

TESIS DOCTORAL

ESTEREOTIPOS Y PREJUICIO DE GÉNERO: AUTOMATISMO Y
MODULACIÓN CONTEXTUAL

GENDER STEREOTYPES AND PREJUDICE: AUTOMATISM AND
CONTEXTUAL MODULATION

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INTRODUCCIÓN

Cuando hablamos de *estereotipos* y *prejuicio* en Psicología Social, es frecuente que relacionemos ambos conceptos de manera casi automática o incluso los confundamos. Sin embargo, aunque es obvio que están fuertemente relacionados, la literatura sobre el tema enfatiza que se trata de conceptos claramente distintos. En general, se observan dos aproximaciones fundamentales entre los autores. La primera, considera que ambos constructos forman parte de las actitudes, de manera que los estereotipos hacen referencia al componente cognitivo de las mismas, mientras que el prejuicio es el componente afectivo y ambos, se relacionan a su vez, con el componente conativo o comportamental que se materializa en las conductas discriminatorias (Eagly y Chaiken, 1998; Fishbein y Ajzen, 1974). La segunda, considera que los estereotipos son creencias sobre las personas basadas en las categorías sociales a las que pertenecen, mientras que el prejuicio es un conjunto de reacciones afectivas o actitudes que no necesariamente ha de ser consecuencia de nuestras creencias, sino que incluso pueden ser su causa de las mismas. Es decir, que nuestras reacciones afectivas pueden influir el contenido de nuestras creencias estereotípicas, y nuestras creencias pueden influir en nuestras reacciones afectivas (Schneider, 2004).

Dentro de la primera concepción, Eagly y Chaiken (1998) definen las actitudes como tendencias evaluativas positivas o negativas hacia un objeto, persona o grupo (“objeto de actitud”) basadas en unas determinadas creencias y que conllevan conductas de aproximación, ayuda, evitación, discriminación o rechazo hacia dichos objetos. Al hablar de actitudes, estas autoras diferencian

entre estructura *intra-actitudinal* e *inter-actitudinal*. La primera estaría compuesta por aspectos cognitivos, afectivos y conativos o conductuales en relación con cada objeto de actitud en particular; mientras que la segunda, alude a las interrelaciones entre las distintas actitudes de la persona. Centrándonos en la estructura *intra-actitudinal*, el componente cognitivo de las actitudes incluye pensamientos y creencias sobre el objeto de actitud que reflejan asociaciones entre dicho objeto y diferentes características o atributos (Fishbein y Ajzen, 1974). Por tanto, los estereotipos en general, junto con otro tipo de creencias, van a formar parte de este componente cognitivo. A su vez, estas creencias están íntimamente relacionadas con el aspecto afectivo (expresado a través del prejuicio, sobre todo en su versión negativa que ha sido y es la más estudiada) y conativo (materializado en las conductas discriminatorias hacia el objeto actitudinal negativamente valorado).

Por su parte, Schneider (2004) enfatiza que las relaciones entre creencias, afecto y conducta, son complejas y se producen múltiples influencias entre ellas, de manera que no se puede mantener la relación causal entre los tres componentes de manera unidireccional. Por ejemplo, podemos tener condicionamientos afectivos positivos o negativos hacia un objeto de actitud, independientemente de nuestras creencias. Además, los estereotipos que activamos pueden variar en función de la situación o de la categoría más saliente que utilicemos para categorizar a una persona (p.ej., podemos categorizar a una persona por ser “abogado”, o bien por ser “asiático”), y también los prejuicios son influenciados por el contexto en que los activamos (p.ej., un persona negra en un contexto de bandas callejeras despertará unas

reacciones afectivas diferentes en el perceptor que la misma persona asistiendo a la iglesia de su comunidad).

En cualquier caso, se adopte una perspectiva más unidireccional o más interactiva acerca de la relación entre estereotipos y prejuicios, en ambos casos se enfatiza la fuerte conexión existente entre las creencias estereotípicas y las reacciones afectivas que manifestamos hacia otras personas en función de las categorías sociales a las que pertenecen.

En nuestra opinión, es importante estudiar los procesos cognitivos subyacentes a los estereotipos y prejuicios de manera conjunta por dos motivos fundamentales: en primer lugar, porque influyen fuertemente en la forma en que procesamos la información social, y en segundo lugar, porque tienen una gran influencia en nuestra conducta. Por ello, el trabajo de esta tesis se centra fundamentalmente en investigar algunas características asociadas al procesamiento de los prejuicios y estereotipos. Particularmente, nos vamos a centrar en el estudio de la automaticidad y de las influencias contextuales sobre estos procesos, dado que son dos aspectos especialmente relevantes y que han dado lugar a un intenso debate en la literatura más reciente sobre estos temas (Bargh, 1999; Blair, 2002; Devine, 1989). Dentro de las influencias contextuales, consideraremos el papel de contextos físicos asociados a distintos roles sociales en la activación de los estereotipos de género, así como en el cambio de las respuestas afectivas (prejuicio) en las relaciones intergrupales de género. Para ello, y antes de describir la investigación realizada, revisaremos en primer lugar la literatura más relevante acerca del

contenido de estereotipos y del prejuicio; a continuación, repasaremos el concepto de automaticidad y los desarrollos metodológicos que se han realizado para su estudio; y, por último, analizaremos las evidencias existentes acerca de la influencia del contexto en la activación de sesgos intergrupales y en la modificación del prejuicio implícito.

