Zuckerman, E., and McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly*, 49(1): 101-133.

Reed, R. and Defillippi, R.J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15(1): 88-102.

Reich, R.B. (1987). Entrepreneurship reconsidered - the team as hero. *Harvard Business Review*, 65(3): 77-83.

Rico, R., Molleman, E., Sánchez-Manzanares, M., and Van der Vegt, G.S. (2007). The effects of diversity faultlines and team task autonomy on decision quality and social integration. *Journal of Management*, 33: 111-132.

Rico Muñoz, R., Alcover de la Hera, C.M., and Tabernero, C. (2010). Efectividad de los equipos de trabajo, una revisión de la última década de investigación (1999-2009). *Revista de Psicología del Trabajo y de las Organizaciones*, 26(1): 47-71.

Rollag, K., Parise, S., and Cross, R. (2005). Getting New Hires Up to Speed Quickly. *MIT Sloan Management Review*, 46: 35-41.

Roome, N. (1992). Developing environmental management strategies. *Business Strategy and the Environment*, 1: 11-24.

Rosen, B., Furst, S., and Blackburn, R. (2006). Training for virtual teams: An investigation of current practices and future needs. *Human Resource Management*, 45(2): 229-247.

Rulke, D.L. and Galaskiewicz, J. (2000). Distribution of knowledge, group network structure, and group performance. *Management Science*, 46(5): 612-625.

Russo, M.V. and Fouts, P.A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40: 534-559.

Saavedra, R., Earley, P.C., and Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78(1): 61-72.

Sanders, G.S. and Baron, R.S. (1977). Is social comparison irrelevant for producing choice shifts? *Journal of Experimental Social Psychology*, 13: 303-314.

Sargis, E.G. and Larson J.R. (2002). Information centrality and member participation during group decision making. *Group Processes & Intergroup Relations*, 5: 333-347.

Scherbaum, C.A., Popovich, P.M., and Finlinson, S. (2008). Exploring individual-level factors related to employee energy-conservation behaviors and at work. *Journal of Applied Psychology*, 38: 818-835.

Schweiger, D.M., Sandberg, W.R., and Rechner, P.L. (1989). Experiential effects of dialectical inquiry, devil's advocacy, and consensus approaches to strategic decision making. *Academy of Management Journal*, 32: 745-772.

Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43: 681-697.

Simons, T., Pelled, L.P., and Smith, K.A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42(6): 662-673.

Simpson, J.A. and Wood, W. (1992). Where is the group in social psychology? An historical overview, in Worchel, S., Wood W. and Simpson, J.A. (Eds.), Group Process and Productivity (pp. 1-10). Ed. Sage Publications, London.

Slaughter, J.E. and Zickar, M.J. (2006). A new look at the role of insiders in the newcomer socialization process. *Group & Organization Management*, 31(2): 264.

Smith, K.G., Smith, K. A., Sims, Jr., Henry, P., O´Bannon, D.P., Scully, J.A., and Olian, J.D. (1994). Top management team demography and process: The role of social integration and communication. *Administrative Science Quarterly*, 39(3): 412-438.

Smith, E.A. (2001). The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, 5(4): 311-321.

Snijders, T. (1996). Analysis of longitudinal data using the hierarchical linear model. *Quality & Quantity*, 30(4): 405-426.

Somech, A. (2006). The effects of leadership style and team process on performance and innovation in functionally heterogeneous teams. *Journal of Management*, 32(1): 132-157.

Sonnentag, S. and Volmer, J. (2009). Individual-level predictors of task-related teamwork processes: The role of expertise and self-efficacy in team meetings. *Group & Organization Management*, 34:37-66.

Staw, B.M. and Hoang, H. (1995). Sunk costs in the NBA: Why draft order affects playing time and survival in professional basketball. *Administrative Science Quarterly*, 40(3): 474-494.

Steiner, I.V. (1986). Paradigms and groups, in Berkowitz, L. (Ed.), Advances in Experimental Social Psychology (pp. 251-289). Ed. Academic Press, New York.

Sternberg, R.J., Wagner, R.K., Williams, W.M., and Horvath, J.A. (1995). Testing common sense. *American Psychologist*, 50(11): 912-927.

Stewart, G.L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management*, 32(1): 29-55.

Stewart, G.L. and Barrick, M.R. (2000). Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. *Academy of Management Journal*, 43(2): 135-148.

Stewart, G.L. and Nandkeolyar, A.K. (2006). Adaptation and intraindividual variation in sales outcomes: Exploring the interactive effects of personality and environmental opportunity. *Personnel Psychology*, 59(2): 307-332.

Strachan, P.A. (1996). Achieving environmental excellence through effective teamwork. *Team Performance Management*, 2: 25-29.

