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Conducta Antisocial: Asociación con Psicopatología en Niños y Adolescentes

Antisocial Behavior: Association with Psychopathology in Children and Adolescents

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RESUMEN

Las conductas antisociales de los niños y adolescentes son altamente prevalentes y constituyen una de las principales causas de consultas recurrentes a centros de salud mental. Estos comportamientos generan diversas dificultades sobre el funcionamiento cotidiano de los individuos y su entorno social, y se asocian a múltiples consecuencias negativas. **Objetivo:** estudiar la prevalencia y la asociación diferencial de las conductas antisociales con una mayor gravedad de los problemas de salud mental, según el sexo y la edad de los individuos, e identificar las variables de mediación que ayuden a comprender la relación entre la psicopatología de los padres y las conductas antisociales de sus hijos. **Método:** participaron niños, adolescentes y sus padres, que consultaron a centros de salud mental. Se utilizaron entrevistas diagnósticas, auto-informes y otras medidas para evaluar psicopatología, deterioro funcional y estilo educativo parental en los participantes. Las variables se analizaron mediante modelos de regresión logística, binomial-negativa y múltiple, y con modelos de ecuaciones estructurales. **Resultados:** la presencia de conductas antisociales no difirió significativamente según el sexo o la edad de los individuos, no obstante, se observó una prevalencia mayor de estas conductas entre los 13 y los 17 años, y en el sexo masculino. Las conductas antisociales se asociaron diferencialmente con mayor gravedad y más problemas en el funcionamiento dependiendo del sexo y la edad de los niños. Por otro lado, el estilo educativo de sobreprotección del padre y de la madre mostró un papel mediador en la asociación entre la psicopatología parental y las conductas antisociales de sus hijos. No se observaron diferencias entre niños y niñas en los modelos de mediación estudiados. **Conclusiones:** en población clínica es fundamental valorar las conductas antisociales según el sexo y la edad de los individuos. Además, considerando los efectos específicos de la salud mental y el estilo educativo de sobreprotección del padre y de la madre es importante promover la participación de ambas figuras parentales en las intervenciones familiares con niños que presentan conductas antisociales.

ABSTRACT

Children's and adolescents' antisocial behaviors are highly prevalent and constitute a major cause of recurrent consultations to mental health services. These behaviors generate several difficulties on the daily functioning of individuals and their social environment, and are associated with multiple negative consequences. **Aim:** to study the prevalence and differential association of antisocial behaviors with more severe mental health problems by children's sex and age, and to identify mediating variables that help to understand the relationship between parents' psychopathology and their children's antisocial behavior. **Method:** participants were children, adolescents and their parents, who consulted to mental health centers. Diagnostic interviews, self-reports and other measures were used to assess psychopathology, functional impairment and parenting style. Logistic, negative-binomial and multiple regression, as well as structural equation models were used for the statistical analysis. **Results:** the presence of antisocial behaviors did not differ significantly by sex or age; however, there was a higher prevalence of these behaviors in the range of 13-17 years, and in boys. Antisocial behaviors are differentially associated with greater severity and more problems in the functioning, depending on children's sex and age. Furthermore, father's and mother's overprotection showed a mediating role in the association between parents' psychopathology and their children's antisocial behaviors. No differences were found between boys and girls in the mediation models studied. **Conclusions:** in clinical population is important to consider antisocial behavior according to children's sex and age. Moreover, considering the specific effects of father's and mother's mental health and overprotective parenting style is important to promote the participation of both parental figures in family interventions with children who show antisocial behavior.

1. INTRODUCCIÓN

1.1 Conducta antisocial y trastorno disocial: definición e importancia de su estudio

Si bien no existe una definición única de las conductas antisociales (CA), en general hay un acuerdo en que dichos comportamientos incluyen acciones y actitudes que violan las normas sociales, la propiedad y los derechos de otras personas (Burt y Neiderhiser, 2009). Las CA incluyen una gama amplia de comportamientos tales como mentiras, faltas a la escuela, conductas agresivas, robos, violaciones, entre otros, todos los cuales se distinguen cualitativa y cuantitativamente del tipo de conductas que se desarrollan cotidianamente durante la infancia y la adolescencia (de la Peña, 2005). Diversos autores coinciden en la relevancia de cuantificar las CA utilizando distintos métodos, ya sea a través del uso de escalas dimensionales que miden específicamente este tipo de conductas, así como mediante el diagnóstico categorial de trastorno disocial (TD) (Moffitt, Caspi, Rutter, y Silva, 2001). En términos clínicos, aquellas CA que son clínicamente significativas y que conllevan una alteración en el funcionamiento normal de los individuos conforman el TD (Kazdin y Buela-Casal, 2002).

El TD se caracteriza por un patrón de comportamiento persistente y repetitivo en el que sistemáticamente se violan los derechos básicos de otras personas o normas sociales adecuadas a la edad del individuo, ocasionando un deterioro clínicamente significativo de la actividad académica, social o laboral (American Psychiatric Association, 2000). Este trastorno agrupa cuatro tipos de CA: agresión física hacia personas o animales, destrucción o daños a la propiedad, fraudes o robos y violaciones graves de normas. Los criterios diagnósticos DSM-IV-TR requieren la presencia de al menos 3 de los 15 síntomas criterio. Esta situación permite que existan grandes diferencias entre los individuos que cumplen los criterios para TD, pudiéndose presentar hasta 32,647 perfiles diagnósticos (Nock, Kazdin, Hiripi, y Kessler, 2006). Para este trastorno se establecen dos subtipos en función de la edad de inicio de los síntomas (tipo de inicio infantil y tipo de inicio adolescente). El subtipo de inicio infantil se caracteriza por manifestar CA antes de los 10 años, en cambio en el subtipo de inicio en la adolescencia las CA se presentan después de los 10 años de edad. La prevalencia del TD en población general oscila entre el 1% y el 10%, existiendo variaciones importantes en los resultados de algunos estudios

dependiendo de la edición DSM utilizada, el instrumento de medida o el número de informantes, entre otros (Loeber, Burke, Lahey, Winters, y Zera, 2000).

Como señalan Moffitt y Caspi (2001), la heterogeneidad presente en el grupo de individuos que manifiestan CA constituye un desafío para la teoría, investigación e intervención. Así, en la población de niños y adolescentes que se atiende en los servicios de salud mental es frecuente encontrar la presencia de CA. Estas conductas, incluso cuando se manifiestan de forma aislada, pueden generar importantes dificultades en el funcionamiento del individuo y producir graves problemas en su entorno social. En general, los estudios que han examinado clínicamente las CA lo han realizado en muestras con pacientes diagnosticados con TD. Sin embargo, para entender mejor las características, factores de riesgo y consecuencias diferenciales de la antisocialidad, es necesario extender su estudio a los diversos niños y adolescentes que consultan a servicios de salud mental sin restringirlo solo a los individuos que cumplan con el diagnóstico de TD.

El estudio de las CA ha suscitado gran interés científico en las últimas décadas, constituyéndose en uno de los principales focos de investigación en psicopatología del desarrollo de niños y adolescentes. Este creciente interés se basa en que los problemas de conducta representan uno de los más frecuentes motivos de consulta a centros de salud mental infanto-juvenil, debido a su impacto negativo tanto en el hogar como en la escuela y en la comunidad (McMahon y Frick, 2005). En este sentido, los últimos informes sobre violencia desarrollados por la Organización Mundial de la Salud confirman que este tipo de conductas conllevan elevados costes económicos, implicando anualmente billones de dólares en inversiones asociadas a centros de salud y a los sistemas legal y educacional (Dalhberg y Krug, 2002). Por otro lado, la presencia de graves CA en niños y adolescentes puede implicar un elevado costo social (Frick y Loney, 2002), por lo que su estudio es una prioridad internacional para las políticas públicas de salud mental dirigidas a la población infantil y juvenil (Maughan, Rowe, Messer, Goodman, y Meltzer, 2004).

En el ámbito nacional español, la Estrategia en Salud Mental del Sistema Nacional de Salud (Ministerio de Sanidad y Consumo, 2007) y el Informe sobre la Salud Mental de Niños y Adolescentes (Asociación Española de Neuropsiquiatría, 2009), indican que en España existen estudios epidemiológicos que aportan información relevante sobre los trastornos mentales de la infancia y la adolescencia, sin embargo, los resultados de estas investigaciones solo se limitan a ciertas áreas geográficas no teniendo representatividad nacional. Con relación a las CA, el Ministerio de Sanidad y Consumo (2007) en su informe destaca que la prevalencia estimada

para los trastornos de conducta perturbadora en el municipio de Valencia fue 1.7%, 4.1% y 6.9%, a los 8, 11 y 15 años, respectivamente (Gómez-Beneyto, Bonet, Catalá, Puche, y Vila, 1994). Así también, refiere otro estudio de la misma región geográfica, el cual indica que la prevalencia de los trastornos de conducta de intensidad moderada/grave a los 10 años de edad alcanzó el 5% (Andrés, Catalá, y Gómez-Beneyto, 1999). Por otro lado, específicamente referido a Cataluña, la prevalencia de trastornos de conducta disruptiva en población de alto riesgo perteneciente a un municipio con elevados niveles de problemas sociales y económicos osciló entre 10.8% y 27.8% en preadolescentes, y entre 15.0% y 24.1% en adolescentes (Ezpeleta y cols., 2007).

La presencia de CA en niños y adolescentes se asocia con diversos resultados negativos, incrementando el riesgo de presentar trastornos exteriorizados (Angold, Costello, y Erkanli, 1999; Connor, Ford, Albert, y Doerfler, 2007) e interiorizados (Burke, Loeber, Lahey, y Rathouz, 2005; Frick, Lilienfeld, Ellis, Loney, y Silverthorn, 1999; Marmorstein, 2007), delincuencia y mortalidad juvenil (Laub y Vaillant, 2000), abuso de sustancias, problemas de salud física y dificultades en la relación de pareja durante la vida adulta (Moffitt y cols., 2001), mayor deterioro en el funcionamiento cotidiano comparado al de otros trastornos (Pickles y cols., 2001), rechazo por parte de los iguales y dificultades en el rendimiento escolar (McMahon y Frick, 2005), entre otros.

La amplia diversidad que caracteriza a las CA, ya sea en su ocurrencia como en su etiología (Krol, Morton, y De Bruyn, 2004), ha suscitado dificultades y divergencias entre los investigadores en distintos ámbitos. Un área de actual controversia se refiere a la definición utilizada para el TD (DSM-IV-TR) la cual ha sido criticada reiteradamente, argumentando que no representa adecuadamente la manifestación de las CA en las niñas (Ohan y Johnston, 2005; Zoccolillo, 1993). Según lo planteado por distintos autores, la definición del TD se centra en las conductas más típicas de los niños, dificultando la detección de CA en las niñas y repercutiendo en la estimación de las prevalencias por sexo.

Otro tema de relevancia surge respecto a la determinación del nivel de gravedad de las CA. Tal como indica Olsson (2009), la especificación de la gravedad del TD se basa principalmente en el juicio clínico y no en la investigación empírica. El sistema de clasificación DSM-IV-TR (American Psychiatric Association, 2000) no explicita una diferenciación respecto de la gravedad de los síntomas según el sexo o la edad de los individuos. En relación a lo anterior, Frick y cols. (1994) en un importante estudio sobre la utilidad clínica de los síntomas de los trastornos disruptivos DSM-IV, indicaron que pese a las pocas diferencias encontradas en

los síntomas, según el sexo o la edad, los síntomas atípicos o menos frecuentes para un sexo o un rango de edad determinado son más predictivos del trastorno. Desde el ámbito clínico se hace imprescindible contar con información científica al respecto, por lo que el estudio de los síntomas específicos de TD puede ayudar a clarificar características de las CA que permitan incrementar el conocimiento sobre su gravedad (Loeber y cols., 2000) y el impacto que estas conductas poseen sobre el funcionamiento cotidiano de los individuos. Además, esta información puede tener importantes implicaciones para el diagnóstico y el tratamiento de las CA en niños y adolescentes (Masi y cols., 2008).

1.2 Sexo y conducta antisocial

En general, el estudio de las CA se ha centrado en muestras predominantemente masculinas. Como indican Berkout, Young y Gross (2011), en una reciente revisión sobre diferencias de sexo en TD, a pesar de los crecientes esfuerzos por incluir niñas en las investigaciones aún en la actualidad existen discrepancias respecto a la generalización que estos conocimientos tienen para el sexo femenino.

Diversas investigaciones han mostrado diferencias de sexo en la presencia del TD, indicando que la prevalencia en las niñas se encuentra entre el 1% y el 9%, en cambio para los niños las prevalencias oscilan entre el 4% y el 16% (Olsson, 2009). Existe cierto consenso respecto que las CA y el TD se presentan más en el sexo masculino, siendo la *odds* aproximada de 2.5 niños por cada niña (Moffitt y cols., 2008). Es importante destacar que aunque la prevalencia de esta sintomatología es menor en niñas que en niños, en los últimos años ha existido un notable incremento de este tipo de conductas en el sexo femenino (Zahn-Waxler, Shirtcliff, y Marceau, 2008).

A partir de los 17 meses de edad es posible encontrar que los niños presentan mayores niveles de agresión física que las niñas, lo que sugiere que estas tempranas diferencias de sexo no se deben a la socialización (Baillargeon y cols., 2007). En esta línea, Tremblay (2003) plantea que durante el proceso de socialización no se crean estas diferencias sexuales, sino que por el contrario, es el período en el que los niños y las niñas aprenden a inhibir sus conductas agresivas tempranas.

En cuanto a las CA predominantes según el sexo, los estudios indican que niños y niñas desarrollan el mismo rango de CA, pero la frecuencia de estas conductas es menor en las niñas (Gorman-Smith y Loeber, 2005). En los niños se presentan más las conductas de agresión manifiesta dentro de las que se incluyen la agresión hacia personas y animales, en cambio en las

niñas las CA más frecuentes son las conductas de agresión encubierta o indirecta entre las que se incluyen las violaciones graves de normas tales como, permanecer fuera de casa durante la noche, fugas de casa, conflictos con la autoridad y faltas a la escuela, entre otros (Keenan, Loeber, y Green, 1999; Lahey y cols., 2000; Ohan y Johnston, 2005). En general, las niñas tienen una menor probabilidad de desarrollar CA, como robos violentos o violaciones, que los niños (Gorman-Smith y Loeber, 2005).

Por otra parte, también existen diferencias en la edad de inicio de las CA entre niños y niñas. Al comparar la edad de inicio del TD es posible encontrar que para el tipo de inicio infantil la *odds* es 10 niños por cada niña, en cambio para el tipo de inicio adolescente la *odds* se reduce a 1.5 niños por cada niña (Moffitt y cols., 2001). Si bien el inicio infantil es predominantemente masculino, cuando se manifiesta en niñas se observa la presencia de mayor psicopatología dentro de la familia (McCabe, Rodgers, Yeh, y Hough, 2004). Junto con lo anterior, investigaciones recientes indican que el comienzo infantil puede llegar a ser más frecuente que el inicio adolescente en niñas de estrato socioeconómico bajo (Keenan, Wroblewski, Hipwell, Loeber, y Stouthamer-Loeber, 2010).

Otra característica que diferencia a las CA de niños y niñas es la sintomatología comórbida que presentan. Las CA en ambos sexos presentan frecuentemente comorbilidad con trastornos exteriorizados, tales como trastorno por déficit de atención con hiperactividad y trastornos relacionados con sustancias (Berkout y cols., 2011). El abuso de sustancias entre los adolescentes se asocia fuertemente con las CA (Armstrong y Costello, 2002), siendo el uso temprano de drogas un indicador específico de dificultades graves en las niñas (Federman y cols., 1997). Esta elevada comorbilidad de las CA con otra sintomatología exteriorizada puede dar cuenta de vulnerabilidades biológicas comunes entre estas distintas condiciones (Moffitt y cols., 2001). Las principales diferencias de sexo se observan en la comorbilidad con los trastornos interiorizados. En las niñas, la comorbilidad con trastornos del estado de ánimo y trastornos de ansiedad es mayor que la observada en niños (Keenan y cols., 1999) En el caso de las mujeres que presentan CA, la depresión tiende a incrementar en gravedad cuando se acercan a la adultez (Moffitt y cols., 2001). La mayor comorbilidad con trastornos interiorizados presente en las niñas con CA, tiene como consecuencia que en ellas existan dificultades más graves respecto de los niños. Así, un incremento en la promiscuidad sexual, los delitos futuros y la asociación con iguales disruptivos puede relacionarse con la presencia de mayor comorbilidad con síntomas interiorizados en las niñas (Dishion, 2000). En este ámbito, se ha planteado reiteradamente la existencia de una paradoja del sexo, ya que las niñas presentan una

menor frecuencia de CA, pero si ocurren estas conductas presentan mayor comorbilidad y consecuencias más graves que los niños (Keenan y cols., 2010; Loeber y cols., 2000). Esta característica podría dar cuenta, por una parte, de la posibilidad de que el umbral para manifestar consecuencias negativas sea distinto para niños y niñas. Por otra parte, se sugiere que el sexo puede moderar el impacto de los factores de riesgo en distintos niveles, es decir, es capaz de proteger a las niñas cuando existen niveles de riesgo bajo y medio, pero no cuando se presenta un nivel de riesgo alto (Tiet, Wasserman, Loeber, McReynolds, y Miller, 2001).

A pesar del importante aumento de investigaciones sobre las CA en niñas, es necesario desarrollar estudios adicionales que comparen sistemáticamente ambos sexos, para incrementar los conocimientos existentes respecto de las características diferenciales que estos síntomas tienen en niños y niñas (Moffitt y cols., 2008).

1.3 Edad y conducta antisocial

En la literatura científica actual, la propuesta que cuenta con más consenso para explicar la relación entre la edad y las CA es la taxonomía planteada por Moffitt (1993, 2003). Esta taxonomía propone, desde una perspectiva del desarrollo, que existen dos subtipos de CA, el subtipo "persistente durante el desarrollo" y el subtipo "limitado a la adolescencia". Ambos subtipos proporcionan información diferencial respecto de la etiología, curso y pronóstico de las CA (Moffitt y cols., 2008).

El subtipo "persistente durante el desarrollo" se caracteriza por ser infrecuente, manifestar CA tempranamente, y por la presencia de múltiples factores de riesgo tales como déficit neurocognitivos, alta influencia genética, complicaciones perinatales, hiperactividad e impulsividad, CA parental, dificultades familiares graves, parentalidad inadecuada, problemas en la escuela, dificultades con grupos de iguales, entre otros. Todas estas características suelen asociarse con un entorno social de riesgo lo que aumenta las dificultades de adaptación. En cambio, el subtipo "limitado a la adolescencia" se caracteriza por un comienzo de las CA en la pubertad, menos dificultades familiares y escasos problemas comportamentales previos. Las CA suelen estar influenciadas por el vínculo con un grupo de iguales que presentan conductas disruptivas, la necesidad de aprobación social y la escasa supervisión parental. Estas conductas son pasajeras, suelen terminar durante la adolescencia y son consideradas como intentos por alcanzar la madurez (American Psychiatric Association, 2000; Moffitt y Caspi, 2001; Moffitt y cols., 2001).

Ambos subtipos de desarrollo de las CA poseen diferencias pronósticas. Así, los individuos que manifiestan CA "persistentes durante el desarrollo" presentan consecuencias más graves en la vida adulta respecto de quienes presentan CA "limitadas a la adolescencia". Entre las principales consecuencias negativas descritas se encuentran, frecuentes conductas violentas, criminalidad, abuso de sustancias, problemas familiares y laborales, presencia de trastorno de personalidad antisocial y otros trastornos mentales, problemas de salud física y sexual, entre otros. En contraste, el subtipo de CA "limitadas a la adolescencia" se caracteriza por presentar problemas en la vida adulta pero con menor deterioro en la vida familiar, educacional, laboral y en la salud física (Moffitt, 2003; Moffitt y cols., 2008; Odgers y cols., 2007).