I. ESTEREOTIPOS DE GÉNERO Y PREJUICIO.

Los estereotipos, en general, pueden ser entendidos como representaciones mentales interconectadas de creencias compartidas sobre grupos de personas o categorías sociales (Auster y Ohm, 2000; Hamilton, 1981; Tajfel, 1981). Cumplen importantes funciones sociales como ayudar a comprender los fenómenos sociales a través de atribuciones psicológicas o favorecer el desarrollo de una identidad social positiva (Huici, 1984; Tajfel, 1981). Por su parte, el prejuicio ha sido definido tradicionalmente como un tipo de evaluación previa de carácter principalmente negativo sobre los miembros de un exogrupo (Dovidio y Gaertner, 1986; Esses, Haddock, y Zanna, 1993; McConahay y Hough, 1976), aunque también puede tener un tono evaluativo positivo (Glick y Fiske, 1996; Rudman, 2005). Siguiendo la literatura sobre relaciones intergrupales, a nivel teórico se ha propuesto que el prejuicio puede deberse a dos procesos diferentes: a) Favoritismo endogrupal (esto es, cuando se evalúa más favorablemente –positivamente- al endogrupo que al exogrupo); b) Derogación exogrupal (esto es, cuando se evalúa más negativamente al exogrupo que al endogrupo) (Tajfel, 1981). La mayor parte de la evidencia empírica ha mostrado que el favoritismo endogrupal suele ser la principal causa de la discriminación del exogrupo (Brewer, 1979), mientras que se suele dar más indiferencia que derogación hacia el exogrupo (Dovidio, Evans, y Tyler, 1986; Perdue y Gurtman, 1990), al menos en los países occidentales. No obstante, también se han encontrado evidencias de derogación exogrupal en medidas indirectas en las cuales la exposición previa a miembros del exogrupo

facilita la categorización de palabras negativas (Fazio, Jackson, Dunton, y Williams, 1995).

Los *estereotipos de género*, en particular, han sido definidos como un conjunto estructurado de creencias y expectativas, compartidas dentro de una sociedad, acerca de las características que poseen –componente descriptivo- y deben poseer –componente prescriptivo- los hombres y las mujeres (Fiske y Stevens, 1993). En cuanto a su funcionalidad, Expósito y Moya (2005) hacen referencia a tres aspectos: a) proporcionar una explicación psicológica ante determinados hechos sociales (Huici, 1984) como, por ejemplo, considerar que no hay más mujeres en puestos de poder porque no tienen capacidad para ser líderes; b) defender los intereses personales o grupales (Jost y Banaji, 1994) y proporcionar una identidad social positiva (Glick y Fiske, 1999), por ejemplo, permitiendo que los hombres se sientan más capacitados que las mujeres para determinados trabajos o puestos, o que las mujeres consideren que sólo ellas tienen un don especial para el cuidado de los hijos; y c) mantener y justificar el status quo, los roles sociales tradicionales y las desigualdades de género (Eagly, 1987; Glick y Fiske, 1999; Jost y Banaji, 1994; Sidanius y Pratto, 1999).

Las características que conforman los estereotipos de género incluyen rasgos de personalidad (amable, asertivo), roles (cuidadora, sustento económico de la familia), profesiones (secretaria, mecánico), características físicas (débil, atlético) y orientación sexual (heterosexualidad) (Deaux y Lewis, 1984). Un estudio clásico acerca de estos estereotipos fue realizado por Bem (1974) y en él se detectaron cuarenta características femeninas o masculinas

consideradas deseables en la sociedad americana para el hombre y la mujer. Son muchas las investigaciones posteriores que ponen de manifiesto la persistencia de la mayoría de estos estereotipos en la sociedad actual (Auster y Ohm, 2000; Harris, 1994; Moya, 2003), aunque las diferencias, al menos en nuestra cultura, entre los estereotipos del hombre y de la mujer cada vez son menores y en la visión estereotípica de cada género aparecen características tradicionalmente asociadas al otro. No obstante, a este patrón general de resultados habría que hacerle algunas matizaciones:

1) Aunque las imágenes de hombres y mujeres se hayan ido haciendo semejantes, este proceso se ha dado más en un tipo de atributos que en otros; así, mientras que los estereotipos de género perviven de forma clara en la esfera social (se cree que hombres y mujeres desempeñan diferentes roles y ocupaciones), no lo hacen con la misma intensidad en lo que concierne a las características físicas y psicológicas (Moya y Pérez, 1990).

2) Existe cierta asimetría en el acercamiento mutuo de los estereotipos de género: mientras que el estereotipo de la mujer ha ido incorporando muchos rasgos tradicionalmente masculinos, no puede decirse que con idéntica intensidad el estereotipo del hombre haya ido incorporando atributos tradicionalmente femeninos (Holt y Ellis, 1998; Moya, 2003).

3) El tono evaluativo del estereotipo de género asociado a la mujer suele ser más positivo que el del asociado al hombre (Moya, 1990; Prentice y Carranza, 2002).