Sundstrom, E. (1999). The challenges of supporting work team effectiveness, in Sundstrom, E. Associates (Eds.), *Supporting work team effectiveness*, Jossey-Bass, San Francisco, pp. 3-23.

Sundstrom, E., Demeuse, K.P., and Futrell, D. (1990). Work teams - applications and effectiveness. *American Psychologist*, 45(2): 120-133.

Taggar, S. and Brown, T.C. (2006). Interpersonal affect and peer rating bias in teams. *Small Group Research*, 37: 86-111.

Taggar, S. and Haines, V.Y. (2006). I need you, you need me: A model of initiated task interdependence. *Journal of Managerial Psychology*, 21: 211-230.

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology*, 33: 1-39.

Takeuchi, N. and Takeuchi, T. (2009). A longitudinal investigation on the factors affecting newcomers' adjustment: Evidence from Japanese organization. *International Journal of Human Resource Management*, 20: 928-952.

Taormina, R.J. (2004). Convergent validation of two measures of organizational socialization. *International Journal of Human Resource Management*, 15(1): 76-94.

Taylor, A. and Greve, H.R. (2006). Superman or the fantastic four? Knowledge combination and experience in innovative teams. *Academy of Management Journal*, 49(4): 723-740.

Teece, D.J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6): 285-305.

Thomas-Hunt, M.C., Ogden, T Y., and Neale, M.A. (2003). Who's really sharing? Effects of social and expert status on knowledge exchange within groups. *Management Science*, 49(4): 464-477.

Thoresen, C., Bradley, J., Bliese, P., and Thoresen, J. (2004). The big five personality traits and individual job performance growth trajectories in maintenance and transitional job stages. *Journal of Applied Psychology*, 89(5): 835-853.

Todd, S.Y., Crook, T.R., and Barilla, A.G. (2005). Hierarchical linear modelling of multilevel data. *Journal of Sport Management*, 19: 387-403.

Tziner, A. and Eden, D. (1985). Effects of crew composition on crew performance: Does the whole equal the sum of its parts? *Journal of Applied Psychology*, 70(1): 85-67.

U.S. Bureau of Labor Statistics (2008). Available in www.bls.gov.

Van Der Vegt, G.S., Bunderson, J.S., and Oosterhof, A. (2006). Expertness diversity and interpersonal helping in teams: Why those who need the most help end up getting the least. *Academy of Management Journal*, 49(5): 877-893.

Van der Vegt, G.S., Emans, B., and Van der Vliert, E. (2000). Team member's affective responses to patterns of intragroup interdependence and job complexity. *Journal of Management*, 26(4): 633-655.

Van der Vegt, G.S. and Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management*, 29(5): 729.

Van Der Vegt,G.S., Van De Vliert, E., and Oosterhof, A. (2003). Informational dissimilarity and organizational citizenship behavior: The role of intrateam interdependence and team identification. *Academy of Management Journal*, 46(6): 715-727.

Van Knippenberg, D., De Dreu, C.K.W., and Homan, A.C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology*, 89(6): 1008-1022.

Vroom, V. (1964). Work and motivation. New York: John Wiley.

Wageman, R. (1995). Interdependence and group effectiveness. *Administrative Science Quarterly*, 40: 145-180.

White, J.C., Varadarajan, P.R., and Dacin, P.A. (2000). Market situation interpretation and response: The role of cognitive style organizational culture, and information use. *Journal of Marketing*, 67: 63-79.

Wolfe, R.A., Weick, K.E., Usher, J.M., Terborg, J.R., Poppo, L., Murrell, A.J., Dukerich, J.M., Core, D.C., Dickson, K.E., and Jourdan, J.S. (2005). Sport and organizational studies: Exploring synergy. *Journal of Management Inquiry*, 14(2): 182-210.

Wood, M.T. (1972). Participation, influence, and satisfaction in group decision making. *Journal of Vocational Behavior*, 2: 389-399.

Wright, P.M., Smart, D.L., and Mcmahan, G.C. (1995). Matches between human-resources and strategy among NCAA basketball teams. *Academy of Management Journal*, 38(4): 1052-1074.

Yeo, G. and Neal, A. (2004). A multilevel analysis of effort, practice, and performance: Effects of ability, conscientiousness, and goal orientation. *Journal of Applied Psychology*, 89(2): 231-247.

Zahra, S.A., Ireland, R.D., Gutiérrez, I., and Hitt, M.A. (2000). Privatization and entrepreneurial transformation: Emerging issues and a future research agenda. *Academy of Management Review*, 25(3): 509-524.

Zahrly, J. and Tosi, H. (1989). The differential effect of organizational induction process on early work role adjustment. *Journal of Organizational Behavior*, 10(1): 59-74.

Zarraga, C. and Bonache, J. (2003). Assessing the Team Environment for Knowledge Sharing: An Empirical Analysis. *International Journal of Human Resource Management*, 14: 1227-1245.