Las CA "persistentes durante el desarrollo" se presentan más frecuentemente en niños, en cambio las CA "limitadas a la adolescencia" se manifiestan en una proporción similar en ambos sexos (Moffitt y cols., 2001). Estos dos subtipos de desarrollo de las CA, han demostrado gran utilidad para predecir la evolución y pronóstico de individuos con presencia de CA, no obstante, ambas trayectorias podrían ser insuficientes para caracterizar a las niñas (Fontaine, Carbonneau, Vitaro, Barker, y Tremblay, 2009). Además, como sugieren Lacourse y cols. (2002), las actuales teorías sobre el desarrollo de las CA podrían subestimar el número de trayectorias que presentan las diversas CA.

Considerando que las dos trayectorias de desarrollo de CA descritas previamente fueron validadas en muestras en las que predominaron los niños, la generalización de sus resultados a las niñas ha producido ciertas discrepancias (Odgers y cols., 2008). Así, ha surgido una tercera trayectoria, el "comienzo tardío en la adolescencia", que describiría de mejor forma la evolución de las CA en algunas niñas. Este subtipo de desarrollo de CA en las niñas se caracteriza por la presencia de los mismos factores de riesgo del subtipo "persistente durante el desarrollo" que manifiestan los niños, pero el comienzo de las CA ocurriría en la adolescencia. Diversos factores sociales y biológicos contribuirían a inhibir la presencia de CA graves en la infancia, no obstante, como resultado de los cambios propios de la pubertad, las vulnerabilidades preexistentes facilitarían la manifestación de CA en la adolescencia. Las consecuencias en la vida adulta de esta trayectoria de desarrollo incluyen la presencia de depresión, ansiedad, somatizaciones y abuso de sustancias (Fontaine y cols, 2009; Silverthorn, Frick, y Reynolds, 2001).

Otro subtipo de desarrollo de las CA descrito es el "limitado a la infancia", caracterizado por la presencia de CA durante un breve período en la infancia y por la existencia de escasos

problemas en la adultez, principalmente trastornos interiorizados y dificultades económicas. Esta trayectoria de desarrollo se observa en ambos sexos, sin embargo, en los niños presenta una prevalencia mayor y consecuencias en la vida adulta más graves respecto de las niñas (Odgers y cols., 2008).

Por otra parte, respecto a la relación entre la edad y la presencia de TD, en la actualidad no existe consenso sobre si el TD es más prevalente en determinados rangos de edad (Olsson, 2009). Algunas investigaciones sugieren que la prevalencia del TD tiene relación con la edad (Lahey y cols., 2000; Maughan y cols., 2004), en cambio otros estudios no han encontrado dicha asociación (Nolan, Gadow, y Sprafkin, 2001).

Respecto de las CA específicas, las conductas de agresión hacia personas o animales suelen disminuir desde la infancia hasta la adolescencia (Tremblay, 2003). No obstante, algunas CA de agresión manifiesta tales como forzar a otros a actividad sexual o robos con confrontación a la víctima incrementan a medida que aumenta la edad de los individuos (Maughan y cols., 2004). Respecto a las conductas agresivas encubiertas, las investigaciones sugieren que suelen incrementar desde la infancia hasta la adolescencia (Lahey y cols., 2000; Loeber y cols., 2000). Así también, las mentiras y el uso de sustancias incrementan su frecuencia con la edad (Tiet y cols., 2001).

El conocimiento sobre el desarrollo de las CA según la edad, permanece aun como un tema no completamente resuelto. Estudios que han considerado la manifestación atípica de los síntomas de acuerdo a la edad de los individuos, han sugerido que esta característica descrita por Frick y cols. (1994) puede ser un indicador importante para comprender el complejo desarrollo de las CA (Loeber y cols., 2000) y la gravedad de sus consecuencias.

1.4 Psicopatología parental y conducta antisocial

La heterogeneidad que caracteriza a las CA da cuenta de la compleja asociación de múltiples factores de riesgo que pueden causar o mantener este tipo de síntomas (McMahon y Frick, 2005). Los niños y adolescentes con CA, especialmente aquellos que consultan a servicios de salud mental, pueden presentar diversos factores de riesgo en distintos dominios: neurocognitivo, familiar, relación con iguales, socioeconómico, entre otros (Burke, Loeber, y Birmaher, 2002; Loeber, Burke, y Pardini, 2009; Moffitt y cols., 2001).

Existe un amplio consenso sobre la importancia de los factores de riesgo familiares para el desarrollo de CA en los niños, en especial de la psicopatología parental (Vostanis y cols., 2006). Entre los principales trastornos de los padres que han demostrado una asociación con las

CA que manifiestan niños y adolescentes destacan: la depresión de la madre (Kim-Cohen, Moffitt, Taylor, Pawlby, y Caspi, 2005), del padre (Kazdin y Kolko, 1986), y de ambas figuras parentales (Ohannessian y cols., 2005); las CA de la madre (Rhule, McMahon, y Spieker, 2004), y del padre (Marmorstein y Iacono, 2004); el trastorno de personalidad antisocial (Frick, y cols., 1992) y la dependencia de las drogas del padre (Moss, Baron, Hardie, y Vanyukov, 2001); y el alcoholismo (Kuperman, Schlosser, Lidral, y Reich, 1999) y los trastornos de ansiedad parental (Biederman, Rosenbaum, Bolduc, Faraone, y Hirshfeld, 1991).

La presencia de psicopatología en los padres es importante para la comprensión de las CA en niños, ya que proporciona información acerca de la influencia genética de dichas conductas y del ambiente familiar en el que se desarrollan los niños (Moffitt y cols., 2008; Moffitt y cols., 2001). Si bien las CA han demostrado tener una moderada influencia genética, los efectos del ambiente social resultan fundamentales para el desarrollo de estas conductas (Rhee y Waldman, 2002).

Investigadores que han intentado comprender la asociación entre la psicopatología parental y las CA de sus hijos, han sugerido que los problemas de salud mental de los padres pueden producir dificultades en el ambiente familiar, las cuales generan problemas para el adecuado proceso de socialización de los niños (Thornberry, Freeman-Gallant, y Lovegrove, 2009). Así, la psicopatología de los padres podría afectar de forma indirecta a las conductas de sus hijos a través de los efectos negativos sobre la parentalidad. Por esta razón, se ha propuesto que las prácticas parentales podrían tener un importante rol mediador en esta relación (Frick y Loney, 2002). Con respecto a lo anterior, resulta particularmente relevante el estudio de las conductas parentales, ya que desde un punto de vista clínico representan un ámbito de trabajo en el cual es posible intervenir con el propósito de disminuir los efectos negativos que la psicopatología parental tiene sobre las CA de sus hijos (Burke y cols., 2002; Smith y Farrington, 2004).

1.5 El potencial papel mediador del estilo educativo parental

La parentalidad incluye el complejo conjunto de conductas que los padres dirigen hacia sus hijos, las cuales son influenciadas por diversos factores, entre los que destaca la psicopatología parental (Kendler, Sham, y MacLean, 1997). Estudios sobre padres que presentan dificultades de salud mental, han indicado que estos suelen mostrar a sus hijos una mayor frecuencia de: conductas de rechazo, insensibilidad a sus necesidades, negligencia, críticas excesivas y hostilidad, con respecto a padres sin psicopatología (Berg-Nielsen, Vikan, y Dahl, 2002; Hirshfeld, Biederman, Brody, Faraone, y Rosenbaum, 1997). Por otra parte,

investigaciones sobre la relación entre la parentalidad y las CA señalan que los niños y adolescentes que desarrollan CA suelen tener padres que presentan: autoritarismo, coerción, inconsistencia en la disciplina, bajo nivel de supervisión, escaso calor emocional, altos niveles de rechazo y sobreprotección, entre otros (Henry, Tolan, y Gorman-Smith, 2001; Miller, Loeber, y Hipwell, 2009; Thompson, Hollis, y Richards, 2003; Veenstra, Lindenberg, Oldehinkel, De Winter, y Ormel, 2006).

A partir de los hallazgos mencionados, investigadores han examinado la existencia de un posible papel mediador de distintas características de la parentalidad en la relación entre la psicopatología de los padres y las CA de sus hijos. Así, estudios respecto de la asociación entre los síntomas depresivos parentales y las CA en niños y adolescentes indican que el control parental media completamente dicha relación (Miller, Cowan, Cowan, Hetherington, y Clingempeel, 1993). Así también, la calidad de la interacción entre madre e hijo (Harnish, Dodge, y Valente, 1995), o la dureza parental (Chang, Lansford, Schwartz, y Farver, 2004) median parcialmente la asociación entre la sintomatología depresiva materna y las CA de sus hijos. Por otra parte, la relación entre las CA parentales y las CA de los niños y adolescentes es mediada por la parentalidad agresiva (Hops, Davis, Leve, y Sheeber, 2003), y parcialmente mediada por la pobre supervisión materna y por las conductas autoritarias del padre (Smith y Farrington, 2004). En este mismo ámbito, el efecto de las CA de la madre sobre las CA de sus hijos es mediado parcialmente por el estilo educativo parental de rechazo (Trentacosta y Shaw, 2008) y las conductas maternas negativas (Rhule y cols., 2004). Por su parte, la asociación entre la sintomatología ansiosa materna y las CA de los niños es mediada parcialmente por el control negativo de la madre (Spieker, Larson, Lewis, Keller, y Gilchrist, 1999).

Recientes investigaciones en esta área, indican que el sexo de los padres y de los niños puede tener un papel importante en la asociación de las CA de los niños con la psicopatología parental (Meurs, Reef, Verhulst, y van der Ende, 2009) y con la parentalidad (Gryczkowski, Jordan, y Mercer, 2010). No obstante, a pesar de su relevancia clínica, existen escasas investigaciones que hayan examinado el rol que cumplen el sexo de los padres y los niños en la asociación entre la psicopatología parental, el estilo educativo parental y las CA de los niños. Con respecto al papel del sexo de los padres, Thornberry y cols. (2009) señalan que los mediadores del efecto de las CA parentales sobre las CA de sus hijos son distintos para el padre y la madre. Así, en el caso de la madre, sólo la parentalidad efectiva media la asociación entre sus CA y las CA que presentan sus hijos, en cambio en el caso del padre, el estrés parental, la parentalidad efectiva y la edad en la que tuvo su primer hijo tienen un rol mediador en dicha

asociación. Por otra parte, en cuanto al papel del sexo de los niños, se observa que para los niños, las CA maternas tienen un efecto directo sobre las CA no mediado por el estilo educativo de la madre, en cambio para las niñas, la antisocialidad materna se asocia solamente con el estilo parental negativo y no con las CA de las hijas (Rhule y cols., 2004). Contrario a estos resultados, Pajer y cols. (2008) indican que el efecto de las CA de los padres sobre las CA de las niñas no es mediado por las conductas parentales.

A pesar de los avances realizados en la investigación respecto de la asociación entre la psicopatología parental y las CA de sus hijos, y el posible efecto mediador del estilo educativo parental, aun existen hallazgos insuficientes y no concluyentes y persisten puntos críticos que necesitan ser abordados: a) el rol diferencial que puede cumplir el sexo de los padres en estas asociaciones; b) incluir la información del padre respecto de la psicopatología y el estilo educativo parental, ya que en general las investigaciones han utilizado el informe combinado de ambas figuras parentales o solo el informe de la madre, existiendo escasa información de la figura paterna (O'Hara y Fisher, 2010); y c) considerar el rol que puede desempeñar el sexo de los niños, otorgando especial atención a las asociaciones diferenciales que puedan ayudar a explicar la relación existente entre la psicopatología de los padres, el estilo parental y las CA de niños y niñas. Teniendo en cuenta estos puntos críticos, se espera obtener información específica sobre características individuales y relacionales de padres e hijos que puedan aumentar el riesgo de desarrollo de CA, facilitando así el diagnóstico y la planificación de intervenciones más específicas y efectivas en este ámbito.

1.6 Objetivos del estudio

La presente tesis pretende contribuir y extender el conocimiento científico actual sobre las CA en niños y adolescentes que acuden a consulta psicológica externa mediante el estudio en dos áreas principales: a) la asociación de las CA con problemas clínicos más graves en niños y adolescentes, y b) la definición de modelos estructurales que incluyan variables de mediación que ayuden a comprender la influencia de la psicopatología parental sobre las CA de los niños.

Para abordar ambos temas de investigación, en esta tesis se plantean los siguientes objetivos: primero, explorar la prevalencia y el grado de asociación de los síntomas de TD según el sexo y la edad de los individuos; segundo, determinar el efecto diferencial de cada síntoma de TD sobre el funcionamiento y la gravedad de la psicopatología según el sexo y la edad de los individuos; tercero, examinar el potencial rol mediador del estilo educativo paterno y materno

en la relación entre la psicopatología parental y las CA de niños y adolescentes; y finalmente, determinar si los modelos de mediación estudiados son moderados por el sexo de los individuos.

El primer y segundo objetivos se abordan en el artículo *Antisocial Behavior, Psychopathology and Functional Impairment: Association with Sex and Age in Clinical Children and Adolescents* (ver página 29), que, por una parte, examina si la frecuencia y asociación de los síntomas de TD son diferentes para niños y niñas o para preadolescentes y adolescentes, y por otra parte, determina si cada síntoma individual de TD se asocia diferencialmente con un deterioro funcional mayor o con psicopatología más grave (exteriorizada, interiorizada o global) para niños y niñas, o para preadolescentes y adolescentes. El tercer y cuarto objetivos se abordan en el artículo *Father's and Mother's Perceptions of Parenting Styles as Mediators of the Effects of Parental Psychopathology on Antisocial Behavior in Outpatient Children and Adolescents* (ver página 45), que, por una parte, explora si diversos estilos educativos (calor emocional, rechazo o sobreprotección) del padre o de la madre son mecanismos que ayudan a explicar la asociación entre los problemas psicopatológicos (depresión, CA, ansiedad y psicopatología global) que presentan el padre o la madre y las CA de sus hijos, y por otra parte, examina el efecto del sexo de los hijos en los modelos de mediación que se obtienen.

De acuerdo a la revisión de la literatura científica realizada, los objetivos desarrollados en esta tesis no han sido aun estudiados en población española. Asimismo, este trabajo se suma a los esfuerzos por generar evidencia científica que sea de utilidad al contexto clínico (O'Connor, 2002), en una temática de especial relevancia para la salud mental de los niños y adolescentes.

2. MÉTODO

2.1 Participantes

Esta tesis se inscribe en un proyecto de investigación más amplio centrado en el estudio de factores de riesgo de psicopatología del desarrollo de niños y adolescentes. Participaron en el estudio niños, adolescentes y sus padres que acudían a consulta psicológica externa a centros de salud mental pertenecientes a la red pública de la provincia de Barcelona. Los individuos tenían entre 8 y 17 años de edad, y se incluyeron en el estudio una vez que realizaron su primera consulta a los centros de atención, previo al inicio de cualquier intervención. Los casos con discapacidad intelectual o algún trastorno generalizado del desarrollo, identificados a través de los registros médicos disponibles, fueron excluidos de la investigación.

El primer artículo analizó los datos disponibles de todos los individuos que aceptaron participar en la investigación (N = 680). En el segundo artículo, en cambio, debido a que se incluyeron medidas de psicopatología y de estilo educativo de ambos padres, se utilizó como criterio de inclusión la pertenencia a una familia biparental, lo cual redujo hasta 574 el número de candidatos. De éstos, se dispuso de todas las medidas requeridas para un total de N=338 niños y adolescentes, individuos que constituyeron la muestra final de este segundo trabajo.

Una descripción más detallada de la muestra se incluye en cada uno de los artículos que conforman esta tesis.

2.2 Instrumentos

La *Diagnostic Interview for Children and Adolescents-IV, DICA-IV* (Reich, 2000), es una entrevista diagnóstica semi-estructurada que evalúa las categorías diagnósticas principales en niños y adolescentes, de acuerdo a las definiciones DSM-IV (American Psychiatric Association, 1994). Existen versiones para niños (8 a 12 años), adolescentes (13 a 17 años), y sus padres. Esta entrevista se ha adaptado y validado a población española con satisfactorias propiedades psicométricas (Ezpeleta y cols., 1997). Los diagnósticos fueron generados combinando la información de los padres y los niños a nivel de síntoma-criterio, de manera que se consideraba que un síntoma estaba presente si alguno de los dos informantes así lo indicaba.

El *Child Behavior Checklist*, *CBCL* (Achenbach y Rescorla, 2001), es un cuestionario informado por los padres sobre una variedad de problemas emocionales y conductuales de niños y adolescentes entre 6 y 18 años. Este instrumento consta de 113 ítems con tres opciones de respuesta desde 0 (no es cierto) a 2 (muy a menudo). El CBCL ha sido adaptado y validado a población española con satisfactorias propiedades psicométricas (Sardinero, Pedreira, y Muñiz, 1997).

El *Youth Self-Report, YSR* (Achenbach y Rescorla, 2001), es un inventario autoinformado sobre diversos problemas conductuales y emocionales de niños y adolescentes, entre 11 y 18 años. Cuenta con 118 ítems con tres opciones de respuesta desde 0 (no es cierto) a 2 (muy a menudo). Este inventario se ha adaptado y validado a población española con adecuadas propiedades psicométricas (Abad, Forns, Amador, y Martorell, 2000).

Los ítems del CBCL y del YSR conforman 8 subescalas o síndromes: ansiedad/depresión, aislamiento, quejas somáticas, problemas sociales, problemas de pensamiento, problemas de atención, conducta romper normas y conducta agresiva. Las tres primeras subescalas se agrupan en la escala Problemas Interiorizados y las dos últimas subescalas se agrupan en la escala Problemas Exteriorizados. La suma de los ítems del instrumento permite obtener la puntuación de Problemas Total para el CBCL y el YSR.

En esta tesis, como parte del primer artículo, se utilizaron las escalas Problemas Exteriorizados y Problemas Interiorizados del CBCL y del YSR como medidas generales de la gravedad de la psicopatología de niños y adolescentes. La escala de Problemas Exteriorizados informa sobre comportamientos que producen malestar en el entorno del individuo. Por su parte, la escala de Problemas Interiorizados da cuenta de conductas que causan malestar psicológico en el propio individuo. Además, como parte del segundo artículo, se utilizó la subescala Conducta de Romper Normas (incluida en la escala de Problemas Exteriorizados del CBCL) para medir las CA de los niños y adolescentes. Esta subescala compuesta por 17 ítems, examina conductas tales como: falta de culpa, robos, escaparse de casa, faltas a la escuela, entre otras.

La *Children's Global Assessment Scale, CGAS* (Shaffer y cols., 1983), es una medida global de deterioro funcional que está asociada a la presencia de síntomas psicopatológicos. La puntuación de la escala la asigna el entrevistador, una vez ha finalizado la entrevista diagnóstica DICA-IV, en una escala que oscila entre 1 (máximo deterioro) y 100 (funcionamiento óptimo). Puntuaciones superiores a 70 indican una adaptación normal. En esta tesis, se analizó la puntuación mínima obtenida de la entrevista con los hijos o los padres referente al

funcionamiento durante el último mes. Este instrumento posee adecuadas propiedades psicométricas para población española (Ezpeleta, Granero, y de la Osa, 1999).

El *Symptom Checklist 90 Revised*, *SCL-90-R* (Derogatis, 1983), es un inventario autoinformado que evalúa síntomas psicopatológicos y psicosomáticos, que incluye 90 ítems agrupados en nueve dimensiones sintomáticas (somatización, obsesivo-compulsivo, sensibilidad interpersonal, depresión, ansiedad, hostilidad, ansiedad fóbica, ideación paranoide y psicoticismo) y tres índices globales: el Índice global de gravedad (GSI) que es un indicador general de psicopatología; el Índice de malestar sintomático positivo (PSDI) que mide la intensidad de los síntomas; y el Total de síntomas positivos (PST). En esta tesis, se utilizaron las escalas de depresión, hostilidad y ansiedad, y los tres índices globales. Dichas escalas e índices examinan los principales síntomas de psicopatología parental (psicopatología general, depresión, conducta disruptiva y ansiedad) que se asocian con CA en niños y adolescentes. Cada ítem cuenta con cinco opciones de respuesta desde 0 (ausencia de síntomas) hasta 4 (síntoma con intensidad extrema). Este inventario se ha adaptado y validado a población española con óptimas propiedades psicométricas (Robles, Andreu, y Peña, 2002).