1.1 Contenido de los estereotipos: dimensiones universales

Distintos autores proponen que tendemos a diferenciar entre hombres y mujeres utilizando dos dimensiones fundamentales, que representan el estereotipo tradicionalmente asociado a los varones, *instrumentalidad* (racional, inteligente, eficaz, líder), y el asociado a las mujeres, *expresividad* (emocional, cariñosa, comprensiva) (Spence y Helmreich, 1978). Estas dimensiones coinciden con la propuesta de Glick y Fiske (1999), quienes consideran que los estereotipos permiten categorizar a cualquier grupo a lo largo de dos dimensiones: *competencia* (capacidad para alcanzar metas prestigiosas) y *sociabilidad* (simpatía interpersonal).

En los últimos años, este modelo bidimensional que pretende explicar cómo las personas describen o evalúan a los demás y a sí mismos ha sido ampliamente corroborado a nivel empírico, hasta el punto de ser considerado universal (Judd, James-Hawkins, Yzerbyt, y Kashima, 2005; Fiske, Cuddy, y Glick, 2006). Se considera que las dos dimensiones propuestas son la base de las valoraciones sociales que hacemos y han sido estudiadas desde numerosas perspectivas (p.ej., psicológicas, sociales, antropológicas), y bajo distintas denominaciones (p.ej., social-intelectual, comunalidad-agencia, etc.). No obstante, existe un claro consenso entre los principales representantes de las distintas tendencias, quienes consideran que el fundamento es común en todos los casos.

En el ámbito de la percepción grupal, el marco conceptual principal que abarca estas dimensiones es el modelo del contenido de los estereotipos (Fiske, Cuddy, Glick, y Xu, 2002). Según esta teoría, la percepción intergrupal depende de las relaciones estructurales entre los grupos. Así, la competencia con que se percibe a un grupo depende fundamentalmente de su estatus (conforme mayor es éste, mayor es la competencia atribuida). Por su parte, la sociabilidad depende, en cambio, de la competición o de la cooperación intergrupal: si existe una interdependencia negativa habrá adscripciones de rasgos negativos y hostiles, mientras que si hay interdependencia positiva (cooperación) se desarrollarán estereotipos positivos respecto a las características interpersonales de los miembros de grupos subordinados. Por tanto, los grupos de alto estatus con los que tenemos una relación de interdependencia positiva serán percibidos como “altos” en ambas dimensiones (altamente competentes y sociables); por otro lado, los grupos de bajo estatus que percibamos como competidores serán evaluados como “bajos” en ambas dimensiones. Sin embargo, no siempre ambas dimensiones correlacionan positivamente, y frecuentemente se da el caso de patrones mixtos de estereotipia sobre todo en percepción grupal (Fiske et al., 2000; Judd et al., 2005) como ocurre en el caso de los estereotipos de género. Los varones, el grupo de estatus superior, son percibidos como altos en competencia y bajos en sociabilidad –estereotipo “envidioso”-, mientras que las mujeres, el grupo de inferior estatus, son percibidas con alta sociabilidad y baja competencia – estereotipo paternalista- (Eckes, 2002; Eagly, Wood, y Diekmann, 2000; Glick y Fiske, 1999)

No obstante, las investigaciones demuestran que estos estereotipos no se aplican por igual a todos los hombres o a todas las mujeres, sino que se suelen utilizar subtipos de unos y de otras. Por ejemplo, se habla de mujeres trabajadoras, amas de casa, mujeres *sexys*, feministas, etc., o de hombres de negocios, hombres *machos*, hombres atléticos, etc. Estos subtipos no invalidan los estereotipos atribuidos a las categorías más amplias (hombre y mujer), sino que coexisten con ellos (Kite, 2001). Concretamente, Deaux y La France (1998), basándose en investigaciones previas, identifican tres subtipos de mujeres: ama de casa, mujer no tradicional y *sexy*, que al aplicarse, dan lugar a expectativas y conductas diferentes en relación con una persona determinada. Por ejemplo, es más fácil que una mujer percibida como *sexy* sufra acoso que la que es percibida como ama de casa (Fiske y Glick, 1995). Esta diferenciación en subtipos dentro de los conjuntos generales de mujeres y hombres ayuda a explicar el nivel en el que el prejuicio y los estereotipos tienen lugar.

Hasta ahora hemos visto que existe gran cantidad de evidencia consistente acerca del *contenido* de los estereotipos en general, así como, el de los estereotipos específicos aplicados a diversos contextos (p. ej., subtipos), sin embargo, la evidencia acerca de cómo esos contenidos son activados y utilizados es bastante más escasa y confusa. Es decir, nos falta evidencia que clarifique los *procesos* subyacentes al uso de esos contenidos estereotípicos. Una de las primeras cuestiones que nos surge al preguntarnos acerca de dichos procesos se refiere a qué tipo de contenido estereotípico es activado en primera instancia cuando percibimos a un miembro de una categoría social

determinada, ¿activamos automáticamente el contenido específico de los estereotipos, o bien activamos inicialmente un conocimiento más abstracto – una dimensión estereotípica- según el cual evaluamos a la persona que estamos percibiendo? Esta será una de las preguntas que trataremos de contestar a lo largo de nuestra investigación.