El *Egna Minnen Beträffande Uppfostran, My memories of upbringing*, *EMBU-P* (Perris y cols., 1980), es un cuestionario autoinformado para padres que evalúa las autopercepciones sobre el estilo educativo parental. Consta de ítems con cuatro opciones de respuesta, dentro del rango 1 (nunca) a 4 (casi siempre). En esta tesis, se utilizó la puntuación de tres escalas: Calor emocional, que valora el soporte emocional, las conductas afectuosas y la aceptación hacia los hijos; Rechazo, que mide la hostilidad parental, conductas parentales duras y punitivas, y críticas hacia los hijos; y Sobreprotección, que evalúa el control, la regulación estricta, y el alto grado de intrusión respecto de las conductas de los hijos. Este instrumento se ha adaptado y validado para población española con adecuadas propiedades psicométricas (Castro, de Pablo, Gómez, Arrindell, y Toro, 1997).

2.3 Procedimiento

El estudio contó con la aprobación del Comité de Ética de la Universidad Autónoma de Barcelona. Se obtuvo el consentimiento escrito por parte de los padres y el asentimiento oral de parte de los niños y adolescentes para participar en el estudio. Las entrevistas diagnósticas se realizaron de forma simultánea e independientemente para los padres y los niños. Los entrevistadores (estudiantes de doctorado y psicólogos) fueron previamente entrenados sobre la utilización de todos los instrumentos del estudio. Los evaluadores desconocían la información

diagnóstica de los niños, adolescentes y sus padres antes de la entrevista. En el momento de realizar las entrevistas diagnósticas, los niños y adolescentes no habían iniciado ningún tipo de intervención-tratamiento debido a los problemas que presentaban a la llegada al centro. A partir de la información obtenida en la entrevista diagnóstica, los entrevistadores puntuaron la escala de deterioro funcional (CGAS). Una vez finalizada la entrevista, se entregaron los cuestionarios que debían cumplimentar los padres (CBCL, SCL-90-R, y EMBU-P) y los adolescentes (YSR) para ser devueltos en la siguiente visita.

2.4 Análisis estadístico

Los análisis estadísticos fueron realizados con el paquete PASW 15.0.1 y 17.0.2, y con el programa EQS6.1 para Windows.

Para explorar la asociación entre cada uno de los síntomas de TD con el sexo y la edad de los participantes se utilizaron Modelos de Regresión Logística. Estos modelos incluyeron como variables de ajuste la presencia de los demás síntomas de TD y la presencia de comorbilidad. La asociación entre el número total de síntomas de TD con el sexo y la edad se valoró con Regresión Binomial Negativa, incluyendo como variable de ajuste la presencia de comorbilidad. Para explorar las posibles tendencias lineal, cuadrática y/o cúbica de cada síntoma de TD según la edad de los sujetos, se utilizaron contrastes polinómicos (estratificados por sexo) obtenidos mediante Regresión Logística.

La asociación de cada síntoma de TD con el deterioro funcional y la gravedad de la psicopatología, según el sexo o la edad de los participantes, fue analizada mediante Modelos de Regresión Múltiple (procedimiento ENTER). Los modelos que valoraron las asociaciones según el sexo de los participantes incluyeron como variables de ajuste la edad y la presencia de comorbilidad, en cambio los modelos que examinaron las asociaciones según la edad de los participantes incluyeron como variables de ajuste al sexo y la presencia de comorbilidad.

La validez predictiva de los modelos fue examinada mediante el coeficiente R^2 de Nagelkerke para Regresión Logística y mediante el estadístico R^2 ajustado para Regresión Múltiple.

Por otra parte, para analizar la posible mediación del estilo educativo parental en la asociación entre la psicopatología parental y las CA de niños y adolescentes se utilizaron Modelos de Ecuaciones Estructurales (Structural Equations Models, SEM), siguiendo el procedimiento descrito por Baron y Kenny (1986). Los modelos incluyeron: la psicopatología parental (variable independiente), el estilo educativo parental (mediador) y las CA de los niños

(variable dependiente). La significación de cada modelo (*pathway*) se valoró con el método de Kenny, Kashy y Bolger (1998). El ajuste final de los modelos fue valorado mediante la prueba de Chi-cuadrado, el Comparative Fit Index (CFI) (Bollen y Long, 1993), y el Root Mean Square Error of Approximation (RMSEA) (Browne y Cudeck, 1993). Para valorar el ajuste predictivo global de los modelos finales se utilizó el estadístico R^2. Los modelos estructurales incluyeron como covariables la edad de los niños y la presencia de síntomas comórbidos a las CA.

Finalmente, para analizar el potencial efecto moderador del sexo de los niños en los modelos estudiados se utilizaron Modelos de Regresión Múltiple. Se construyeron diversos modelos que incluyeron la psicopatología del padre y de la madre, los estilos educativos del padre y de la madre, el sexo de los niños, y los términos de interacción entre los estilos educativos parentales y el sexo de los niños. La CA de los niños y adolescentes fue la variable dependiente. Cuando el término de interacción entre el estilo parental y el sexo de los niños y adolescentes obtuvo valores $p < .05$, se consideró que existió moderación.

3. RESUMEN DE LOS RESULTADOS Y DISCUSIÓN

Objetivo 1: explorar prevalencia y asociación de los síntomas de TD según sexo-edad

Los resultados obtenidos se recogen en el primer artículo (ver página 29) e indican que, en general, la presencia de los síntomas no difirió significativamente entre niños y niñas, o entre preadolescentes y adolescentes. No obstante, y a pesar de que las diferencias observadas fueron escasas, sugieren una frecuencia mayor de los síntomas entre los 13 y 17 años (adolescentes) y en el sexo masculino.

En concordancia con lo descrito por diversos autores (Keenan, Loeber, y Green, 1999; Lahey y cols., 2000; Loeber y cols., 2000; Ohan y Johnston, 2005), los niños presentaron más conductas de agresión manifiesta tales como peleas físicas y crueldad física hacia personas (síntomas típicamente masculinos) que las niñas, en cambio las niñas mostraron más conductas de agresión encubierta como escaparse de casa y faltas a la escuela (síntomas típicamente femeninos) que los niños. Niños y niñas presentaron el mismo rango de CA, pero en las niñas estas conductas se manifestaron con menor frecuencia (Gorman-Smith y Loeber, 2005).

Algunas CA mostraron diferencias en su desarrollo evolutivo dependiendo del sexo. Según los resultados obtenidos, los niños presentaron una cierta tendencia a incrementar sus CA en el tiempo, principalmente en conductas tales como violentar la propiedad de otros y robos sin enfrentamiento a la víctima, o manifestar la prevalencia más alta entre los 13 y 16 años (destruir propiedad de otros, mentiras frecuentes, escaparse de casa, entre otros). En cambio, en las niñas dicha tendencia no se apreció claramente. La agresividad física fue un problema común en las niñas entre los 10 y 11 años, no obstante, estas conductas decrecieron a partir de dichas edades. Así también, conductas de violación grave de normas tales como escaparse de casa y faltas a la escuela fueron problemas más frecuentes a más temprana edad en niñas (13-14 años) respecto de los niños (16 años). En general, estos resultados confirman las diferencias evolutivas en la manifestación de las CA observadas en distintas poblaciones (Maughan y cols., 2004; Tiet y cols., 2001; Tremblay, 2003).

Objetivo 2: determinar el efecto de cada síntoma de TD sobre el funcionamiento y la gravedad de la psicopatología según el sexo y la edad

Este objetivo también se aborda en el primer artículo, y los resultados obtenidos indican que, en general, las CA se asociaron diferencialmente con más gravedad de la psicopatología y deterioro funcional mayor dependiendo del sexo o la edad de los individuos. Únicamente cuatro síntomas de TD (uso de armas, provocar incendios deliberadamente, mentiras frecuentes y faltas a la escuela) se asociaron con psicopatología más grave para ambos sexos. Respecto de las restantes conductas, la mayoría se asoció con un incremento significativo de la gravedad de los problemas psicológicos específicamente en un sexo (niño o niña).

Con respecto a la importancia clínica que tendrían los síntomas atípicos según el sexo o la edad, los presentes resultados confirman parcialmente lo propuesto por Frick y cols. (1994). En relación al sexo, es posible observar que sólo para los niños los síntomas atípicos (escaparse de casa y faltas a la escuela) se asociaron con más gravedad de psicopatología (exteriorizada e interiorizada, respectivamente). No obstante, este patrón no fue observado en el caso de las conductas atípicas para las niñas. Esta discrepancia podría deberse a que la muestra utilizada por dichos investigadores era predominantemente masculina, hecho que como ellos mismos sugirieron limitaba la capacidad de generalización de sus resultados a las niñas. Así, la presente muestra, que representa a ambos sexos equitativamente, sólo confirma la importancia de los síntomas atípicos para los niños. En cuanto a la edad, en general los resultados no confirman lo propuesto respecto de los síntomas atípicos según el rango de edad, salvo por la excepción del síntoma robo sin enfrentamiento a la víctima, el cual fue atípico en los preadolescentes y que se relacionó con más gravedad de la psicopatología exteriorizada en este rango de edad.

Otro resultado importante se refirió a la relevancia del síntoma de mentiras frecuentes. Mentir reiteradamente para obtener bienes o evitar obligaciones fue la CA más prevalente en esta muestra, y presentó una asociación significativa con más gravedad de psicopatología global (en niños, niñas y entre los 13 y 17 años de edad) y exteriorizada (en ambos sexos y ambos rangos de edad). Este síntoma se asoció con un nivel de gravedad leve a moderado en esta muestra, no obstante proporciona información de utilidad clínica debido a su alto impacto, manifestado por la combinación de su prevalencia elevada y su efecto en toda la muestra (Rubio-Stipec, Walker, Murphy, y Fitzmaurice, 2002).

Por otra parte, los resultados indicaron la existencia de discrepancias entre la información que proporcionaron los padres y los adolescentes en relación a la gravedad de los síntomas de

TD. Los padres informaron que las CA de sus hijos se asociaron a una mayor gravedad de psicopatología en comparación con lo que informaron los propios adolescentes. Estas discrepancias podrían ser indicativas de las dificultades que presentan los adolescentes de muestras clínicas para reconocer sus propios síntomas, o por otra parte, podrían sugerir que algunos adolescentes son capaces de reconocer su sintomatología pero mienten o no la informan. Ferdinand, van der Ende, y Verhulst (2006) destacan la importancia de contar con diversas fuentes de información en población clínica, puesto que las discrepancias entre informantes han mostrado capacidad discriminativa sobre el pronóstico de los individuos. En este sentido, los investigadores señalan que dichas discrepancias darían cuenta de la asociación entre las dificultades de los adolescentes para identificar sus propios problemas y la escasa respuesta al tratamiento.

Por último, cuando se valoró la asociación de los síntomas de TD con un deterioro funcional mayor destacaron solamente cuatro síntomas. La crueldad física hacia personas (en niños), forzar a actividad sexual (en niñas), robos sin enfrentamiento a la víctima (en niños y en todas las edades), y escaparse de casa (en niñas y en edades entre 13 y 17 años) mostraron una asociación significativa con más dificultades en el funcionamiento. La presencia de estos síntomas en población clínica es un potente marcador de alteraciones graves en el funcionamiento cotidiano global, y detectarlos es fundamental para iniciar programas de intervención con objeto de disminuir el impacto que estas CA poseen en el propio individuo y su entorno social.

Objetivo 3: examinar el potencial papel mediador del estilo educativo parental en la relación entre la psicopatología parental y las CA de los niños

Este objetivo se desarrolla en el segundo artículo (ver página 45), cuyos resultados principales mostraron que el estilo educativo del padre y de la madre tuvo un rol mediador en la asociación entre la psicopatología de los progenitores y las CA de los hijos. En general, esto sugiere que la capacidad para desarrollar una adecuada parentalidad podría afectarse negativamente por la presencia de psicopatología en los padres, lo que a su vez generaría efectos negativos en sus hijos (Berg-Nielsen y cols., 2002). No obstante lo anterior, en el caso del padre cuando su estilo educativo tuvo un rol mediador este siempre fue total, en cambio en el caso de la madre cuando se observó mediación de su estilo educativo esta siempre fue parcial.

A partir de los resultados obtenidos es posible sugerir que la psicopatología del padre incrementaría las CA de sus hijos sólo a través de su estilo educativo. Así, los problemas psicológicos presentes en el padre afectan negativamente sus conductas parentales, y son estas conductas las que influencian las CA de sus hijos. En esta línea, Thornberry, Freeman-Gallant, y Lovegrove (2009) plantean que el papel del padre en la transmisión de las CA depende principalmente del nivel de contacto y la participación que presente en la crianza de su hijo, es decir, depende de las características de la interacción entre ambos. Por otra parte, respecto de la madre se observaron algunos hallazgos diferentes a los encontrados en el padre. La psicopatología materna, a pesar de la mediación del estilo educativo, mantuvo una asociación directa con las CA de sus hijos. Como sugieren otros investigadores (Harnish y cols., 1995; Rhule y cols., 2004), el efecto de los problemas psicológicos de la madre sobre las CA de sus hijos persiste, a pesar de la inclusión de variables mediadoras. Al parecer, el hecho que los niños y adolescentes perciban alteraciones en el funcionamiento psicológico de su madre (cambios de ánimo, emociones intensas, etc.) les genera efectos negativos directamente. No obstante, estos hallazgos podrían deberse a la presencia de mecanismos alternativos, distintos a los examinados en esta tesis, que podrían explicar la asociación entre la psicopatología materna y las CA de sus hijos, tal como indican otros investigadores: autoestima materna (Gerdes y cols., 2007), eventos vitales negativos (Thornberry y cols., 2009), o conflictos padres-hijos (Marmorstein y Iacono, 2004).

Por otra parte, los hallazgos también indicaron que con la presencia de alta intensidad de la psicopatología materna surgió un efecto mediador significativo de su estilo educativo. Es decir, sólo cuando la madre presentó más intensidad en sus alteraciones psicológicas se produjeron efectos adversos en su estilo educativo, lo que a su vez impactó negativamente en sus hijos. Contrario a lo anterior, en el caso del padre la presencia de psicopatología, independientemente de su intensidad, influyó negativamente en su parentalidad. Estos resultados sugieren que las madres que sufren problemas psicológicos menos graves serían capaces de mantener una adecuada parentalidad a diferencia de los padres quienes verían afectado su estilo educativo cuando presentan algún problema psicológico sin importar la intensidad de éste.

Cabe destacar que, de los estilos educativos analizados como posibles mediadores, la sobreprotección fue la que presentó una importancia mayor. La sobreprotección de los padres se ha asociado a un incremento en las conductas disruptivas de adolescentes debido a su impacto negativo en el desarrollo de la autonomía (Holmbeck y cols., 2002). Las CA podrían

manifestarse como actos de protesta en respuesta a la percepción de alta intrusión e interferencia de parte de los padres (Veenstra y cols., 2006). Teniendo en cuenta que los presentes resultados se basan en una muestra de niños y adolescentes que manifiestan algún tipo de problema psicológico, es probable que, al menos en parte, se cumpla lo sugerido por Kendler, Sham, y MacLean (1997), quienes señalaron que los padres pueden llegar a ser sobreprotectores cuando perciben a sus hijos vulnerables o frágiles, o cuando éstos presentan conductas consideradas disruptivas.

Objetivo 4: valorar si el sexo de los niños modera los modelos mediacionales

Los resultados del segundo artículo indicaron que el sexo de los niños no interactuó en los modelos de mediación finales que explicaron la relación entre la psicopatología de los padres, el estilo educativo parental y las CA de los hijos.

Estos hallazgos discrepan de la hipótesis que señalan que las niñas son más vulnerables que los niños a las dificultades en la calidad de los vínculos parentales u otras características familiares, tal como sugieren otros estudios (Kazdin y Kolko, 1986; Zahn-Waxler y cols., 2008). Browne, Odueyungbo, Thabane, Byrne y Smart (2010) plantean que las diferencias de sexo podrían no ser siempre observables, debido a que otras variables como el temperamento del niño o la autoeficacia parental pueden tener un papel importante en las interacciones entre padres e hijos. Además, estos investigadores sugieren que el sexo y el temperamento del niño y la autoeficacia de los padres podrían variar su efecto en función de la edad de los niños.

No obstante lo anterior, investigaciones realizadas en muestras de niños y adolescentes clínicos, constatan que los niños y las niñas presentan menos diferencias en las características y consecuencias de sus CA que las detectadas en población general (Loeber y cols., 2000), lo que podría explicar en parte los presentes resultados.

4. CONCLUSIONES

De acuerdo a los objetivos planteados, es posible sugerir las siguientes conclusiones respecto de las CA de niños y adolescentes españoles que acuden a consulta a servicios de salud mental:

a. La frecuencia de las CA, en general, no presenta diferencias significativas cuando se comparan los niños con las niñas, y los preadolescentes con los adolescentes. Sin embargo, los niños o los individuos de edades entre 13 y 17 años tienden a presentar un número mayor de CA. Las CA asociadas con los niños son iniciar peleas físicas y crueldad física hacia personas, en cambio, para las niñas son escaparse de casa y faltas a la escuela. Por otra parte, las CA asociadas con los preadolescentes son iniciar peleas físicas, en cambio, para los adolescentes son robo sin enfrentamiento a la víctima y faltas a la escuela.

b. Las CA individuales presentan más gravedad y un deterioro mayor en el funcionamiento de los individuos dependiendo del sexo y el rango de edad de éstos. Solamente el uso de armas, provocar deliberadamente incendios, mentiras frecuentes y faltas a la escuela se asociaron con más gravedad en ambos sexos, y mentiras frecuentes lo hizo en todas la edades. Por otra parte, sólo el robo sin enfrentamiento a la víctima se asoció con mayor deterioro funcional en todas las edades.

c. En general, la presencia de psicopatología materna incrementa directamente las CA de los niños y adolescentes, e indirectamente mediante el aumento de las conductas de sobreprotección materna. En cambio, la psicopatología paterna aumenta las CA de sus hijos específicamente a través de su estilo educativo de sobreprotección.

d. La relación entre la psicopatología parental, el estilo educativo de los padres y las CA de los niños y adolescentes es similar para niños y niñas (independientemente del sexo).

Las conclusiones generales de esta tesis contribuyen a avanzar en el conocimiento de las manifestaciones y el desarrollo de las CA en niños y adolescentes de población española. Además, presentan información empírica rigurosa que ayuda a resolver en parte ciertas divergencias existentes en la literatura científica actual.

4.1 Implicaciones

Los resultados presentados tienen una serie de implicaciones prácticas que podrían fortalecer la prevención e intervención sobre las CA en niños y adolescentes. La manifestación de CA en población clínica es frecuente, por lo que los profesionales de esta área deben reconocer la necesidad de identificar y tratar oportunamente a estos niños y adolescentes que pueden presentar un riesgo mayor de resultados negativos, incluso cuando su motivo de consulta no es específicamente la presencia de CA.

En población clínica resulta fundamental valorar las CA según el sexo y la edad de los individuos. Las distintas CA podrían ser consideradas indicadores específicos de más gravedad cuando se presentan en un sexo o rango de edad determinado. Los profesionales de la salud mental deberían conocer la expresión diferencial de cada CA y así poder contribuir a la detección temprana de niños y adolescentes que poseen un riesgo mayor de presentar psicopatología y dificultades en su funcionamiento.

Sumado a lo anterior, los clínicos deberían conocer que la manifestación de CA en niños y adolescentes debe alertar sobre la posible presencia de problemas graves, independientemente de que el paciente cumpla o no con todos los criterios para el diagnóstico de TD. Esta información empírica respecto de las CA, podría ayudar a los profesionales del área a planificar intervenciones que reduzcan las CA y las consecuencias negativas sobre el funcionamiento cotidiano de estos niños y adolescentes.

Por otra parte, tanto los problemas de salud mental como el estilo educativo de ambos padres deberían ser importantes centros de atención cuando se detectan CA en niños y adolescentes consultantes.

Los clínicos deberían tener en cuenta la relevancia de la salud mental de la madre respecto de las CA de sus hijos. Considerando la existencia de una asociación directa entre la psicopatología materna y las CA de los niños, las intervenciones que reduzcan los síntomas de psicopatología en la madre podrían también tener beneficios importantes para sus hijos. En este ámbito, los programas de intervención podrían considerar el desarrollo de una colaboración y coordinación estrecha entre las intervenciones destinadas a las madres y las dirigidas a sus hijos. A partir del papel mediador del estilo educativo de ambos padres, los presentes hallazgos sugieren que la identificación de un estilo educativo sobreprotector en figuras parentales que presentan problemas psicológicos debería alertar a los clínicos de un incremento en el riesgo de manifestación de CA en los niños y adolescentes. En la medida de lo posible, los profesionales

del área deberían promover en los padres y madres conductas de control parental eficientes que permitan a sus hijos un adecuado desarrollo de la autonomía e independencia.

Por otro lado, considerando los efectos específicos que cada figura parental tiene sobre las CA de sus hijos, es fundamental intentar promover la inclusión de los padres y las madres en las intervenciones familiares. Los profesionales de la salud mental deberían continuar incrementando sus esfuerzos para desarrollar estrategias que logren una participación mayor de la figura paterna en las intervenciones (en diversos niveles), teniendo en cuenta las necesidades y características tanto de la madre como del padre. La no inclusión del padre en la intervención sobre familias biparentales podría interferir con el tratamiento, principalmente en el caso que esta figura mantenga o refuerce conductas de sobreprotección o restricción de la autonomía de sus hijos.

Finalmente, considerando la complejidad y amplia variabilidad de los factores involucrados en el desarrollo de CA, las intervenciones deberían centrarse en múltiples factores de riesgo e incluir de forma intensa a las figuras parentales. Como indican los resultados de la presente tesis, existen variables individuales y familiares específicas que debiesen ser consideradas como elementos importantes en el trabajo con niños y adolescentes que presentan CA.

4.2 Futuras líneas de investigación

Como sugieren Powell, Lochman, y Boxmeyer (2007), la identificación de niños en riesgo de desarrollar conductas disruptivas es el primer paso crítico para lograr la prevención de futuras consecuencias negativas. La comprensión de los diversos mecanismos a través de los cuales los niños pueden desarrollar CA representa un ámbito crítico de interés para futuras investigaciones (Frick, 2004). En este ámbito, se requiere de más estudios que identifiquen variables específicas de la parentalidad que puedan ser relevantes tanto para la prevención como para el tratamiento (Berg-Nielsen y cols., 2002). Esta tesis logró identificar que las conductas de sobreprotección son cruciales para entender el desarrollo de las CA de los niños. Así también, otros autores han propuesto variables que podrían representar mecanismos alternativos que ayuden a explicar la asociación entre la psicopatología de los padres y las CA de los hijos, tales como los conflictos paterno-filiales (Marmorstein y Iacono, 2004). Junto con lo anterior, se hacen necesarias más investigaciones sobre características individuales específicas de los niños y los padres, tales como sexo, edad, y etnia que podrían actuar como variables moderadoras del efecto de particulares conductas parentales sobre los problemas exteriorizados (McKee, Colletti, Rakow, Jones, y Rex, 2008).

Por otra parte, diversos estudios han constatado que los precursores de las CA pueden manifestarse en los primeros años de vida, tiempo en el cual la intervención con los niños y sus padres resulta efectiva (Moffitt y cols., 2008). En este sentido, la literatura científica muestra que la relativa estabilidad de las conductas agresivas tempranas predice las CA durante la adolescencia y la vida adulta (Hartup, 2005). Actualmente, existe un creciente interés por desarrollar investigaciones que permitan identificar conductas presentes en los primeros años de vida que puedan asociarse con más problemas psicológicos. Con relación a esto, el manuscrito en preparación *Types of Aggressive Behavior and Psychopathological Correlates in Spanish Preschool Boys and Girls* (ver página 77), presentado en el apartado de anexo, constituye un primer paso en esta dirección. Este estudio se plantea como objetivos examinar la asociación entre diversos tipos de conductas agresivas y la psicopatología preescolar, y además explorar el potencial efecto moderador del sexo en estas relaciones. Es importante considerar que las conductas agresivas tempranas, especialmente los comportamientos de agresión física, han demostrado ser predictores de futuras conductas agresivas (Juliano, Stetson, y Wright, 2006), CA y delincuencia (Broidy y cols., 2003). Por ello, se espera que los resultados de esta investigación puedan extender los conocimientos y la comprensión del desarrollo de psicopatología de niños y niñas, siendo de especial interés la manifestación temprana de precursores de las CA.

5. PUBLICACIONES

5.1 Primer artículo

Antisocial behavior, psychopathology and functional impairment: association with sex and age in clinical children and adolescents

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ORIGINAL ARTICLE

Antisocial Behavior, Psychopathology and Functional Impairment: Association with Sex and Age in Clinical Children and Adolescents

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Abstract This study examined the prevalence, degree of association and differential effect, by sex and age, of conduct disorder symptoms on psychopathology and functioning. Participants included 680 Spanish children and adolescents between 8 and 17 years and their parents, attending to psychiatric outpatient consultation. Data were obtained through structured diagnostic interviews, and other measures of psychopathological outcomes and functional impairment. In general, the prevalence of antisocial behavior did not differ significantly by sex or age. Results indicated a higher frequency for 13–17 year olds, and a greater number of symptoms in boys. Moreover, some symptoms of conduct disorder showed developmental variations. Sex and age differentially affected the expression of some conduct disorder symptoms and their associations with functional impairment and severity of psychopathology. Knowing the different expression of each symptom could help to identify these problems in clinical children and adolescents, contributing to an early detection of population at the highest risk of serious psychopathology and worse prognosis.

Keywords Antisocial behavior · Sex · Age · Child and adolescent · Psychopathology

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Introduction

Behavior problems involve the violation of social norms and the basic rights of others. Currently they are a major priority in public health policy for child and adolescent population [1]. The presence of conduct disorder (CD) symptoms in children and adolescents is a cause of recurrent consultation to mental health services [2]. These symptoms have been consistently linked to increased risk of other mental disorders [3–7], delinquency [8] and juvenile mortality [9]. Children and adolescents with the diagnosis reported higher levels of stress than those with other disorders [10], high levels of functional impairment [11–13], and difficulties in social adaptation [2].

The heterogeneity of the CD makes necessary to investigate the differences associated with sex and age, given that there is not full consensus on the manifestation of the antisocial behaviors depending on these variables [14] The study of individual DSM-IV symptoms [15] of conduct disorder can identify specific characteristics of the antisocial behavior, allowing progress in the knowledge of its severity, stability, comorbidity and prognosis [16]. Moreover, it could have important implications for diagnosis and treatment [17]. In this field, for example, there is a debate regarding the adequacy of the DSM-IV definition for girls that criticizes the lack of specific symptoms and the tendency to focus on behaviors that are more common in boys [18, 19] Moffitt et al. [14] however, indicate that there is insufficient evidence to identify symptoms patterns that differ according to sex.

Among the specific characteristics associated with sex, in boys predominate symptoms of “overt” aggression including aggression to people and animals, and in girls predominate “covert” aggressive symptoms associated with serious violations of norms and with conflict authority [18, 20, 21]. Loeber et al. [16] suggested that, although the symptoms of conduct disorder are less prevalent in girls, the stability of these behaviors is greater or equal for girls than for boys. In this case “the paradox of sex” shows valid, that is, the sex with lower prevalence of the disorder is the one that presents greater risk of poorer outcomes. Regarding functional impairment there are divergent findings. Masi et al. [17] found that girls with conduct disorder showed greater functional impairment compared with boys, whereas in other studies no significant differences according to sex were presented [22].

With respect to individual symptoms associated with age, usually those of overt aggression as “physical fights”, tend to decrease with the age, meanwhile the symptoms of covert aggression increase in the adolescence [21]. Nevertheless, Maughan et al. [1] suggest that overt aggressive behavior such as sexual assaults or violent theft tend to increase in the adolescence. It has also been reported that the severity of the antisocial behavior increases with age, reaching its highest level between 14 and 17 years [8]. This implies both a greater number of individuals with these behaviors, and a greater frequency of CD symptoms in the subjects [23].

In clinical populations, symptoms of conduct disorder are common and show a high comorbidity with externalizing and internalizing disorders. In this field, the DSM-IV classification system does not differentiate the CD symptoms by sex or age according to their severity, but gives each one equal weight. In this regard, Frick et al. [24], in a study with a clinical sample, suggest that atypical symptoms according to sex or age are associated with high levels of severity. Few studies report in detail the prevalence of the symptoms differentiated by sex or age in clinical samples. In this line Kjelsberg [25] found that all the CD symptoms, except “stays out at night” and “run away”, had higher prevalence in boys than in girls.

Many studies assessing antisocial symptoms have been carried out in samples of patients diagnosed with conduct disorder. However, considering the variety and frequency of individual CD symptoms and that even isolated symptoms can be disabling for the children and adolescents, it is important to extend their study to clinical samples including other psychopathologies, without restriction to subjects with the diagnosis of the conduct disorder. This will allow understanding the manifestation and consequences of the antisocial behaviors in children who consult to mental health services. This research aims to examine in Spanish outpatient children: (1) the prevalence and degree of association of DSM-IV symptoms of conduct disorder by sex and age; and (2) the differential effect of each symptom of conduct disorder in the functioning and the severity of the psychopathology by sex and age.

Method

Participants

The sample included 680 children and adolescents and their parents, who were recruited from psychiatric outpatients of the public mental health network of Barcelona (Spain). The participants were between 8 and 17 years old (mean age = 13.8; SD = 2.4) and 53.4% ($n = 363$) were male. The 96.9% were of Caucasian ethnicity and the remaining 3.1% belonged to other ethnics group. Following the Hollingshead Socioeconomic Index [26], 14.3% were associated with upper/middle-upper level, 57.2% to middle/lower middle level and 25.9% to lower level. For 2.6% of the subjects it was not possible to estimate their socioeconomic status.

The disorders more prevalent in the sample were oppositional defiant disorder (49.3%), attention deficit/hyperactivity disorder (38.9%), generalized anxiety disorder (30.4%) and major depressive disorder (27.7%).

The individuals who had mental retardation or a pervasive developmental disorder were excluded from the study ($n = 5$). 30 individuals refused participate in this study. The disorders more prevalent of these subjects were: conduct disorder ($n = 6$), attention deficit/hyperactivity disorder ($n = 5$), oppositional defiant disorder ($n = 3$), and others disorders ($n = 16$). There were no differences in age, socioeconomic status and presence of conduct disorder among those who participated in the study and who rejected it. However, there was a significantly higher percentage of girls among those who refused to participate ($p = .031$).

Measures

The *Diagnostic Interview for Children and Adolescents-IV* (DICA-IV) [27]. The DICA-IV is a semi-structured diagnostic interview that covers the most frequent diagnostic categories in children and adolescents, following DSM-IV definitions. There are versions for children (8–12 years), adolescents (13–17 years) and their parents. The DICA has been adapted and validated for the Spanish population with satisfactory psychometric properties. The agreement between interviewers ranged from good to excellent (kappa values from .65 to 1) [28, 29] and the test–retests reliability was good (kappa values from .41 to 1) [30]. The diagnoses were generated through a disjunctive algorithm, by combining the information from children and parents at symptom level: each symptom was considered present if the children or the parents reported it.

The *Child Behavior Checklist* (CBCL) [31] is an inventory, completed by parents, that covers a variety of behavioral and emotional problems of children and adolescents between 6 and 18 years. It has 113 items with three response options (0 = It is no true, 1 = Sometimes, 2 = Very often). The CBCL has been adapted and validated for the Spanish population with satisfactory psychometric properties. Factorial studies confirmed the internal structure of the instrument and reliability accuracy was excellent for the empirical scales (Cronbach's alpha values above .8) [32].

The *Youth Self-Report* (YSR) [31] is a self-report inventory that covers behavioral and emotional problems of children and adolescents between 11 and 18 years. The YSR has 118 items with three response options (0 = It is no true, 1 = Sometimes, 2 = Very often). The YSR has been adapted and validated for the Spanish population with satisfactory psychometric properties. Internal consistency was very good (Cronbach's alpha above .81) [33].

The scales Externalizing and Internalizing problems on both the CBCL and the YSR were used as indicators of overall severity of psychopathology. The "Externalizing Problems" scale reflects behaviors that cause discomfort in the subject's environment. The "Internalizing Problems" scale contains behaviors that cause psychological distress in the subject itself.

The *Children's Global Assessment Scale* (CGAS) [34] is a global measure of functional impairment that is associated with the presence of psychopathology. The score is obtained from the clinical assessment of information obtained from the child and his/her parents in the diagnostic interview. Scale scores range from 1 (maximum impairment) to 100 (normal functioning). Scores higher than 70 indicate a normal adaptation. The CGAS has been adapted and validated for the Spanish population. Good to very good test–retest reliability (intraclass correlations above .40) and excellent agreement between interviewers (intraclass correlation near to .70) has been reported [35]. In this study, the lowest CGAS score in the last year from either parent's or children's information was used.

Procedure

The study had the approval of the Ethics Committee of the Universitat Autònoma of Barcelona. Written consent from parents and oral assent of children and adolescents to participate in the study was obtained. Interviews were conducted simultaneously and independently with the child and parents. Interviewers (doctoral students and psychologists) were trained in the use of all the assessment instruments. At the time of the interview participants did not receive treatment. After completing the diagnostic interview, the interviewers rated the CGAS. The CBCL and YSR were given to parents and children, respectively, to be returned at the next appointment. The YSR was later incorporated into the study and was given to 164 children between 11 and 17 years. 413 parents (60.7%) and 106 children (64.6%) returned the inventories. There were no differences in sex, age, socioeconomic status, number of symptoms of conduct disorder, presence of conduct disorder and comorbidity between those with returning inventories and those that did not.

Statistical Analysis

Data were analyzed with SPSS 15.0.1 for Windows. Prevalence of CD symptoms stratified by sex and age of subjects was first conducted. Next, the association between sex and age with each CD symptoms was explored through logistic regression, adjusted by the presence of other CD symptoms and comorbidities.

The association between sex and age with the total number of CD symptoms was analyzed with negative binomial regressions adjusted for the presence of other disorders. These models constitute a recent alternative to Poisson regression to account for problems involving responses characterized by over-dispersed count data.

Polynomial contrasts (stratified by sex) were obtained through logistic regressions to explore the linear, quadratic and cubic trends into the relationship between the presence of each CD symptoms and the subjects' age.

Finally, multiple regressions analyzed the association of each CD symptom with the functional impairment and the severity of psychopathology. The complete list of CD symptoms were entered simultaneously (ENTER procedure) to obtain the adjusted contribution of each one. Sex, age and the presence of other comorbidities different to CD were also included as covariates.

In this study, the predictive accuracy was measured through Nagelkerke's R^2 coefficient for logistic regressions and through the adjusted R^2 for multiple regressions.

Results

Of the total sample, 63.8% ($n = 434$) of children had at least one symptom of conduct disorder and 15.9% ($n = 108$) had conduct disorder diagnosis.

Prevalence of Conduct Disorder Symptoms and Association with Sex and Age

The prevalence of CD symptoms ranged from 1.4% ("forced sex" and "run away") to 53.4% ("lies") in boys, and between .3% ("forced sex") and 43.5% ("lies") in girls (Table 1). The association between each symptoms and sex (adjusted for comorbidity and the presence of other CD symptoms) showed a higher frequency of "physical fights" and "physically cruel to people" for boys, however, girls reported a higher prevalence of "run away" and "truant". Moreover, boys presented a higher mean number of total symptoms than girls.

Between 13 and 17 years, the prevalence of symptoms was between 1.4% ("forced sex") and 50% ("lies"), and between 8 and 12 years from 0% ("stealing with confrontation" and "forced sex") to 46.8% ("lies") (Table 1). The association between symptoms and age (adjusted for comorbidity and the presence of other CD symptoms) showed that between 13 and 17 years decreased significantly the possibility of presenting "physical fights" and increased the odds of "stealing without confrontation" and "truant", in comparison to subjects between 8 and 12 years-old. Moreover, adolescents between 13 and 17 years-old reported a significant higher mean for the total number of CD symptoms than children aged 8–12 years.

Analysis of trends between the prevalence of the symptoms and the age indicated that in boys "breaking into others' property" ($p = .001$) and "stealing without confrontation" ($p = .001$) showed a positive linear trend (higher prevalences to older ages) (Fig. 1). "Destroying property" ($p = .01$) and "lies" ($p = .001$) showed a quadratic trend, reaching their highest prevalence at 13 age. "Run away" ($p = .01$) also showed a quadratic trend, reaching its highest prevalence at 16 age. "Physically cruel to animals" ($p = .03$), "fire setting" ($p = .03$) and "truant" ($p = .01$) had a cubic trend (prevalences decreased until 12 years, increased until 16 years and decreasing afterwards).

In girls, "physical fights" ($p = .03$) decreased with age and "stealing without confrontation" ($p = .01$) increased with age (Fig. 1). "Truant" ($p = .02$) showed a quadratic trend, starting up at 12 age and reaching its highest prevalence at 13 age.

Table 1 Prevalence of conduct disorder symptoms and association with sex and age

	Prevalence by sex and age (%)				OR (95% CI)[a]	
	Boys ($n = 363$)	Girls ($n = 317$)	8–12 Years ($n = 248$)	13–17 Years ($n = 432$)	Sex (boys/girls)	Age (13–17/8–12)
1 Bullies, threatens	10.5	6.6	8.5	8.8	1.08 (.51; 2.29)	.66 (.32; 1.36)
2 Initiates physical fights	31.8	9.1	26.6	18.1	4.46‡ (2.66; 7.47)	.59* (.37; .93)
3 Uses a weapon	8.5	3.2	6.5	5.8	2.45 (.92; 6.56)	.71 (.30; 1.64)
4 Physically cruel to people	12.7	4.4	10.1	8.1	2.91† (1.35; 6.29)	.68 (.35; 1.32)
5 Physically cruel to animals	3.3	3.5	2.4	3.9	.43 (.14; 1.37)	1.63 (.52; 5.12)
6 Has stolen, confronting a victim	1.7	.6	0	1.9	14.9 (.23; 94.8)	–
7 Forced into sexual activity	1.4	.3	0	1.4	3.24 (.31; 34.3)	–
8 Deliberately fire setting	2.8	1.6	.4	3.2	2.58 (.59; 11.2)	3.90 (.42; 35.9)
9 Deliberately destroy property	10.5	6.6	5.2	10.6	1.12 (.56; 2.23)	2.02 (.96; 4.25)
10 Has broken into otherśproperty	3.0	1.6	.8	3.2	4.09 (.74; 22.7)	.91 (.14; 6.07)
11 Often lies	53.4	43.5	46.8	50.0	1.33 (.93; 1.89)	1.02 (.71; 1.46)
12 Has stolen without confrontation	26.4	25.9	17.7	31.0	.81 (.52; 1.25)	1.89† (1.21; 2.95)
13 Stays out at night	5.0	2.8	4.8	3.5	1.49 (.57; 3.88)	.67 (.27; 1.65)
14 Has run away from home	1.4	3.8	.8	3.5	.11† (.02; .59)	2.33 (.43; 12.7)
15 Truant from school	5.2	9.5	2.0	10.2	.29† (.13; .65)	5.58† (1.93; 16.1)
Total symptoms	1.77	1.23	1.32	1.63	.44‡ (.24; .64)	.27* (.05; .48)

* $p < .05$, † $p < .01$, ‡ $p < .001$

– Model not estimated due to low prevalence of symptom in the sample

[a] OR obtained by logistic regression (for each conduct disorder symptom, adjusted by other comorbidities and other symptoms of the disorder) and negative binomial regression (for total number of symptoms, adjusted by comorbidity)

Effect of Conduct Disorder Symptoms in the Functional Impairment (CGAS) by Sex and Age

Table 2 presents the differential association of each CD symptom with functional impairment. “Physically cruel to people” and “stealing without confrontation” were

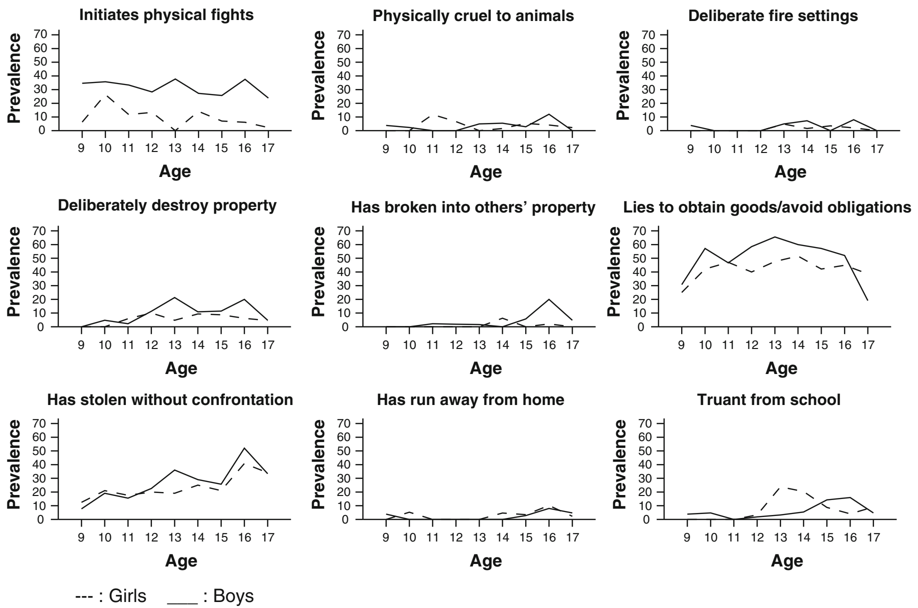

Fig. 1 Frequency of symptoms by sex and age (only symptoms with a significant trend are displayed)

significantly associated with greater impairment in boys. "Forced sex" and "run away" were significant in girls.