1.2 Carácter descriptivo y prescriptivo de los estereotipos de género y consecuencias de su aplicación: el prejuicio.

Una particularidad de los estereotipos de género, en comparación con los de otros grupos, es que tienen un carácter fuertemente prescriptivo (Fiske y Stevens, 1993). Esto es, no solo describen cómo la gente cree que son hombres y mujeres, sino también cómo hombres y mujeres “deben” ser y comportarse. Los efectos que los estereotipos pueden tener sobre el comportamiento de las personas vienen determinados por su carácter descriptivo y prescriptivo, de la siguiente manera:

- El componente *descriptivo* afecta a través de las expectativas que nos hace tener sobre las personas en función de su género. Por ejemplo, las creencias o expectativas que tenemos en nuestra sociedad respecto a cómo hombres y mujeres se comportan o son, aunque pueden tener una base de certeza, suelen estar fuertemente arraigadas en los estereotipos de género que al ser mantenidos por gran parte de la sociedad, tienden a convertirse en “*profecías que se cumplen así mismas*” (Morales y Moya, 1996). Este es un fenómeno ampliamente demostrado que

provoca el que una “definición falsa de la situación evoque una nueva conducta que hace que la concepción falsa original se convierta en verdadera” (Merton, 1948), bien provocando que la conducta de otras personas se corresponda o se ajuste a la nuestra bien limitando el rango de conductas que la otra persona puede desempeñar (Gilbert, 1995).

- Por su parte, el componente *prescriptivo* controla de forma más directa el comportamiento, obligando a las personas estereotipadas a ajustarse a las características y a desplegar el patrón de comportamiento que los demás esperan de ellas; cuando estas personas violan esas prescripciones pueden sufrir diversas consecuencias negativas como el castigo social, el aislamiento, la hostilidad o la devaluación (Rudman y Glick, 1999).

Según Prentice y Carranza (2002) los estereotipos de género no sólo hacen referencia a las características que son deseables en un hombre o una mujer, sino que también incluyen las características que no siendo deseables para las personas en general, son especialmente rechazables cuando se aplican a un género determinado o menos sancionables para el otro. Es decir, según su teoría podríamos definir cuatro categorías dentro de los estereotipos de género, dos aludirían a las características que “deben” presentar los miembros de un determinado grupo de género (*prescripciones*) y las otras dos harían referencia a los atributos que “no deben” presentar los representantes de un grupo de género (*proscripciones*), pudiendo ser en cada caso, aplicadas de manera más rígida (intensificada), o más flexible (relajada): a) Las *prescripciones intensificadas de género* son aquellas características que,

siendo socialmente deseables, son especialmente deseables en las personas de uno u otro género (por ejemplo, que el hombre sea ambicioso, asertivo, racional, etc.); b) las *prescripciones relajadas de género* son rasgos altamente valorados en la sociedad en general, pero menos valorados para un grupo de género en particular, por tanto, no serán tan exigidas a los miembros de ese grupo (por ejemplo, en un ambiente académico es deseable que una mujer sea competente, ambiciosa, etc., pero si no lo es, “no pasa nada” porque no son características típicamente femeninas); c) las *proscripciones relajadas de género* son atributos poco valorados en la sociedad en general, pero significativamente menos reprochados o incluso valorados en un género en comparación con el otro (por ejemplo, se criticará mucho menos o nada en absoluto, a un hombre por ser rebelde, celoso o arrogante que a una mujer que presente esas mismas características); d) las *proscripciones intensificadas de género* son características poco deseables en general y en particular, especialmente indeseables para un grupo de género determinado (por ejemplo, la excesiva emocionalidad en el hombre o la ingenuidad).

Según los autores, el mayor rechazo lo sufrirán aquellas personas que transgredan las *proscripciones intensificadas de género*, ya que estarían manifestando características especialmente indeseables para su grupo de género además de no mostrar las deseables prescritas para ellos. Un ejemplo de esta situación es el castigo a las mujeres que ocupan roles tradicionalmente masculinos, como el efecto de contragolpe (en inglés, *backlash effect*) descrito por Rudman (1998).

Rudman (1998) describió a partir de un experimento el efecto de contragolpe hacia las mujeres que violaban las prescripciones de la feminidad al solicitar determinados trabajos más propios de hombres. En posteriores estudios se volvió a encontrar este efecto. Por ejemplo, Rudman y Glick (1999) encontraron que la descripción de un trabajo femenino daba lugar a discriminación en la contratación de las mujeres “agénticas” (aquellas que mostraban alta instrumentalidad o competencia, dimensión de los estereotipos de género típicamente masculina) porque eran percibidas como no suficientemente agradables. Estos mismos autores, en 2001, llevaron a cabo un estudio en el que medían de forma implícita el estereotipo de comunalidad-agencia mediante el IAT y encontraron que a las personas que poseían este estereotipo de forma implícita era más probable que no les gustaran las mujeres “agénticas” y que las evaluaran con menos habilidades interpersonales. Además encontraron que el efecto de contragolpe se producía si las mujeres “agénticas” eran independientes, ambiciosas, competitivas y un tanto agresivas; sin embargo, las mujeres que sólo manifestaban los rasgos de agencia relacionados con competencia (p. ej., independencia, ambición) y no los relacionados con dominancia social, y además mostraban algunos rasgos de comunalidad, no sufrían las consecuencias de este efecto.