"Stealing without confrontation" was associated with a significantly greater impairment between 8 and 12 years. "Stealing without confrontation" and "run away" were significant between 13 and 17 years.

Effect of Conduct Disorder Symptoms in Severity of Psychopathology (CBCL and YSR) by Sex

Table 3 shows the association of each symptom of conduct disorder with the severity of psychopathology by sex, according to information from parents (CBCL scores), and children (YSR scores). "Uses a weapon", "forced sex", "lies" and "stealing without confrontation" significantly increased the CBCL total score in boys. "Destroying property" and "lies" increased total score in girls.

Considering the Externalizing Problems scale of the CBCL, "physical fights", "lies", "stealing without confrontation" and "run away" significantly increased the mean score in boys, and "uses a weapon", "destroying property", "lies" and "truant" did in girls.

For the Internalizing Problems scale of the CBCL, "forced sex" significantly increased the mean score in boys, and "physically cruel to animals" and "fire setting" did in girls.

The CD symptoms were not significantly associated with YSR total score in boys but "lies" increased mean score in girls. Both "uses a weapon" in boys and "lies" in girls increased mean score in Externalizing Problems scale of the YSR. Valuing the Internalizing Problems scale of the YSR, "fire setting", "stealing without confrontation" and "truant" significantly increased mean score in boys. In girls, the symptoms were not associated with a significant increase in the mean score.

Table 2 Association of conduct disorder symptoms and functional impairment by sex and age

	Sex[a]		Age[b]	
	Boys ($n = 362$)	Girls ($n = 317$)	8–12 Years ($n = 247$)	13–17 Years ($n = 432$)
1 Bullies, threatens	−2.24	−2.63	−4.64	−.66
2 Initiates physical fights	−.94	−1.47	−2.56	.55
3 Uses a weapon	−1.68	−1.41	−.27	−2.19
4 Physically cruel to people	−4.0*	−2.71	−4.19	−3.0
5 Physically cruel to animals	1.05	−3.68	−1.95	−1.69
6 Has stolen confronting a victim	−.24	−7.12	–	−3.02
7 Forced into sexual activity	−2.93	−22.1*	–	−6.82
8 Deliberately fire setting	−.48	3.55	1.45	−.64
9 Deliberately destroy property	1.68	2.33	4.31	.71
10 Has broken into otherśproperty	4.48	5.20	4.96	3.39
11 Often lies	.62	−1.39	−.02	.31
12 Has stolen without confrontation	−4.33†	−.46	−3.6*	−2.78†
13 Stays out at night	−2.80	−3.09	−3.71	−2.11
14 Has run away from home	−5.84	−7.76*	−6.31	−8.7†
15 Truant from school	−4.58	.05	−7.63	−.50
Adjusted R^2	.29	.27	.29	.20

(95% CI) available from the first author

Coefficients B in multiple regression models

* $p < .05$, † $p < .01$, Ф $p < .001$

– Model not estimated due to low prevalence of symptom in the sample

[a] Parameters ajusted by age and comorbidity

[b] Parameters ajusted by sex and comorbidity

Effect of Conduct Disorder Symptoms in Severity of Psychopathology (CBCL) by Age

The association of each symptom of conduct disorder with the severity of psychopathology by age, according to the information from parents, is summarized in Table 4.

"Uses a weapon" significantly increased the total mean score between 8 and 12 years. "Forced sex" and "lies" increased total mean score between 13 and 17 years.

Considering the Externalizing Problems scale, "uses a weapon", "lies" and "stealing without confrontation" significantly increased mean score between 8 and 12 years. "Bullies, threatens", "lies" and "truant" increased mean score between 13 and 17 years.

For the Internalizing Problems scale, "uses a weapon" significantly increased mean score between 8 and 12 years. Between 13 and 17 years the CD symptoms were not associated with a significant increase in the score.

Discussion

In general, in a clinical sample, the prevalence of antisocial behaviors did not differ significantly by sex or age. The differences observed indicate a higher frequency in the range of 13–17 years and a greater number of symptoms in boys. However, some

Table 3 Association of conduct disorder symptom and severity of psychopathology (CBCL and YSR) by sex

	CBCL total		CBCL externalizing		CBCL internalizing		YSR total		YSR externalizing		YSR internalizing	
	Boys ($n = 219$)	Girls ($n = 178$)	Boys ($n = 226$)	Girls ($n = 182$)	Boys ($n = 216$)	Girls ($n = 174$)	Boys ($n = 51$)	Girls ($n = 55$)	Boys ($n = 52$)	Girls ($n = 55$)	Boys ($n = 52$)	Girls ($n = 54$)
1 Bullies, threatens	2.1	2.04	4.28	6.86	.56	−5.13	.48	23.4	3.77	12.6	−1.61	.77
2 Initiates physical fights	1.79	.81	2.78*	.13	−2.2	.40	3.87	5.79	2.83	−.31	.39	6.62
3 Uses a weapon	16.7*	21.7	5.01	14.0*	3.89	−9.21	38.1	−24.4	15.8*	−13.0	13.3	24.0
4 Physically cruel to people	−3.96	−10.0	.37	−5.82	−.51	−2.85	11.2	.66	3.57	−2.51	1.15	1.34
5 Physically cruel to animals	1.47	13.5	.09	1.76	.56	7.89*	−10.5	−21.7	−.20	−8.0	−7.08	−8.95
6 Has stolen confronting a victim	5.39	–	6.21	–	.38	–	–	–	–	–	–	–
7 Forced into sexual activity	43.2†	–	8.61	–	12.3*	–	–	–	–	–	–	–
8 Deliberately fire setting	15.0	−7.94	2.90	7.98	5.21	12.5*	61.4	23.8	13.5	−2.48	21.4*	23.8
9 Deliberately destroy property	−4.26	19.6*	.72	7.81*	−2.14	5.19	−9.26	−23.2	1.69	−6.46	−8.08	−5.22
10 Has broken into otherśproperty	−3.57	–	−2.02	–	−3.75	–	−19.7	–	−2.87	–	−3.58	–
11 Often lies	7.07*	13.1†	4.11†	6.25Ф	−.64	1.69	−11.2	21.0†	−2.3	9.58Ф	−2.97	3.72
12 Has stolen without confrontation	11.7†	.64	4.18†	1.2	2.38	−.20	17.5	−1.68	3.33	−.41	8.04*	−.32
13 Stays out at night	4.95	−.91	3.75	−1.84	2.36	−.93	−17.9	12.7	−4.81	3.69	−8.70	−.37
14 Has run away from home	21.5	1.52	11.2*	−3.92	1.72	2.25	–	31.1	–	4.71	–	−2.16
15 Truant from school	−.38	7.01	2.93	5.73*	−.47	1.38	53.6	−6.16	12.3	4.27	27.3*	−6.59
Adjusted R^2	.23	.23	.33	.34	.09	.12	.15	.39	.13	.38	.27	.24

(95% CI) available from the first author

Coefficients B in multiple regression models adjusted by age and comorbidity

* $p < .05$, † $p < .01$, Ф $p < .001$

– Model not estimated due to low prevalence of symptom in the sample

Table 4 Association of conduct disorder symptom and severity of psychopathology (CBCL) by age

	CBCL total		CBCL externalizing		CBCL internalizing	
	8–12 Years ($n = 146$)	13–17 Years ($n = 251$)	8–12 Years ($n = 150$)	13–17 Years ($n = 258$)	8–12 Years ($n = 140$)	13–17 Years ($n = 250$)
1 Bullies, threatens	−9.3	11.5	−.39	8.59Ⴔ	−3.26	1.08
2 Initiates physical fights	1.6	1.72	2.95	1.87	−1.40	−1.93
3 Uses a weapon	30.1†	8.92	10.7†	2.74	10.3†	−1.38
4 Physically cruel to people	−9.64	2.33	−3.04	1.54	−2.85	1.15
5 Physically cruel to animals	19.7	10.8	6.68	1.78	8.45	3.45
6 Has stolen confronting a victim	–	.24	–	5.33	–	−.14
7 Forced into sexual activity	–	33.4*	–	4.94	–	10.3
8 Deliberately fire setting	−23.6	−4.88	−7.81	−2.01	−15.8	−1.58
9 Deliberately destroy property	8.12	.40	3.11	1.88	−1.32	−.31
10 Has broken into otherśproperty	−13.9	−1.22	−.25	−2.49	−4.79	−.69
11 Often lies	7.38	12.5Ⴔ	3.1*	6.94Ⴔ	−.13	.69
12 Has stolen without confrontation	10.0	4.17	5.05*	1.38	2.09	.83
13 Stays out at night	−9.1	5.39	−4.1	3.76	−2.60	2.39
14 Has run away from home	18.2	2.36	15.5	1.39	−2.16	−2.68
15 Truant from school	25.8	1.59	9.19	4.47*	8.09	−1.31
Adjusted R^2	.22	.26	.25	.39	.09	.05

(95% CI) available from the first author

Coefficients B in multiple regression models adjusted by sex and comorbidity

* $p < .05$, † $p < .01$, Ⴔ $p < .001$

– Model not estimated due to low prevalence of symptom in the sample

symptoms of conduct disorder showed developmental variations, functional impairment, and severity of psychopathology different by sex or age.

The differences in antisocial behavior between boys and girls reported in general population are reduced in clinical populations confirming that, although boys had more symptoms than girls, the latter may have equal or worse outcomes than boys [16, 19]. Boys often have more overt aggressive symptoms ("physical fights" and "physically cruel to people") than the girls and these, in turn, exhibit more covert aggressive behavior ("run away" and "truant").

Antisocial behaviors affect differently the severity of psychopathology according to sex. Only four symptoms have been associated with severity of psychopathology in both sexes:

"uses a weapon", "fire setting", "truant" and "lies". The "female" symptoms (associated with the girls) "run away" and "truant" are associated with more severe psychopathology in boys (externalizing and internalizing, respectively), but these relationship are not observed for "male" symptoms in girls. These findings may indicate that only boys in this sample confirms what were proposed by Frick et al. [24], regarding the unusual symptoms according to sex are very useful in CD diagnosis due to its high predictive value. In this clinical sample, symptoms of serious violations of norms are significant in both sexes, which should be considered in the screening of boys and girls who consult mental health services.

The symptoms that are associated with the severity of psychopathology are different in preadolescence and adolescence. In general, the symptoms most characteristic of each range-age are not more severe when they occur in an atypical period. Only the symptom "stealing without confrontation", significantly associated with ages 13-17, presented more severe externalizing behaviors in preadolescents which means that the presence of this symptom in the youngest is a possible marker of severity of different externalizing behaviors.

Antisocial symptoms show a different developmental course in boys and girls. In clinical girls covert aggressive symptoms are a more frequent problem at early ages (13–14 years) than in boys (16 years). On the other hand, there are symptoms that show a stable frequency throughout the different ages and sex. This is the case of "physical fights" on boys and the "lies" in girls. Whereas in boys there seems to exist a general tendency to increase antisocial behaviors over time, this trend is not so clear in girls. Physical aggressiveness is a common problem in girls 10–11 years old but afterwards it decreases. These variations indicate a different course of antisocial symptoms in boys and girls that are relevant to understand the manifestation of these problems, to correctly identify and prevent their occurrence, and confirm a developmental difference in the expression of these symptomatology observed in general and clinical population [36].

On the other hand, the most prevalent symptom of the sample "lies" presents a significant effect on the overall severity of psychopathology (in both sexes and adolescents) and externalizing psychopathology (in both sexes at all ages). While its effect may be clinically mild to moderate, the information provided is very useful to combine the power of cross effect and the high prevalence [37].

Another important finding is that, controlling for the presence of comorbidity, CD symptoms are associated with greater severity of psychopathology when reported by parents compared with adolescents' self-report. Thus, independently of other disorders that may coexist, the parents appreciate the symptomatology as more severe [38]. These discrepancies between informants can be interpreted in two ways. First of all, this result could show the difficulties of clinical adolescents to recognize their problems, which can be useful indicators for determining the prognosis of the case in clinical samples. It could be also that some adolescents can recognize their symptoms but lie on the assessment. In fact, the investigators in this field have concluded that both interpretations may be valid, emphasizing the importance of obtaining information from multiple sources [39].

When controlling for the presence of comorbidity, the CD symptoms more associated with functional impairment are "physically cruel to people" (boys), "forced sex" (girls), "stealing without confrontation" (for all ages and boys) and "run away" (girls and adolescents). The presence of this symptomatology in clinical population should alert about more serious difficulties in the daily functioning.

This study has some limitations that should be considered when interpreting results. First, it was not possible to estimate, through the information for children, the association

of CD symptoms with the severity of psychopathology by age because of small size of groups. Second, the fact that girls participated less than boys in the study must be considered when generalizing results. It has been shown boys use more mental health services than girls [40], and it has been argued that one of the reasons is that they have more severe problems. It could be that participation or not in the study also reflected this trend. Third, due to cross-sectional design of this study, analysis of the different developmental trajectories of the CD symptoms must be considered with caution, although the results agree with previous studies [1, 23]. Fourth, about a third of participants did not return the CBCL and YSR inventories. However, those who returned inventories and those who did not, did not differ significantly in the main variables of the study, so results were not biased. Finally, the results of this research are based on a clinical sample and cannot be generalized to the general population. On the other hand, the large sample size guarantees the internal validity and the power of the statistical analyses.

The results of this study have some practical implications. First, it confirms the clinical relevance of considering antisocial behavior according to sex and age of the individual. Second, knowing the different expression of each symptom of conduct disorder helps to identify these problems in children and adolescents who seek help at mental health services, contributing to an early detection of population at the highest risk of serious psychopathology and worse prognosis. For example, the results of this study point out that clinicians should consider as severity indicators the presence of behaviors such as “truant”, “lie” or “use a weapon” in both boys and girls. In addition, the observation of “running away” in boys or “destroying property” in girls should alert clinicians of a more severe picture in terms of psychopathology or functioning. It is important that the clinicians be aware that some individuals with these behaviors, but who do not necessarily meet full criteria for conduct disorder could benefit from early detection of symptoms that may be associated with more serious problems. Finally, present results can help the mental health professionals in planning interventions to the clinical population, for diminishing the conduct disorder symptomatology, reducing the immediate consequences of these behaviors and the impact on the functioning and psychopathology. The mental health professionals should be aware that the individual symptoms of conduct disorder are differentially important, and they provide distinct information about severe problems according to sex or age of the subject.

Summary

The current investigation examined the prevalence, degree of association and differential effect, by sex and age, of conduct disorder symptoms on psychopathology and functioning of Spanish outpatient children and adolescents. In this clinical sample, the general prevalence of CD symptoms did not differ significantly according to sex or age of subjects. This is consistent with the observation that differences between boys and girls are lower in clinical populations than in community samples. However, a higher frequency of CD symptoms for 13–17 years old and for boys was observed. Sex and age differentially affected both the development of some symptoms, and the functioning and severity of psychopathology. Symptoms showed a different development in boys and girls, while in boys there are a general tendency to increase symptoms over time, in girls this trend is not so clear. Despite the limitations to this study, the results provide insights into the differential expression of symptoms in clinical children and adolescents. Considering the heterogeneity and high frequency of CD symptoms, it is important to extend the study of

individual symptoms to clinical samples. This knowledge could be useful for mental health professionals to detect the presence of certain symptoms associated with major difficulties in children and adolescents.

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5.2 Segundo artículo

Father's and mother's perceptions of parenting styles as mediators of the effects of parental psychopathology on antisocial behavior in outpatient children and adolescents

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ORIGINAL ARTICLE

Father's and Mother's Perceptions of Parenting Styles as Mediators of the Effects of Parental Psychopathology on Antisocial Behavior in Outpatient Children and Adolescents

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Abstract The aim was to examine the potential mediating role of father's and mother's parenting styles in the association between parental psychopathology and antisocial behavior in children, and whether this pathway was moderated by child's sex. Participants included both parents and 338 Spanish outpatient children between 8 and 17 years (56.5% boys). Parenting style had a mediating effect on the studied relationships. Maternal psychopathology was positively associated with antisocial behavior in children, either directly or partially by parenting style, while paternal psychopathology was positively associated with offspring antisocial behavior only through the mediator role of parenting style. Child's sex did not moderate these relationships. Parenting style could be a target for prevention and intervention of antisocial behavior in the offspring of parents with mental health problems.

Keywords Antisocial behavior · Parental psychopathology · Parenting style · Mediation effects · Children and adolescents

Introduction

Knowledge about the causes and risk factors associated with antisocial behavior (ASB) in children and adolescents has been an important research topic in recent decades due to its

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persistence over time for the most severe patterns, and its economic and social costs [1]. ASB generates a wide variety of difficulties in the social environment increasing the need to use mental health services [2].

In this area, parental psychopathology has been the focus of a great deal of research. Numerous studies have demonstrated a link between parental psychopathology and ASB in children and adolescents [3]. Maternal depression [4], paternal depression [5] or both [6] have been associated with ASB in offspring. On the other hand, researchers have found that paternal ASB [7], maternal ASB [8], parental alcoholism [9], paternal drug dependence [10] and paternal antisocial personality disorder [11] predict the presence of ASB or conduct disorder in children and adolescents. Parental anxiety has also been associated with externalizing problems in children [12, 13]. In contrast, Marmorstein and Iacono [7] have failed to find an association between paternal depression and maternal ASB with conduct disorder in youth. Meanwhile, Burstein et al. [14]. found no association between parental anxiety and child externalizing symptoms.

Despite some discrepant findings, there is wide evidence for the strong association between parental psychopathology and ASB in children and adolescents. Numerous investigations have focused on identifying potential mechanisms that help explain this relationship. In this line of research, family processes, especially parenting, have raised a significant interest.