El carácter prescriptivo de los estereotipos es por tanto en gran parte el responsable del desarrollo de actitudes prejuiciosas. Así lo propone la teoría de la incongruencia de rol (Eagly y Karau, 2002) que inicialmente se formuló para explicar el prejuicio hacia las mujeres en puestos de liderazgo. Según Eagly y Diekmann (2005), el prejuicio se desarrolla a partir de la interacción entre el

contenido de los estereotipos y las demandas de los roles sociales. Así por ejemplo, en el caso de las mujeres en puestos directivos se da una falta de ajuste entre las características estereotípicamente femeninas (baja competencia) y las características consideradas como esenciales para desempeñar el rol (alta competencia). Ese desajuste es el que produce la evaluación negativa de los miembros del grupo, en este caso de las mujeres aspirantes a un puesto directivo o que desempeñan ya ese rol.

Estas autoras consideran que también podría producir prejuicio hacia los miembros de grupos de mayor estatus (p.ej., hombres) cuando tratan de asumir roles que no se ajustan a sus características estereotípicas (p.ej., roles tradicionales femeninos), aunque esta situación suele darse con menos frecuencia dado que los grupos con mayor estatus no suelen querer desplazarse hacia posiciones de menor estatus (Eagly y Diekman, 2005). Además, con frecuencia cuando los miembros de grupos privilegiados adoptan un rol tradicionalmente relacionado con los menos privilegiados, lo hacen dentro de un contexto que eleva considerablemente el estatus percibido del rol, convirtiéndolo en un subtipo de alto estatus (p.ej., chef de cocina, modisto, etc.).

1.3 Diversidad y funcionalidad del prejuicio

La mayor parte de las veces el estudio del prejuicio ha adoptado la perspectiva de los “perpetradores” o de los grupos privilegiados, es decir, de qué manera los grupos de mayor estatus desarrollan o muestran sus prejuicios hacia grupos discriminados. Sin embargo, la perspectiva de los grupos no privilegiados (“víctimas”) ha sido relativamente poco estudiada en Psicología Social en general (Dion, 2002; Operario y Fiske, 1998), y en particular en Cognición Social. Es importante ser conscientes de la diversidad del prejuicio dado que éste puede darse entre todos los tipos de grupos, y en las diferentes culturas. En este sentido, dependiendo del contexto en el que se dé el prejuicio, puede adoptar diversas funciones sociales.

El contexto social se ha definido frecuentemente en la literatura basándose en las relaciones de poder y jerarquía que marcan las diferencias entre los grupos de alto y bajo estatus (Operario y Fiske, 2004). Las respuestas afectivas que los distintos grupos van a dar, dependerán en gran medida de esas variables socio-estructurales (esto es, su situación dentro de esa jerarquía), y de las características situacionales que definan su situación como más o menos estable (Ellemers, Van Knippenberg, y Wilke, 1990; Scheepers, Spears, Doosje, y Manstead, 2006).

La literatura en el ámbito de las relaciones intergrupales diferencia entre dos tipos de funciones que el prejuicio o los sesgos endogrupales pueden

ejercer dependiendo del contexto social en el que ocurren: una función de *identidad* y una función *instrumental* (Scheepers, Spears, Doosje, y Manstead, 2002; 2003). Según estos autores, en el primer caso, el prejuicio se utiliza como una forma de crear y fortalecer la identidad del grupo (p.ej., de los grupos privilegiados hacia los subordinados, cuando las diferencias de estatus entre ambos son estables), mientras que en el segundo caso, el prejuicio se utiliza como una estrategia de resistencia o de competición para lograr el cambio social (p.ej., de los grupos subordinados hacia los privilegiados cuando las diferencias de estatus son estables y existe una motivación por cambiar la situación).

Tradicionalmente se ha propuesto que los miembros de grupos subordinados suelen estereotipar menos a los privilegiados (Fiske y Dépret, 1996), e incluso, generar impresiones exageradamente positivas de ellos o favoritismo exogrupal (Stevens y Fiske, 2000). La teoría de la identidad social predice que se dé favoritismo exogrupal cuando un grupo de bajo estatus percibe que la posición ventajosa del exogrupo de alto estatus es estable y legítima (Tajfel y Turner, 1979). No obstante, esta teoría también propone que los miembros de grupos desfavorecidos intentan resistirse a su situación de desventaja y tratan de luchar por cambiar su estatus (Tajfel y Turner, 1979). Esto va a suceder, por ejemplo, según Scheepers y sus colaboradores (2006), cuando los miembros de los grupos de bajo estatus utilizan de manera instrumental el prejuicio para mostrar su resistencia hacia una posición desventajosa pero estable, es decir, utilizan el prejuicio como parte de una estrategia motivacional para lograr ciertas metas grupales (p.ej., el cambio de

estatus de su grupo). En un extenso meta análisis, Mullen, Brown y Smith (1992) encontraron que en general el prejuicio es mayor para los grupos de alto estatus en situaciones grupales artificiales, sin embargo, en situaciones reales, el prejuicio es mayor para los grupos de bajo estatus. No obstante, la evidencia acerca del uso del prejuicio como *resistencia* ante determinadas situaciones (siguiendo una estrategia instrumental) es escasa. Dado su gran interés, es otra de las cuestiones que hemos tratado de abordar en este trabajo.

1.4 Representaciones cognitivas de los sesgos intergrupales y su activación.

Junto al estudio del contenido y la funcionalidad de los estereotipos y prejuicios, el análisis de los procesos cognitivos subyacentes es una pieza fundamental para comprender qué son y cómo operan dichos fenómenos (Schneider, 2004). Desde la perspectiva de la Cognición Social se ha considerado tradicionalmente que los estereotipos son representaciones mentales interrelacionadas almacenadas en nuestra memoria (Stangor y Lange, 1994). Dichas representaciones se implementan en asociaciones entre la categoría social en particular y las características que se le atribuyen, así como la evaluación que hacemos de dicha categoría (Fazio, 1986; Smith, 1998).

Según la teoría de las redes asociativas, la información se representa en nodos interconectados. Cada nodo es un concepto con significado en sí mismo (p.ej., dos nodos conectados pueden ser *blanco* y *evaluación positiva*) y con la

propiedad de poder ser activado. La activación se distribuye rápidamente por las asociaciones más fuertes (esto es, entre categorías y características estereotípicas o evaluaciones positivas o negativas), y de esa manera se produce la activación automática de los conceptos relacionados (Anderson y Bower, 1973). Es decir, las diferentes características se asocian a la categoría con diferente intensidad, siendo los conceptos más fuertemente relacionados los que más fácilmente van a ser activados ante la presencia de un miembro de una categoría social.

Las primeras aplicaciones de la teoría de las redes asociativas al estudio de la representación de los estereotipos consideraban que éstos eran estructuras cognitivas duraderas que no eran fácilmente modificables (Bargh, 1999; Hamilton y Sherman, 1994; Smith, 1998). Desarrollos posteriores han enfatizado que la activación de estas representaciones mentales es variable, y va a depender de diferentes aspectos situacionales. Por ejemplo, Haslam, Turner, Oakes, McGarty y Hayes (1992) demuestran que los estereotipos que se aplican a una categoría social (los americanos) varían dependiendo del marco de referencia proporcionado por los grupos de comparación utilizados.

Según Higgins (1996) hay tres condiciones que van a modular la activación de una determinada información: su accesibilidad, aplicabilidad y saliencia. En primer lugar, la accesibilidad (que consiste en la probabilidad de activación del conocimiento disponible) de los estereotipos y del prejuicio se ve incrementada cuando éstos han sido recientemente activados (*priming*), son frecuentemente utilizados o presentan características llamativas que facilitan su

recuperación en memoria. Sin embargo, aunque un determinado conocimiento sea fácilmente accesible por alguna de estas tres condiciones, no se aplicará a menos que el perceptor lo considere adecuado a la situación que está percibiendo. Por ejemplo, Banaji, Hardin y Rothman (1993) encontraron que cuando se preactivaba el concepto “dependiente”, se aplicaba cuando el estímulo posteriormente percibido era una mujer (ya que el concepto preactivado era congruente con el estereotipo femenino), pero no se aplicaba si el estímulo presentado era un hombre. Por último, las condiciones de la situación que se está percibiendo pueden incrementar o disminuir la saliencia del conocimiento estereotípico. Así, por ejemplo, las características visibles (aspecto físico, el atractivo o la edad) o la diferencia de un estímulo en alguna característica fundamental respecto al resto de estímulos presentes (por ejemplo, cuando en un entorno laboral hay una o pocas mujeres en una plantilla casi exclusivamente formada por hombres) pueden favorecer la activación de unas u otras representaciones, las más salientes, al centrarse la atención sobre ellas (Moya y Rodríguez-Bailón, 2005).

Por su parte, Smith y Zárate (1992) cuestionaron los modelos tradicionales que consideran los estereotipos como asociaciones esquemáticas entre categorías y rasgos. En su lugar, estos autores proponen que al evaluar a un estímulo social se activan representaciones en la memoria de otros ejemplares similares que habíamos almacenado con anterioridad. Este proceso por el cual recuperamos información almacenada en nuestra memoria en función de la similitud con el estímulo social que se está percibiendo, se va a ver influido por un amplio número de factores sociales y motivacionales

(incluido el contexto social). Estos factores situacionales y motivacionales van a afectar a la manera en que el perceptor centra su atención en unas u otras dimensiones del estímulo y por tanto, en los ejemplares que se recuperan en memoria para realizar un juicio social. Por ejemplo, según este modelo, cuando se presenta a una mujer en un contexto laboral, el que sea evaluada como más sociable que competente (según el estereotipo femenino) o viceversa (según el estereotipo de persona que trabaja), dependerá de que el perceptor centre su atención en el género de la persona percibida (y por tanto, recupere la información en memoria sobre otras mujeres) o en el rol que desempeña (y por tanto, recupere la información en memoria sobre otros trabajadores).