Several studies have examined how parenting is related to parental psychopathology, as well as to child/adolescent ASB. In a review, Berg-Nielsen et al. [15] indicated that depressed mothers were more rejecting and showed decreased sensitivity to their children's needs. Maternal anxiety disorder was associated with negative criticism towards offspring [16]. Parents with personality disorders presented more neglect and hostility [15]. On the other hand, children and adolescents with ASB often belong to families characterized by coercive or authoritarian interactions [17], inconsistent discipline [9], harsh parenting [18], and low levels of monitoring [19]. Moreover, Veenstra et al. [20] found that ASB in preadolescents was negatively associated to emotional warmth and was positively associated to rejection and overprotection.

Researchers have found that parenting could play an important mediating role in the pathway between parental psychopathology and ASB in children and adolescents. In this regard, Frick and Loney [1] suggest that the effect of parental psychopathology can affect children's behavior indirectly through various parenting practices. That is, adult psychopathology may affect parenting capabilities, reducing parents' ability to maintain adequate parenting of their offspring [15]. In this area, Snyder [21] found that maternal discipline mediated the association between mothers' mental health problems and behavior problems in children. With regard to parental depression, existing research suggests that parenting style could mediate the effects of parental depressive symptoms on children's ASB. The relationship between maternal depressive symptoms and externalizing problems in children was partially mediated by the quality of mother–child interaction [22]. Also, harsh parenting partially mediated the effect of maternal depressed affect on externalizing behavior in children [23], while Miller et al. [24] found that parental control fully mediated the association between maternal and paternal depression and children's externalizing behaviors. In a study of caregivers with a history of depression, low emotional warmth was associated only with externalizing problems [25].

On the other hand, studies on parental antisocial behavior have found that the rejecting parenting style partially mediated the relationship between mothers' aggressive characteristics and youth antisocial behavior [26]. Likewise, negative parenting partially mediated the relationship between maternal ASB and conduct problems in children [8].

Thornberry et al. [27] recently found that the impact of parental ASB on adolescent antisocial behavior was mediated by effective parenting, while aggressive parenting mediated the relationship between parents' and children's externalizing behavior [28]. Smith and Farrington [29], in research on the intergenerational continuity of ASB, found that mother's poor supervision and father's authoritarian parenting partially mediated the effects of parental antisocial behavior on ASB in children.

Despite studies that showed a significant association between parental anxiety and externalizing behaviors in children, there is little evidence of the potential mediating role of parenting in this relationship. Spieker et al. [30] found that maternal negative control partially mediated the relationship between maternal depression/anxiety symptoms and child disruptive problems.

Parents' and children's sex could play an important role in the association between parental psychopathology and ASB in children [31], as well as in the association between parenting style and children ASB [32]. For example, Meurs et al. [31] found that the transmission of delinquent behavior from parents to children was higher for mothers than fathers. The findings of these authors also showed that the influence of maternal delinquent behavior was stronger for boys than for girls. On the other hand, Gryczkowski et al. [32] point out that mothers' and fathers' parenting practices may differentially relate to externalizing behaviors in children. These researchers found that fathers' lack of involvement was associated with externalizing problems in boys but not in girls, and that mothers' and fathers' poor monitoring/supervision was associated with externalizing behavior in girls but not in boys. However, few studies on the mediating effect of parenting in the relationship between parental psychopathology and ASB in children have examined the role of parents' and children's sex. Thornberry et al. [27] found that for the mothers, effective parenting was the main mediator of the impact of parental antisocial behavior on ASB in children, while for the fathers, multiple mediators explained the association between parent's and children's ASB. As regards children's sex, research has offered discrepant findings. Rhule et al. [8] showed that maternal ASB had a direct effect on boys' conduct problems that was not accounted for by parenting; however, in girls, maternal ASB was only associated with negative parenting, and not with behavior problems. In contrast, in a study that included only girls, Pajer et al. [33] found that the effect of parental ASB on the presence of child conduct disorder was not mediated by parental behavior (negative discipline).

Despite the wide literature on ASB in children, research on the potential mediating role of parenting and the differential effects of parents' and children's sex currently presents inconclusive findings. The present study aimed to examine in Spanish outpatient children and adolescents: (a) the potential mediating role of father's and mother's parenting style in the relationship between parental psychopathology and ASB in children and adolescents, and (b) whether this mediational path was moderated by child's sex.

This research attempts to extend the scope of the existing literature by considering some important aspects. First, a limitation of many studies is that they use data from the mother only or from combined reports by the two parents [32]. As a result, there are few studies that examine paternal parenting as a mediator of the relation between father's psychopathology and ASB in children [34]. Also, mothers and fathers have differential influences on the behavior of their offspring, especially when the children come from two-parent families [35], and their perceptions about their own parenting experiences can help to identify accurately maladaptive parental behaviors. Consequently, in this study were included reports from mothers and from fathers about their parenting styles and psychopathology. Second, most studies on ASB are based on male samples, and little is known about

disruptive behavior in girls [36]. Only in the last decade have careful studies been carried out that include sex on examining possible pathways between parents' and children's psychopathology. Moreover, on the basis of some mixed evidence regarding the mechanisms that might differentially explain ASB in boys and girls, the potential moderating role of children's sex in mediational models was assessed. Third, children and adolescents attending psychiatric outpatient services show a high prevalence of ASB [37]. Given the high impact of these behaviors on children's daily functioning and their negative consequences for others, it is important not to restrict the study of these factors to samples of conduct-disordered patients. For this reason, this study included a sample of outpatient children and adolescents with different disorders. Finally, according to our literature review, the potential mediating effect of parenting style has not yet been studied in a Spanish sample. In general, there is evidence that parenting may have similar effects across industrialized societies [38]. However, the study of family processes in different cultural contexts can help improve our understanding of these phenomena [23].

Based on the current literature, it was specifically hypothesized that (1) maternal and paternal psychopathology (global distress, depression, antisocial behavior and anxiety) would be positively associated with ASB in children; (2) maternal and paternal psychopathology (global distress, depression, antisocial behavior and anxiety) would be positively associated with the parenting styles of rejection or overprotection, and negatively with emotional warmth in both parents; (3) the parenting style of rejection and overprotection from both parents would be positively associated with ASB, and emotional warmth would be negatively associated with ASB in children; (4) parents' rejection or emotional warmth would mediate the effect of parental depression or antisocial behavior on ASB in children, and parents' overprotection would mediate the effect of parental anxiety on ASB in children; (5) Children's sex would moderate the mediational paths examined. That is to say, the mediational pathways that explain the association between parental psychopathology and children antisocial behavior would be different for boys and girls.

Method

Participants

Participants were part of a larger study on risk factors in developmental psychopathology. They were recruited from outpatient mental health centers of the public network of Barcelona, Spain. The individuals who had mental retardation or a pervasive developmental disorder, as identified by medical records, were excluded from the study (n = 5). Of 574 two-parent families contacted, 338 families (58.9%) completed all instruments used in the present study. There were no significant differences in sex ($\chi^2 = 1.54$, $p = .22$), age ($t = .69$, $p = .49$) and socioeconomic status ($\chi^2 = .73$, $p = .45$) among those returning all the questionnaires and those who did not.

The age of the participants (N = 338) ranged from 8 to 17 (mean = 13.8; SD = 2.29) and 56.5% (n = 191) were boys. The 98.5% were of Caucasian ethnicity and, according to Hollingshead Socioeconomic Index [39], 13.6% were pertained to high/middle-high level socioeconomic status, 61.3% to middle/low-middle and 25.1% to low. All children belonged to two-parent families; 77.5% (n = 262) lived with both biological parents, 16.9% (n = 57) with the biological mother and other caregiver, 2.7% (n = 9) with the biological father and other caregiver, and 3.0% (n = 10) without the biological parents, but with two caregivers. In this study, female caregivers will be referred to as "mothers" and

male caregivers as "fathers". The mothers reported a mean age of 40.5 years (SD = 5.7) and fathers of 43.3 years (SD = 6.0).

The disorders more prevalent in the sample, assessed through a semi-structured diagnostic interview (DICA-IV), were oppositional defiant disorder (46.7%; n = 158), attention deficit/hyperactivity disorder (39.5%; n = 133), generalized anxiety disorder (32.0%; n = 108) and major depressive disorder (28.1%; n = 95). According to children's sex the disorders more prevalent were, for boys, attention-deficit/hyperactivity disorder (55.3%; n = 105), oppositional defiant disorder (49.7%; n = 95), generalized anxiety disorder (23.0%; n = 44), major depressive disorder (17.8%; n = 34) and conduct disorder (15.7%; n = 30), and for girls, generalized anxiety disorder (43.5%; n = 64), oppositional defiant disorder (42.9%; n = 63), major depressive disorder (41,5%; n = 61), social phobia disorder (19.0%; n = 28) and attention-deficit/hyperactivity disorder (19.0%; n = 28).

Measures

Parental psychopathology was assessed with the Symptom Checklist 90 Revised (SCL-90-R) [40], a multidimensional self-report inventory that consists of 90 items divided into nine symptom dimensions and three global indexes (global severity index—GSI, positive symptom total—PST, and positive symptom distress index—PSDI). In this study, the scales of depression, hostility and anxiety, and the three global indexes were used. These scales include the main parents' symptoms (global distress, depression, disruptive behavior and anxiety) that have been associated with behavior problems in children and adolescents. Participants rated each item on a five-point options from 0 (absence of the symptom) to 4 (maximum disturbance). The SCL-90-R has been adapted and validated for the Spanish population with satisfactory psychometric properties. Internal consistency was very good (Cronbach's alpha values above .96) [41]. In this study, the Cronbach's alphas for this inventory were adequate to very good: father's GSI, PST and PSDI ($\alpha = .96$), mother's GSI, PST and PSDI ($\alpha = .90$), father's depression ($\alpha = .88$), mother's depression ($\alpha = .90$), father's hostility ($\alpha = .71$), mother's hostility ($\alpha = .80$), father's anxiety ($\alpha = .79$), and mother's anxiety ($\alpha = .84$).

Parenting style was assessed with the parents' versions of the EMBU (Egna Minnen Beträffande Uppfostran, My memories of upbringing) [42], a questionnaire that assesses parents' perceptions of their own rearing behavior with their children. Mothers' and fathers' parenting style were measured separately. The EMBU has 81 items with four response options from 1 (never) to 4 (almost always). The raw scores for the three scales "Emotional Warmth" (emotional support and acceptation), "Rejection" (parent hostility, harsh and punitive parenting), and "Overprotection" (strict regulation and monitoring, and high degree of intrusiveness toward their children) were analyzed. The EMBU has been adapted and validated for the Spanish population with satisfactory psychometric properties [43]; Cronbach's alpha ranged from .66 to .84 [44]. In this study, the Cronbach' alphas for this questionnaire were adequate to good: father's emotional warmth ($\alpha = .88$), mother's emotional warmth ($\alpha = .84$), father's rejection ($\alpha = .77$), mother's rejection ($\alpha = .77$), father's overprotection ($\alpha = .75$), and mother's overprotection ($\alpha = .71$).

Children's Antisocial Behavior was measured with the Rule-Breaking Behavior scale from Child Behavior Checklist (CBCL) [45]. The CBCL is an inventory for parents that assesses emotional and behavioral problems of children and adolescents between 6 and 18 years old. Specifically, the Rule-Breaking Behavior scale has 17 items with three response options (0 = Not true, 1 = Sometimes, 2 = Very often) and measures behaviors such as "lacks guilt", "runs away", "steals", or "truant". The raw scores of the remaining

scales were considered to control for the presence of other comorbid symptoms different from antisocial behavior. The CBCL has been adapted and validated for Spanish population with satisfactory psychometric properties (Cronbach's alpha above .80) [46]. In this study, the Cronbach's alphas for this inventory were adequate to very good: Rule-Breaking Behavior scale ($\alpha = .74$) and total CBCL score ($\alpha = .94$).

Finally, the diagnostic status of children and adolescents was established with the Diagnostic Interview for Children and Adolescents-IV (DICA-IV) [47]. The DICA-IV is a semi-structured diagnostic interview that covers the most frequent diagnostic categories in children and adolescents, according to DSM-IV [48] definitions. The DICA has been adapted and validated for the Spanish population with satisfactory psychometric properties [49, 50]. The test–retest reliability was good (kappa values from .41 to 1) [51]. There are three versions, for children (8–12 years), adolescents (13–17 years), and parents. All the interviewers were trained in the use of the DICA. The training procedure included: simulated practice interviews, coding of audio-recorded interviews, and observation and coding of interviews in vivo. Interviewers were considered qualified to use the DICA when the mean of diagnostic agreement with the expert interviewer was $k \geq .80$. The diagnoses were generated by combining the information from children and parents at symptom level: each symptom was considered present if the children or the parents reported it.

Procedure

The study had the approval of the Ethics Committee of our institution. Written consent from parents and oral assent of children and adolescents was obtained to participate. Participants attended for the first time to mental health centers and were not receiving treatment. Questionnaires were explained and given to parents on the first appointment to be returned at the next one.

Statistical Analysis

Statistical analysis was carried out with PASW17.0.2 (SPSS System) and EQS6.1 for Windows. First, bivariate correlations analyzed the degree of association between parental psychopathology, parenting style and children's ASB.

Next, mediational hypotheses were assessed through Structural Equations Models (SEM), which included parental psychopathology (independent variables: IV), parenting style (mediators) and children's antisocial score (dependent variable: DV). Baron and Kenny's procedure [52] was used to test the mediational role of parenting style. Statistical significance of the mediational pathways was tested using the Kenny et al. [53] method. Considering the developmental differences that may occur between participants due to the wide age range in this sample, child's age was controlled for in all the analyses. Moreover, the presence of comorbid symptoms was controlled in the mediational models.

The goodness of fit of final models was valued through the usual Chi-square test, the Comparative Fit Index (CFI) [54] and the Root Mean Square Error of Approximation (RMSEA) [55]. It was considered a good adjustment if: the Chi-square achieved a *p*-value above .05, CFI had values higher than .90, and the RMSEA had values lower than .07. The global predictive accuracy of the final models was measured through the statistic R^2.

Finally, the potential moderating role of child's sex was analyzed through multiple regression models. Different models were built including the father's and mother's psychopathology, parenting styles, child's sex and interaction-terms between parenting style and child's sex. Children's ASB score was the dependent variable. The moderation was

considered present when interaction-terms between parenting style and children's sex achieved p values $<.05$.

Results

Degree of Association Between the Variables of the Study

Table 1 presents bivariate correlations among the variables of the study. The variables of father's and mother's psychopathology showed positive and significant associations with children's ASB score (the higher the level of parents' psychopathology, the higher the CBCL score), with the exception of the Positive Symptom Distress Index (PSDI) reported by the father.

All the variables of father's psychopathology achieved significant correlations with rejection, emotional warmth and overprotection by the father. The variables of mother's psychopathology were significantly correlated with rejection and overprotection, and emotional warmth with exception of Positive Symptom Distress Index (PSDI) and Anxiety of the mother. All variables of father's and mother's parenting styles significantly correlated with each other, with the exception of emotional warmth and overprotection of the father. All significant correlations, correlated positively with rejection and overprotection, and negatively with emotional warmth.

All the variables of father's and mother's parenting styles were correlated with ASB in children. The father's and mother's rejection and overprotection were positively correlated with children's ASB, and emotional warmth were negatively correlated with CBCL score.

Testing the Mediational Role of Parenting Style

Different models were built considering the scales of SCL-90-R. Parenting style of fathers and mothers were entered jointly in the models.

Figure 1 shows the mediational model for Global Severity Index (GSI). The model achieved adequate adjustment indexes: χ^2 (20) = 22.14, p = .33, CFI = .99, RMSEA = .02, R^2 = .49. Maternal GSI score was directly and positively associated with ASB in children. On the other hand, father's overprotection mediated the effect of paternal GSI score on the children's ASB score. (z = 2.57, p = .01). As expected, paternal GSI score was positively associated with overprotection, and father's overprotection was positively associated with ASB in children.

The model for Positive Symptom Distress Index (PSDI) also obtained good fit statistics: χ^2 (20) = 27.27, p = .13, CFI = .99, RMSEA = .04, R^2 = .44 (Fig. 2). Maternal PSDI score was directly and positively associated with ASB in children. Mother's overprotection (z = 2.01, p = .04) and rejection (z = 2.16, p = .03) partially mediated the association of maternal PSDI score on the ASB in children. As expected maternal PSDI score was positively associated with overprotection and rejection, and mother's overprotection and rejection were positively associated with ASB in children. On the other hand, father's overprotection mediated the relationship between paternal PSDI score and the ASB in children (z = 2.88, p = .00). Paternal PSDI score was positively associated with overprotection, and father's overprotection was positively associated with ASB in children.

The goodness-of-fit for the model including Positive Symptom Total (PST) was adequate: χ^2 (20) = 24.51, p = .22, CFI = .99, RMSEA = .03, R^2 = .49. Maternal PST

Table 1 Bivariate correlations among parental psychopathology, parenting styles and antisocial behavior in children and adolescents

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. GSI father																		
2. GSI mother	.35*																	
3. PST father	.93*	.39*																
4. PST mother	.32*	.93*	.38*															
5. PSDI father	.71*	.20*	.49*	.18*														
6. PSDI mother	.35*	.84*	.34*	.67*	.31*													
7. DEP father	.88*	.35*	.80*	.31*	.62*	.36*												
8. DEP mother	.31*	.92*	.35*	.86*	.20*	.80*	.35*											
9. ANX father	.83*	.26*	.74*	.24*	.62*	.28*	.66*	.21*										
10. ANX mother	.32*	.90*	.34*	.82*	.20*	.74*	.30*	.79*	.29*									
11. HOST father	.73*	.27*	.65*	.26*	.56*	.27*	.65*	.26*	.61*	.30*								
12. HOST mother	.32*	.78*	.32*	.69*	.18*	.67*	.33*	.68*	.24*	.70*	.31*							
13. EMBU: Rejection father	.30*	.22*	.32*	.21*	.16*	.19*	.29*	.20*	.19*	.23*	.35*	.23*						
14. EMBU: Rejection mother	.17*	.28*	.22*	.29*	.08	.18*	.16*	.27*	.01	.21*	.15*	.37*	.36*					
15. EMBU: Emotional warmth father	−.18*	−.14*	−.21*	−.14*	−.11*	−.12*	−.13*	−.13*	−.10*	−.14*	−.16*	−.11*	−.36*	−.19*				
16. EMBU: Emotional warmth mother	−.08	−.11*	−.12*	−.16*	−.04	−.03	−.06	−.12*	−.02	−.07	−.05	−.13*	−.14*	−.41*	.39*			
17. EMBU: Overprotection father	.31*	.14*	.32*	.12*	.24*	.18*	.31*	.17*	.23*	.17*	.28*	.21*	.40*	.28*	.02	−.17*		
18. EMBU: Overprotection mother	.21*	.34*	.24*	.33*	.13*	.34*	.21*	.30*	.13*	.29*	.20*	.40*	.25*	.51*	−.11*	−.17*	.44*	
19. ASB in children	.17*	.34*	.18*	.30*	.12	.32*	.23*	.35*	.14*	.30*	.14*	.30*	.22*	.31*	−.15*	−.25*	.34*	.35*

SCL-90-R scales: *GSI* global severity index, *PST* positive symptom total, *PSDI* positive symptom distress index, *DEP* depression, *ANX* anxiety, *HOST* hostility, *ASB* antisocial behavior

* $p < .05$

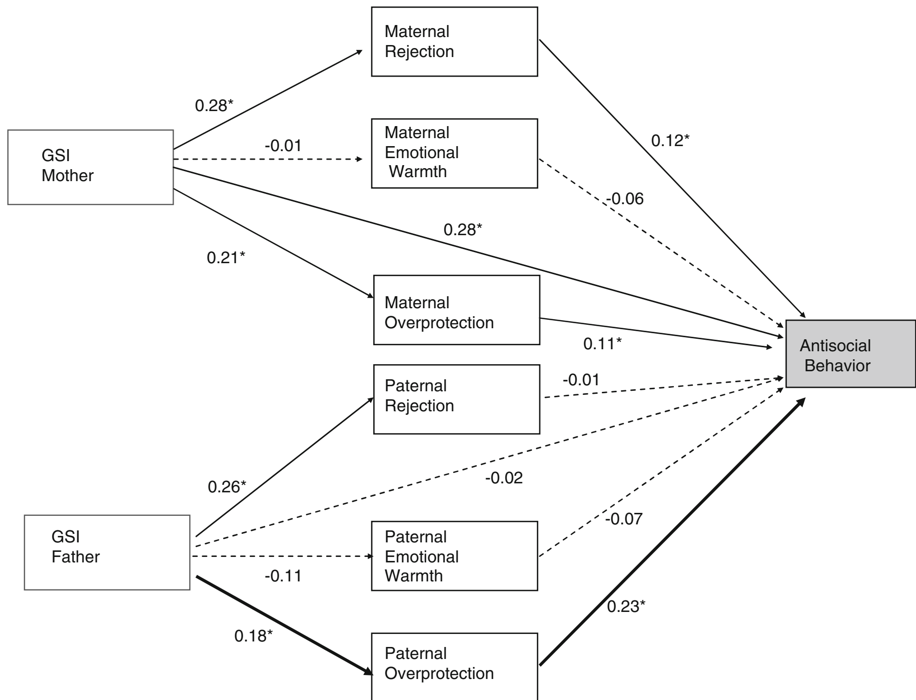

Fig. 1 Model of the mediational role of parenting style in association between global severity index (GSI) and ASB in children and adolescents. *Bold line* represents significant mediator path. *Cross-hatch line* represents non-significant association. *$p < .05$

score was directly and positively associated with ASB in children. On the other hand, father's overprotection mediated the relationship between paternal PST score and the ASB in children ($z = 2.52$, $p = .01$). As expected, paternal PST score was positively associated with overprotection, and father's overprotection was positively associated with ASB in children.

Figure 3 shows the model for Depression (DEP). The mediational model had good fit values: χ^2 (20) = 17.46, $p = .62$, CFI = .99, RMSEA = .00, $R^2 = .48$. Maternal DEP score was directly and positively associated with ASB in children. On the other hand, father's overprotection mediated the association of paternal DEP score on the ASB in children ($z = 2.35$, $p = .02$). Paternal DEP score was positively associated with overprotection, and father's overprotection was positively associated with ASB in children.

The model for Anxiety (ANX) also had good fit statistics: χ^2 (20) = 25.98, $p = .17$, CFI = .99, RMSEA = .03, $R^2 = .47$ (Fig. 4). Maternal ANX score was directly and positively associated with ASB in children. Mother's overprotection ($z = 1.96$, $p = .04$) partially mediated the association of maternal ANX score on the ASB in children. As expected, maternal ANX score was positively associated with overprotection, and mother's overprotection was positively associated with ASB in children. On the other hand, father's overprotection ($z = 2.32$, $p = .02$) mediated the relationship between paternal ANX score and the ASB in children. As expected, paternal ANX score increased overprotection, and father's overprotection increased ASB in children.

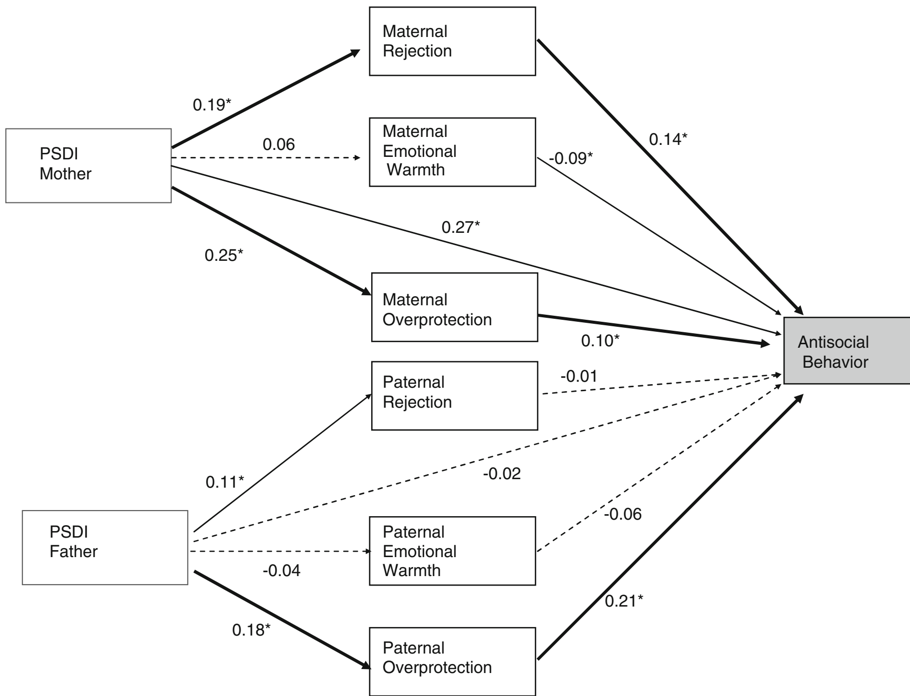

Fig. 2 Model of the mediational role of parenting style in association between positive symptom distress index (PSDI) and ASB in children and adolescents. *Bold line* represents significant mediator path. *Cross-hatch line* represents non-significant association. *$p < .05$

The model for Hostility (HOST) did not present any significant mediational path. Father's and mother's parenting styles did not mediate the effect of parental psychopathology on ASB in children.

Testing the Moderating Role of Child's Sex

According to the results of the regression models, none of the interactions between child's sex and parenting style were significant ($p < .05$), suggesting that the children's sex had no moderating effect on the associations examined.

Discussion

The potential mediating role of father's and mother's parenting styles in the association between parental psychopathology and ASB in children, as well as the moderating role of child's sex in this relationship were examined. Results showed that parenting style had a mediating effect on the studied relationships. Specifically, maternal psychopathology was positively associated, either directly or partially by parenting style, with ASB in children, while paternal psychopathology was positively associated with offspring ASB only through the mediator role of parenting style. Results suggest that the children's sex did not play a moderating role in these relationships.

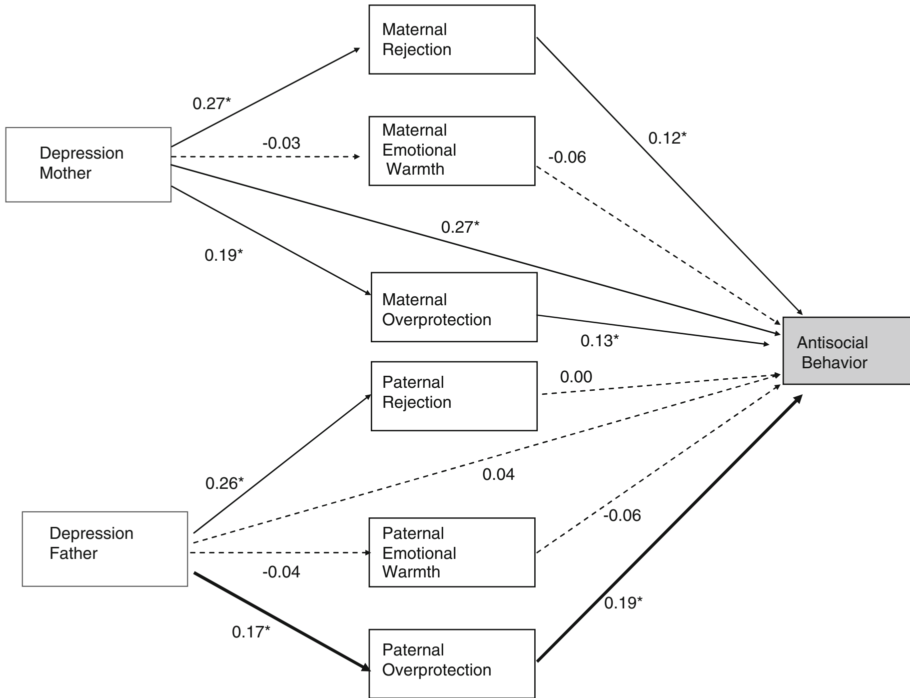

Fig. 3 Model of the mediational role of parenting style in association between depression (DEP) and ASB in children and adolescents. *Bold line* represents significant mediator path. *Cross-hatch line* represents non-significant association. *$p < .05$

Present results provide some support for the importance of the mediational role of parenting style on the relationship between parental psychopathology and ASB in children and adolescents. The ability to develop effective parenting may be decreased by psychopathology in some parents, generating a negative impact in their children [1].

Regarding the studied parenting styles, overprotection appeared to be the main mediator. Overprotection negatively impacts on the optimal development of autonomy in children and adolescents, and may increase the risk of developing disruptive behavior [56]. As suggested by Veenstra et al. [20], the association between parental overprotection and ASB could possibly be explained when considering that individual autonomy is very valuable for children, and even more for adolescents. Therefore, when an adolescent feels that parental interference and intrusiveness are high, he/she shows ASB as an act of protest against the conduct of parents. In addition to the above, parents can be overprotective of their children when they believe that their offspring are vulnerable and fragile, or when adolescents present behaviors that may be disruptive [57]. Given that participants were outpatient children, it is likely that some of the conditions described were present, which may partly explain the high impact of overprotection in this study. For example, with respect to the mediational model including parental anxiety, it is likely that parents who are anxiety-prone and/or perceive a dangerous world show more overprotection towards their children [57].

In the mediational models examined, the father's parenting style fully mediated the relationship between paternal psychopathology and ASB in children. The results suggest

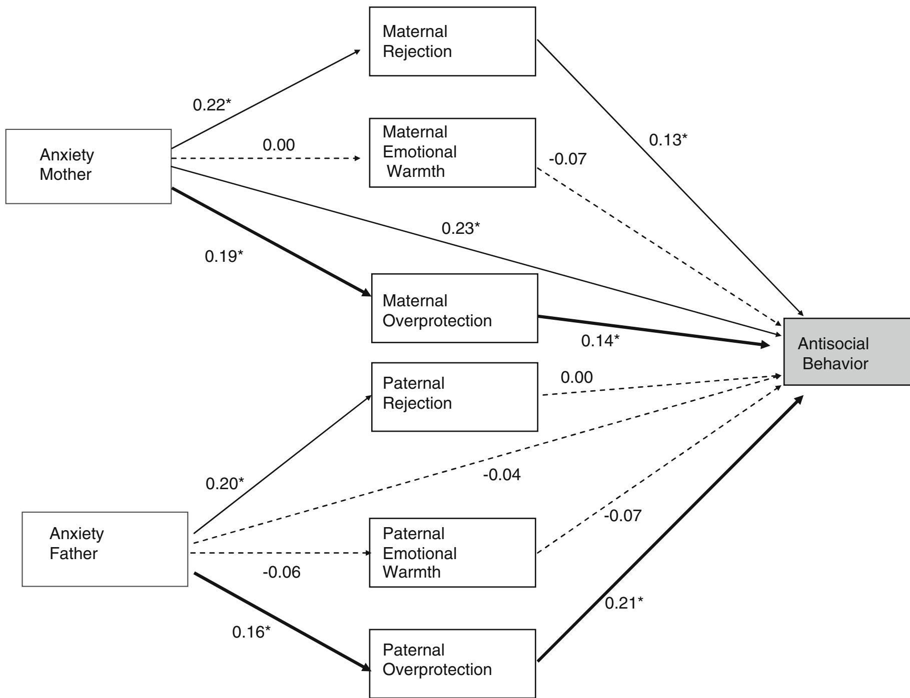

Fig. 4 Model of the mediational role of parenting style in association between anxiety (ANX) and ASB in children and adolescents. *Bold line* represents significant mediator path. *Cross-hatch line* represents non-significant association. $*p < .05$

that fathers' psychopathology negatively affects their parental capabilities, and that their inadequate parenting is one that influences the development of ASB in children. Thornberry et al. [58], indicate that fathers' influence on the transmission of ASB depends on their contact and involvement with their offspring. When antisocial fathers show low levels of contact with their children, there has been no association with their children's ASB [27]. Given the strong influence of fathers on children's behavior, and particularly on ASB [59], future research would benefit from examining the level of contact between fathers and their children.

On the other hand, when the mother's parenting style mediated the relationship between maternal psychopathology and ASB in children, the mediation was always partial. Maternal psychopathology maintains a direct association with ASB in children. These results are consistent with other studies on parental mediation, which suggest that the direct effect of maternal psychopathology persists despite the inclusion of mediators [8, 22]. This direct link may suggest that alterations in the mother's psychological functioning (changes in emotions or mood) can directly affect children and adolescents. In contrast, these results might indicate the presence of alternative mechanisms (not included in this study) through which maternal psychopathology may be associated with ASB in children, with/without relation to parenting style such as, for example, negative life events [58], maternal locus of control and self-esteem [60], or parent–child conflict [7].

It is also important to note that the mediating effect of mother's parenting style is more prominent when there is a greater intensity of maternal psychopathology (the association

appears with PSDI score but not with PST or GSI). Meanwhile, father's psychopathology can alter parenting style not just through intensity but also through the presence of psychopathology indicators (PST or GSI). These findings suggest that, when mothers are most strongly affected, more negative effects on their parenting style are generated which negatively impact on their children's ASB. Apparently, mothers are able to maintain proper parenting when they have less severe psychological problems.

The findings of this study suggest that the child's sex does not have a modifier effect in the mediational models tested. The results do not agree with the evidence from studies which indicate that girls may be particularly affected by the quality of parenting or other family variables [6, 61]. In clinical samples, the observed differences in ASB between boys and girls decreased from the general population, which could indicate that boys and girls may have similar outcomes [37, 62]. Consequently, results of this study suggest that the relationship between parental psychopathology, parenting style and ASB in children and adolescents are similar for both sexes.

The present study contributes to increasing knowledge about the differential mediating pathways through which mothers' and fathers' psychopathology may be associated with antisocial behavior in children. The joint analysis of data provided separately by each parent helps us to understand the mediating roles of the mother's and the father's specific parenting style in this relationship. This study in the Spanish population point out that overprotection by both parents is a key mediating pathway. Further research is needed to identify other family factors associated with parental overprotection (e.g., marital quality) in order to better understand its association with ASB in children.

Some limitations should be considered when interpreting these results. First, the cross-sectional design of this study suggests pathways between variables; however this type of design prevents a determination of a causal relationship and does not make it possible to define the directionality of the effects. Furthermore, the effects of parenting may partly depend on the characteristics of the children, accounting for bi-directional processes [38]. While parent-effects on conduct problems remain relevant [12], child-effects on parenting are also important, and there is a need for additional research to examine how diverse characteristics of children (e.g., type of psychopathology) may have an influence on parenting. Also, considering that this study included children's comorbid symptoms as covariates, further research is needed on the potential differential results that may show children with different types of comorbid symptoms (e.g., children with internalizing symptoms and ASB). Second, measures of parent psychopathology, parenting style and ASB in children were obtained through parental report, and statistically significant associations might be inflated due to common method variance. Parents and offspring may interpret and observe parental behavior differently, so that it is also important to consider the information reported by children [57]. Future research might include multiple informants, including the children themselves and their teachers. Nevertheless, given the importance of overprotection in the present study, it is relevant to indicate that children with ASB tend to describe their parents as highly overprotective [20, 63], even less warm and more controlling than parents would describe themselves [57]. Lastly, this study was carried out with a clinical sample, and the results can be generalized only to children attending consultations for psychopathological problems.

Findings have important practical implications. First, they suggest the clinical relevance of considering the associations of father's and mother's psychopathology and parenting style with ASB in outpatient children and adolescents. Second, results imply that, when parents have mental health problems, because of its mediating role, parenting style should be an important target for prevention and intervention in children with ASB. Knowledge

about the effects of different parenting style may help clinicians in the early detection of negative parental behaviors [15]. For example, clinicians should consider the negative effects of parental overprotection and the consequent risk for the development of ASB in children and adolescents. Clinicians who work in parent training could teach parents how to monitor their children's behavior without restricting individual autonomy. Third, because of the observed differences in the association of paternal and maternal psychopathology and parenting style with ASB, it is important for family interventions to include both parents. The current results provide some support to the evidence regarding the unique contribution that each parent makes on their children's behavior [64]. For example, in two-parent families, if fathers are not included in the training they may engage in parenting practices characterized by overprotection which could interfere with treatment. It is essential to increase efforts to develop strategies to improve participation rates of fathers in parenting programs, designing programs that address the needs of both mothers and fathers [65]. Finally in this study, maternal psychopathology had a direct association with ASB, despite the mediation of maternal parenting style. Clinicians should be aware that mothers' mental health has a great impact on their children's functioning. In this regard, it is important to establish close links between child and adult mental health services [3].

Summary

The present study examined the mediating role of father's and mother's parenting styles in the association between parental psychopathology and ASB, as well as the moderating role of child's sex in this relationship, in a sample of Spanish outpatient children and adolescents, and both parents. Parenting style had a mediating effect on the studied relationships, but child's sex did not moderate these associations. In general, the parenting style of overprotection presented the main mediator effect. The father's parenting style fully mediated the relationship between paternal psychopathology and ASB in children. On the other hand, when the mother's parenting style mediated the associations of maternal psychopathology with ASB in children, the mediation was always partial. Despite the limitations to this study, findings suggest that mother's and father's parenting styles should be an important target for prevention and intervention in children with ASB. It is important for family interventions to include both parents, and designing programs that address the needs and characteristics of both mothers and fathers.

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7. ANEXO

Types of Aggressive Behavior and Psychopathological Correlates in Spanish Preschool Boys and Girls (manuscript in preparation)

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Abstract

This study examined sex differences in the prevalence of various types of preschool aggressive behaviors, the association between aggressive behaviors and psychopathological correlates, and the potential moderator effect of child's sex on this relationship. A sample of 1,341 preschoolers were randomly selected and screened for a double phase design. A total of 622 children aged 3 years (50% boys) and their parents were included in the second phase. Data were obtained through semi-structured diagnostic interview (parents' report) and a scale of aggressive behavior (teachers' report). Statistical analysis was carried out with Complex Sample Procedures in SPSS Statistics. Results indicated that boys showed higher levels of aggressive behaviors than girls. Different types of aggressive behavior were positively and/or negatively correlated with specific DSM-IV disorders. Child's sex had a moderating effect on the relationship between some aggressive behaviors and disruptive disorders. Early aggressive behaviors associated with specific profiles of psychopathology could be target for prevention and intervention programs to address the different needs of preschoolers.

Keywords

Aggressive behavior; Preschool children; Psychopathology; Sex differences.

Types of Aggressive Behavior and Psychopathological Correlates in Spanish Preschool Boys and Girls

Aggression in children has been an important research topic in recent decades. Several studies have indicated that aggressive behaviors in children are relatively stable, and that high levels of aggression in adolescents and adults can be detected in the first years of life (Keenan & Wakschlag, 2000). Early aggressive behavior have been shown to be predictors of subsequent aggressive behavior (Juliano, Stetson, & Wright, 2006), delinquency (Broidy et al., 2003), peer rejection (Crick & Grotpeter, 1995) and several adjustment problems (Loeber, 1990). Despite major advances in our understanding of childhood aggression, as indicated by Crick, Ostrov, Burr, et al. (2006), there are still some important limitations. Many of the studies in this area have focused mainly in boys.

Aggression arises in the first year of life as a way of expressing anger, frustration and protest (Hay, 2005). By the end of the second year after birth most children have already begun to manifest physically aggressive behaviors (Tremblay et al., 1999). Normatively, aggression develops into more sophisticated ways. In general, aggression changes from physical to verbal form, as children gradually learn to control the direct forms of aggression (Dodge, Coie, & Lynam, 2006). The use of relational aggression appears later in development (Archer & Côté, 2005).

Although in recent years have carried out several investigations that include a wider range of aggressive behaviors, a major limitation is the paucity of studies on aggression during the preschool period (Casas et al., 2006). Baillargeon et al. (2007) pointed out that sex differences in some physically aggressive behaviors are present before 2 years of age. According to some research on physical aggression, sex differences may manifest as early as possible to measure aggressive behavior in preschoolers (Archer & Côtè, 2005). In general, there is broad consensus on that may be sex differences in the expression of aggressive behavior (Crick, 1997). Preschool girls show significantly more relational aggression than boys, and preschool boys display significantly more physical aggression than girls (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Crick, Casas, & Mosher, 1997; Crick, Ostrov, Burr, et al., 2006). However, Keenan and Shaw (1997) noted that there are no sex differences regarding aggressive behavior in the preschool years.