Por último, algunos autores han propuesto los modelos conexionistas como los más adecuados para explicar la evidencia existente hoy día acerca de la variabilidad situacional de las activaciones automáticas de estereotipos y prejuicios (Operario y Fiske, 2004). Estos modelos de manera similar a la teoría de las redes asociativas, consideran que el conocimiento está representado en nodos interconectados. Sin embargo conceptualizan las representaciones del conocimiento como “estados” de activación de esas redes. Es decir, estos modelos proponen que los nodos *per se* no son específicos de una categoría ni tienen significado por sí solos. El significado lo confieren los patrones de activación a través de diversos nodos. A diferencia de los modelos de redes asociativas, proponen que las conexiones entre diversos nodos pueden activarse tanto de manera positiva (función excitatoria) como negativa (función inhibitoria), dependiendo de la información específica que se esté procesando en cada momento. Metafóricamente, estos modelos se comparan a la

activación de un conjunto de píxeles en una pantalla de televisión para representar una imagen, aunque cada píxel por si mismo no tenga un significado específico. Dado que el conocimiento se representa de manera distribuida, lo que ocurre al activar una representación es que se *reconstruye* un patrón de activación, y no se *recupera* información acerca de una representación estática. En este sentido, estos modelos son mucho más flexibles y sensibles a las influencias contextuales (Smith, 1998).

II. AUTOMATICIDAD Y MEDIDAS IMPLÍCITAS EN COGNICIÓN SOCIAL.

2.1 Introducción histórica y consideraciones terminológicas previas.

Los términos *automático* y *controlado* proceden del ámbito de la Psicología Cognitiva, y hacen referencia a dos modalidades de procesamiento de la información. Históricamente, una primera diferenciación consideraba que podían darse sólo dos alternativas de procesamiento: automático o consciente (Posner y Snyder, 1975). El *procesamiento consciente* era definido por ser serial, tener limitada la capacidad de información que puede manejar a la vez, corresponderse con los contenidos de la conciencia fenomenológica y estar dirigido por la intencionalidad y los objetivos del individuo. Cualquier procesamiento que se descubriera y que no cumpliera alguna de estas características era considerado como “automático”, y todo aquello que no fuera automático era considerado como controlado y consciente.

De forma más específica, la distinción entre *automático* y *controlado* fue establecida por Shiffrin y Schneider (1977). Schneider (2002) enumeró siete características que diferenciaban cuantitativa y cualitativamente ambos procesos: la rapidez, el tipo de procesamiento (en paralelo vs. serial), el esfuerzo, la solidez, la práctica que implican, el control y el grado de modificación de la memoria que provocan. Así, los procesos *automáticos* se caracterizarían por ser rápidos, ocurrir en paralelo a través de los canales perceptivos, no requerir apenas esfuerzo, ser sólidos y fiables a pesar de

factores como el cansancio o la fatiga, implicar una gran cantidad de práctica, ser poco controlables por los individuos e implicar escasa modificación de la memoria; mientras que los procesamientos *controlados* presentarían las características opuestas.

No obstante, la caracterización dicotómica de estos procesamientos ha tropezado con no pocos problemas obligando a relativizar esta distinción, admitiendo que probablemente exista un continuo en cuanto al grado de compromiso de la atención, pues es discutible que haya algún procesamiento que no movilice al menos mínimamente algún recurso atencional (Lautrey, 2003). En los extremos del continuo encontraríamos que el control del procesamiento está totalmente centrado en el individuo, o por el contrario, el control está en los propios estímulos externos (como consecuencia de las asociaciones previas automatizadas por la práctica, y los esquemas de comportamiento almacenados). Generalmente, el resultado de dicho procesamiento y la conducta final serán producto de la interacción de ambos factores (Norman y Shallice, 1986).

Además, actualmente se considera que el *procesamiento automático* no tiene una sola entidad sino que por lo menos hay dos tipos de procesamiento que son considerados como “no controlados”: la *automaticidad dirigida a una meta* y el *procesamiento preconsciente* (Bargh y Chartrand, 2000). El primero de ellos hace referencia, por ejemplo, al procesamiento no consciente que tiene lugar cuando practicamos una habilidad aprendida (por ejemplo, montar en bicicleta o escribir a ordenador); en este caso el aprendizaje ha requerido un

esfuerzo y mucha práctica y este procesamiento automático es intencional en tanto que requiere la voluntad para poner el proceso en marcha. El *procesamiento preconsciente* hace referencia a todo el procesamiento informativo que acontece inmediatamente ante un estímulo o situación dada (por ejemplo, la activación de un estereotipo sobre un determinado grupo social ante la presencia de un miembro de dicho grupo), sin ninguna intencionalidad por parte del perceptor.