On the other hand, studies show that preschool boys display more verbal aggression than girls (Fagot & Hagan, 1985). However, these differences are often lower than those observed in physical aggression. Regarding aggressive behavior defined considering its underlying goal or

function (reactive/proactive), little is known about potential sex differences in early childhood (Vitaro & Brendgen, 2005). Proactive aggression – which occurs in anticipation of rewards and is a deliberate behavior, goal-directed – is more prevalent in boys than girls (Little, Jones, Henrich, & Hawley, 2005). With respect to reactive aggression – which occurs as a response to frustration, provocation or threat and is usually associated with anger – there are inconclusive results indicating either that exist no sex differences in these behaviors, or that girls may be more reactively aggressive than boys (Vitaro & Brendgen, 2005).

Few investigations have studied the association between different types of aggressive behavior and psychosocial problems in preschoolers (Juliano et al., 2006). Physical aggression in preschool children has been associated with more externalizing problems (Crick, 1997), high levels of other behavioral problems and poor social skills (Juliano et al., 2006), high levels of peer rejection (Crick et al., 1997), and lower peer acceptance (McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996). Reactive aggression has been associated with deficits in the regulation of emotions, especially frustration (Little et al., 2003) and anxiety (Raine et al., 2006). In general, as indicated by Vitaro and Brendgen (2005) reactive aggression has been associated with internalizing problems and disruptive behavior disorders, and in contrast, proactive aggression has been associated with externalizing problems, specifically later overt delinquency.

An even smaller number of studies have examined whether the diverse types of aggressive behavior have different correlates for boys and girls (Juliano et al., 2006). Ostrov, Woods, Jansen, Casas, and Crick (2004) found that for boys, physical aggression was associated with high peer rejection and low prosocial behavior. In other studies that also included boys and girls, physical aggression predicted peer rejection (Crick, Ostrov, Burr, et al., 2006) and lower peer acceptance (McNeilly-Choque et al., 1996) for boys only. Consistent with the "sex paradox hypothesis", the presence of atypical aggressive behavior by sex (e.g. physical aggression in girls) has been associated with higher levels of social-psychological maladjustment (Baillargeon et al., 2007; Crick, 1997). On the other hand, Juliano et al. (2006) found that only physical aggression was associated with behaviors problems, and that this association did not differ by children's sex.

Given the importance of early detection of difficulties in children and the need to carry out more specific research on aggressive behavior in the first years of life, the present study aimed to examine in Spanish preschool children from general population: (1) the prevalence and differential association of various types of aggressive behaviors by sex; (2) the association

between different types of aggressive behaviors and psychopathological correlates; and (3) the potential moderator effect of child's sex on the relationship between different types of aggressive behaviors and psychopathology.

This study attempts to extend accumulated evidences on the correlates of aggressive behavior, including the measurement of preschool psychopathology. Most of the previous studies have focused on examining correlates of preschool aggressive behavior such as peer rejection/acceptance, prosocial behavior or adjustment problems. However, as has been noted (Angold & Egger, 2007), there is growing scientific recognition for that psychopathology may be present early in life, and that mental disorders are largely differentiated and valid in preschool children (Wakschlag, Tolan, & Leventhal, 2010). Furthermore, given the limited and inconclusive data regarding the differential association between preschool aggressive behavior and its correlates for boys and girls, this study examined the potential moderating effect of children's sex on this relationship. Finally, this study used teachers' report on preschool aggressive behavior. Preschool teachers spend much time with the children and they have great access to the children's interactions with peers, allowing them to provide valid information on aggressive behavior, especially regarding social domain (Crick et al., 1997).

Method

Participants

This study is part of a longitudinal research on risk factors in developmental psychopathology starting in a double phase design. A sample of 1,341 preschool children were randomly selected and screened. They were recruited from 54 schools in the area of Barcelona (Spain). All participants with a positive screen in the behavioral problems scale of the Strengths and Difficulties Questionnaire (SDQ 3-4; Goodman, 2001) and a random sample including the 30% of negative screen scores were invited to continue. A total of 622 children and their parents agreed to continue and were included in the second phase of the study. The participant children were in P3 grade (3 years-old; mean age = 2.97, SD =.16) and 50% (n = 311) were boys. The 89.5% were of Caucasian ethnicity, the 7.4% Hispanic-American, and the remaining 3.1% belonged to other ethnics groups. According to Hollingshead Socioeconomic Index (Hollingshead, 1975), 63.6% were pertained to high/mean-high level socioeconomic status, 30.6% to mean/low-mean and 5.8% to low.

The disorders more prevalent in the sample were oppositional defiant disorder (the weighted prevalence was 6.9%), attention-deficit/hyperactivity disorder (3.7%), specific phobia

(3.7%), and separation anxiety disorder (2.2%). For boys, the disorders more prevalent were oppositional defiant disorder (7.2%), attention-deficit/hyperactivity disorder (4.6%), specific phobia (3.8%), and separation anxiety disorder (2.5%), and for girls, oppositional defiant disorder (6.7%), specific phobia (3.5%), attention-deficit/hyperactivity disorder (2.8%), and social phobia (2.2%).

Measures

The *Diagnostic Interview for Children and Adolescents – Version for Parents of Preschool and Young Children* (*DICA-PPYC*; Ezpeleta, de la Osa, Granero, Domènech, & Reich, 2011). The DICA-PPYC is a semi-structured diagnostic interview that covers the main diagnostic categories, according to DSM-IV (American Psychiatric Association, 1994) criteria. The diagnoses were obtained by parents' report on their children's symptoms. The DICA-PPYC has been adapted and validated for the Spanish population with satisfactory psychometric properties (Ezpeleta et al, 2011).

The *Children's Aggression Scale – Teacher Version* (*CAS-T*; Halperin, McKay, Grayson, & Newcorn, 2003) is a scale that evaluates the severity and frequency of aggressive behaviors, as distinct from oppositional/defiant and hostile behaviors, in children. The CAS-T has 23 items with 5-point Likert-type scale (0 = never; 1 = once/month or less; 2 = once/week or less; 3 = 2-3 times/week; 4 = most days). It has 5 subscales: Verbal Aggression, Aggression against Objects and Animals, Use of Weapons, Provoked Physical Aggression, and Initiated Physical Aggression. Moreover, this scale allows distinguishing between Aggressions Toward Adults versus Peers providing additional information regarding severity of the aggressive behavior. A unitary physical aggression measure emerges from the combination of Provoked and Initiated Physical Aggression subscales. However, due to the importance of distinguishing between proactive aggression and reactive aggression, in the present study the Initiated Physical Aggression and Provoked Physical Aggression subscales were used. In this study, the Cronbach's alphas for this scale were: Verbal Aggression ($\alpha = .77$), Aggression against Objects and Animals ($\alpha = .35$), Use of Weapons ($\alpha = .24$), Provoked Physical Aggression ($\alpha = .42$), Initiated Physical Aggression ($\alpha = .42$), Aggression Toward Peers ($\alpha = .85$), Aggression Towards Adults ($\alpha = .66$), and Total Aggression Index ($\alpha = .83$).

Procedure

The study obtained the approval of the Ethics Committee of the authors' institution. Parents were informed about objectives and main characteristics of the study. Written consent

from parents was obtained to participate in the study. The diagnostic interview was conducted with one or both parents. Interviewers were previously trained in the use of all measures. The CAS-T was given to teachers who returned the scale at the end of the academic year to give the opportunity of knowing well the children. Interviewers explained the scale and answered all the questions raised by teachers.

Statistical Analysis

Data were analyzed with PASW17.0.2 (SPSS System) for Windows. Statistical analysis was based on Complex Samples Procedures considering the specifications of the multistage sampling, creating a plan design with weights inversely proportional to the child's probability of selection. First, sex differences in the mean CAS-T scores were valued with General Linear Models.

Next, the association between different types of aggressive behavior (independent variables) and the presence of DSM-IV disorders (dependent variable) was analyzed through logistic regression, entering simultaneously the scores of the CAS-T scales to obtain the adjusted contribution of each specific aggressive type. These models also valued the potential moderating role of children's sex into the relationships between aggression and the presence of the disorders. The moderation was considered present for significant interaction-terms ($p \leq .05$), and single effects for boys and girls were estimated. For non-significant interaction-terms ($p > .05$), these parameters valuing moderation were excluded of the model and main effects were estimated. Sex and comorbidity were also included as covariates in logistic regressions, and the global predictive accuracy was measured through Nagelkerke's R^2.

Results

Sex Differences in Aggressive Behavior

Table 1 shows the results obtained in the General Linear Models valuing the comparisons by sex for the different types of aggressive behaviors (mean scores in the CAS-T questionnaire). Boys achieved significantly higher mean scores than girls in all the scales: Provoked Physical Aggression (Reactive), Initiated Physical Aggression (Proactive), Verbal Aggression, Aggression against Objects and Animals, Aggression towards Peers, Aggression towards Adults and Total Aggression Index.

--- Insert TABLE 1 ---

Psychopathological Correlates for specific aggressive behaviors

The first part of table 2 shows the logistic regression models valuing the contribution of CAS-T scores valuing the different types of aggressive behaviors for predicting the presence of DSM-IV disorders, adjusting by covariates other comorbidities and sex and including the interactions CAS-T×sex . Low scores in Provoked Physical Aggression (Reactive) were associated with major depression. On the other hand, low scores in Initiated Physical Aggression (Proactive) were associated with major depression, generalized anxiety disorder and social phobia. A significant interaction terms with child's sex were obtained for the association of Initiated Physical Aggression (Proactive) with conduct disorder ($p < .001$) and disruptive behavior disorder ($p = .002$). For girls, high scores in this scale were positively related with higher odds of conduct disorder (odds ratio [OR] = 1.053; 95% CI = 1.025 to 1.180) and disruptive behavior disorders (OR = 1.017; 95% CI = 1.006 to 1.028), but not for boys ($p = .587$; $p = .693$, respectively).

On the other hand, high scores in Aggression towards Objects and Animals were associated with major depression and specific phobia, and low scores in Aggression towards Objects and Animals were associated with generalized anxiety disorder and night terrors. Finally, high scores in Verbal Aggression were associated with major depression and generalized anxiety disorder.

--- Insert TABLE 2 ---

Aggression towards Peers or Adults and Psychopathological Correlates

The second part of table 2 presents the logistic regression exploring the differential associations between Aggression towards Peers or Adults and DSM-IV disorders, also adjusted by child's sex and comorbidity and valuing the interactions of CAS×sex. High scores in Aggression towards Peers were associated with disruptive behavior disorders, attention-deficit/ hyperactivity disorder, and generalized anxiety disorder, and low scores in Aggression towards Peers were associated with anxiety disorders and specific phobia. A child's sex moderator effect was found for the association between Aggression towards Peers and conduct disorder ($p = .005$): a positive association was found for girls (OR = 1.01; 95% CI = 1.002 to 1.014), but not for boys ($p = .828$).

Regarding Aggression towards Adults, high scores were associated with anxiety disorders and social phobia, and low scores in Aggression towards Adults were associated with major depression and generalized anxiety disorder.

Discussion

The findings of present study indicated that, as early as 3 years old, boys showed higher levels of aggressive behaviors than girls. The various types of aggressive behavior were positively and/or negatively correlated with specific DSM-IV disorders. Reactive physical aggression, aggression against objects/animals, verbal aggression, and aggression towards adults were correlated with internalizing disorders. Meanwhile, proactive physical aggression and aggression towards peers were correlated with both internalizing and externalizing disorders. On the other hand, results suggest that the children's sex had a moderating role in some of the relationships studied.

Sex differences found in the prevalence of physically aggressive behavior confirm the results obtained in previous studies (Baillargeon, et al., 2007; Crick et al., 1997; Crick, Ostrov, Burr, et al., 2006). Boys from the earliest years of life show more physically aggressive behaviors than girls, suggesting that this type of behavior may be considered male-typical. In this regard, it is important to note that early physical aggression is a key risk factor for the development of chronic aggression (Spilt, Koomen, Thijs, Stoel, & van der Leij, 2010). Addition to the above, this study indicated that in all types of aggressive behavior examined boys have higher prevalence than girls, accounting for the particular importance of early aggressive behavior for boys.

The results of this research indicated that proactive and reactive physical aggressions were differentially correlated (positively or negatively) with DSM-IV disorders. Physically aggressive behavior, especially proactive aggression, have been positively associated with characteristics consistent with the early onset of antisocial behavior (Raine et al., 2006), but negatively associated with internalizing problems (Crick & Grotpeter, 1995). The same pattern can be observed in the results of this research. Overall, the findings suggest that children with internalizing symptoms show less physically aggressive behavior (Lento-Zwolinski, 2007), and instead tend to express other forms of aggression such as verbal aggressive behaviors.This research suggests that aggression against objects/animals and verbal aggression have a special relevance for internalizing disorders, but not for externalizing disorders. According to literature review, there is a scarcity of previous studies that have examined psychopathological correlates (DSM-IV disorders) of aggression against objects/animals and verbal aggression in children aged 3 years. Future research on these issues is needed to extend the present findings.

Aggression toward peers showed correlations with a great number of DSM-IV disorders indicating that it may be a broad correlate of psychopathology, either externalizing or

internalizing. Similar to previous studies, preschool aggression towards peers was associated with the presence of attention-deficit/hyperactivity disorder and conduct disorder (Domènech-Llaberia et al., 2008). Aggression towards peers may be related to negative social interactions or peers rejection, suggesting that these behaviors could be associated with a risk for a variety of adjustment problems, including internalizing and externalizing symptoms (Boivin, Vitaro, & Poulin, 2005).

On the other hand, the findings suggest that the children' sex had a moderating effect on the relationship between some types of aggressive behavior and DSM-IV disorders in preschoolers. In general, girls who exhibited proactive physical aggressive behavior or aggressive behaviors toward peers had a greater risk to correlate with disruptive disorders and, specifically with conduct disorder than boys. These findings are consistent with the "sex paradox hypothesis", confirming that those who show non-normative or atypical behaviors according to sex (e.g. proactive physical aggression or aggression against peers for girls) are associated with more adjustment problems and psychopathological correlates (Baillargeon et al., 2007; Crick, 1997). Researchers have proposed that children who engage in sex atypical behaviors receive more negative reactions, rejection and sanctions from their social environment than children who exhibit problematic behavior, but sex-typical (Crick, Ostrov, & Werner, 2006). In this regard, it is important to note that in this study not all female-atypical aggressive behaviors were associated with greater psychopathological problems, underscoring the importance of physically aggressive behaviors for girls.

The analysis of sex differences in diverse preschool aggressive behaviors may contribute to extend the understanding of the relationship between sex and aggression in children, attending the challenge to include the systematic study of both non-physical forms of aggression and aggression in girls (Underwood, Galen, & Paquette, 2001).

The present study has some limitations that should be taken into account when interpreting the results. First, due to cross-sectional nature of the results, it is only possible to establish associations between preschool aggressive behavior and DSM-IV disorders. Second, this study included only teachers' report of aggressive behaviors and only parents' report of preschool psychopathology. Aggressive behavior and sex differences could partially be context/informant specific (Baillargeon et al., 2007). However, teachers' report has shown to be valid, due to that teacher can observe preschoolers' social interactions different from those observed by parents (Crick et al., 1997). On the other hand, 3-year-old preschoolers do not have full

capacity to self-report psychological problems, so that parents and teachers are considered valid informants (Slemming et al., 2010).

The findings of this study have important practical implications. First, they suggest the clinical relevance of examining the association between early aggressive behavior (as early as 3 years old) and psychopathological correlates. Possibilities of prevention and intervention of future mental health problems increase when clinicians early identify children who exhibit behavior correlated with psychopathology (Hay, Castle, & Davies, 2000). Second, the results imply the clinical utility to examine different types of aggressive behavior in preschoolers. The study of diverse aggressive behaviors could allow distinguishing between normative behaviors and clinical symptoms (Wakschlag et al., 2010), providing more specific information for clinical intervention. Third, the current findings underscore the importance of teachers for early detection of children who exhibit more aggressive behavior, and consequently have a greater possibility to show mental health problems. Finally, the results suggest that the children' sex is especially relevant for the identification of conduct problems. Clinicians should be aware that preschool girls that present female-atypical aggressive behavior significantly correlate with disruptive behavior disorders. In this regard, it is important to make efforts to develop treatment programs that are more inclusive of the needs and characteristic of girls (Crick, Ostrov, & Werner, 2006).

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Table 1: Sex Differences in Aggressive Behavior.

	Mean (standard deviation)			Comparison by sex
	Total sample (n=622)	Boys (n=311)	Girls (n=311)	Mean difference (95% CI)
Provoked physical aggression (Reactive)	37.4 (2.6)	44.5 (4.17)	30.2 (3.01)	14.35 (4.25; 24.44)*
Initiated physical aggression (Proactive)	27.1 (2.37)	36.68 (3.96)	17.33 (2.39)	19.36 (10.26; 28.45)*
Aggression object/animal	9.4 (1.19)	13.81 (2.12)	4.84 (.93)	8.96 (4.42; 13.51)*
Use of Weapons	.27 (.16)	.36 (.26)	.18 (.18)	---
Verbal Aggression	52.4 (4.41)	61.3 (7.62)	43.3 (4.24)	17.99 (.87; 35.12)*
Aggression towards peers	96.0 (6.0)	110.0 (9.58)	81.6 (7.05)	28.42 (5.07; 51.78)*
Aggression towards adults	9.4 (1.84)	13.98 (3.44)	4.57 (1.12)	9.41 (2.31; 16.51)*
Total Aggression Index	262.4 (.85)	265.3 (1.40)	259.5 (.91)	5.77 (2.50; 9.03)*

*Significant comparison (at .05 level). ---: parameter not estimated due to low prevalence in the sample.

Table 2: Association between Aggressive Behavior and DSM-IV Disorders.

Models for specific aggression types	Any disorder	Disruptive disorders	Mood disorders	Anxiety disorders	Sleep disorders	ADHD	ODD	Conduct disorder	Major depres.	Separat. anx. dis.	General. anx. dis.	Specific phobia	Social phobia	Night terrors
Provoked physical aggression (Reactive)	.999	.996	1.001	.998	.999	1.001	.994	.988	**.97***	1.0	1.007	1.0	1.00	1.01
Initiated physical aggression (Proactive)	1.002	[B]1.002 [G]**1.017***	.998	.991	.999	1.004	1.007	[B]1.006 [G]**1.053***	**.61***	.998	**.69***	.992	**.98***	.983
Aggression against objects/animals	1.007	1.007	1.012	1.008	1.004	.992	1.004	1.019	**1.025***	.997	**.67***	**1.025***	1.015	**.58***
Verbal Aggression	1.0	1.001	.998	1.0	.998	1.003	.998	.993	**1.012***	1.001	**1.015***	.990	1.004	.99
R^2	.022	.117	.028	.092	.022	.081	.120	.371	.237	.015	.339	.141	.093	.074
Models for objectives of aggression														
Aggression towards peers	1.001	**1.003***	1.0	**.997***	1.0	**1.003***	1.001	[B]1.0 [G]**1.01***	1.003	1.0	**1.003***	**.994***	.994	.99
Aggression towards adults	1.004	1.001	.99	**1.007***	.997	1.0	1.0	1.001	**.556***	1.001	**.66***	1.006	**1.014***	.988
R^2	.018	.090	.016	.085	.011	.099	.104	.181	.081	.058	.230	.117	.098	.022

OR obtained in logistic regressions adjusted by sex and other commorbidities. Use of weapons scale was excluded due the low prevalence in sample.

ADHD: Attention-deficit/hyperactivity disorder; ODD: Oppositional defiant disorder.

*In bold significant parameter (at 05 level). [B]Single effect for boys. [G]Single effect for girls.