Esta distinción entre modalidades de procesamiento automático vs. controlado de la información se aplicó desde finales de los 80 del siglo pasado al estudio de los procesos de estereotipia y prejuicio (Blair y Banaji, 1996; Devine, 1989; Fazio, 1990). Según esta perspectiva dualista, los procesos más automáticos supuestamente se activarían inmediatamente ante la presencia de una clave categórica (que hiciera referencia a un grupo social determinado), sin que participara el razonamiento controlado del individuo. Por otro lado, actuaría el proceso controlado cuando la persona dispone de recursos (cognitivos, tiempo y motivación), de forma que en ciertas situaciones logre impedir que esa activación automática inicial se manifieste finalmente en su respuesta (o module su aparición), tratando así de adecuar su comportamiento a sus intereses y motivaciones (deseabilidad social, expectativas, etc.). El modelo de disociación de Patricia Devine (1989) fue el primero en aplicar y poner a prueba estas asunciones teóricas en el ámbito de los estereotipos, ejerciendo una enorme influencia en la investigación que a partir de ese momento se viene realizando sobre el tema.

2.2 Modelo de disociación de Patricia Devine (1989).

Según este modelo, los *estereotipos* conforman el componente automático, mientras que las *creencias personales* dan lugar al componente controlado de las actitudes. Así, el procesamiento automático implica la activación espontánea o no intencional de algunas asociaciones o respuestas bien aprendidas que se han desarrollado por su repetida activación en la memoria. Esta activación es igual de fuerte para personas con altos o bajos niveles de prejuicio, la diferencia es que las de bajo prejuicio han *decidido* que el estereotipo es una base inadecuada para la conducta y por tanto, experimentan un conflicto entre el estereotipo automáticamente activado y sus creencias personales. Estas creencias que están relacionadas con la aceptación del contenido del estereotipo, se desarrollan a través de la experiencia directa y son posteriores a la adquisición del estereotipo. Por su parte, la aplicación del procesamiento controlado es intencional, requiere mayor número de recursos (atención, capacidad cognitiva, motivación, tiempo, etc.) y es flexible.

En definitiva, para Devine (1989) habría que diferenciar entre *conocimiento* de un estereotipo cultural y su *aceptación*, es decir, esta autora defendía originariamente en su modelo que los estereotipos existen al margen de los individuos y son culturalmente adquiridos, pudiendo influir en las respuestas incluso de aquellos que no aceptan el estereotipo y que han cambiado sus creencias sobre el grupo estereotipado, ya que ambos componentes pueden actuar de manera independiente. La mera pertenencia de

una persona a un grupo, facilitaría la activación del estereotipo en la memoria del perceptor. Sin embargo, para que se pueda producir la inhibición de estas respuestas automáticamente activadas sería necesario tiempo y capacidad cognitiva.

Estas propuestas de Devine (1989) acerca de la automaticidad e inevitabilidad de los estereotipos redundó en la asunción de que las evaluaciones automáticas iniciales eran inflexibles y muy resistentes al cambio, dando lugar a importantes investigaciones en la siguiente década que tratarían de aportar nuevas argumentaciones y contrastaciones empíricas para este hecho (Bargh, 1999; Dovidio, Kawakami, Johnson, Johnson y Howard, 1997; Fazio, Jackson, Dunton y Williams, 1995; Lepore y Brown, 1997). No obstante, para poder comprobar empíricamente estas hipótesis derivadas de las propuestas teóricas era necesario desarrollar nuevos paradigmas metodológicos que permitiesen estudiar y medir tanto los procesos controlados como los más automáticos.

2.3 Medidas implícitas y explícitas.

En parte como consecuencia de los desarrollos teóricos que enfatizaban la automaticidad de los procesos de prejuicio y estereotipia, y también por la propia evolución sociocultural de los contenidos y formas de expresar dichos prejuicios y estereotipos, surgió la necesidad en la Psicología Social de adaptar medidas para su estudio procedentes de otras disciplinas o bien desarrollar medidas nuevas, que no se vieran tan afectadas por los *factores de respuesta*

(p.ej., deseabilidad social o control de impresiones) ni por los *problemas de autoconciencia*, debidos a la existencia de diferencias interpersonales en cuanto a capacidad para “darse cuenta” de las propias opiniones y estados internos (Nisbett y Wilson, 1977). Así, en las últimas décadas, se han desarrollado paradigmas que permiten controlar la cantidad de recursos cognitivos que las personas pueden utilizar al emitir una respuesta ante un estímulo para verificar la automaticidad de dichos procesos; o bien paradigmas en los que se manipulan diversas variables, de manera explícita o implícita, para comprobar de qué manera afectan tanto a la activación como a la aplicación de esas creencias estereotípicas (Brauer, Wasel y Niedenthal, 2000).

Los términos *explícito* e *implícito* proceden del ámbito de la Psicología Cognitiva, concretamente se refieren a tipos de memoria y aprendizaje; de tal manera que mostramos memoria implícita de un suceso concreto cuando nuestra ejecución en alguna tarea muestra evidencias de que hemos sido influidos por ese suceso previo a pesar de no darnos cuenta de que éste ha ocurrido, es decir, no mostrando memoria explícita alguna del mismo (Schacter, 1987). Igualmente, podemos adquirir determinado conocimiento a partir de las respuestas previas que nos sirva por ejemplo para predecir de forma implícita la respuesta futura apropiada. Ese conocimiento podemos adquirirlo por la mera práctica repetitiva con una estructura de tarea determinada, sin que tengamos conocimiento explícito de ello (Jimenez, Mendez, y Cleeremans, 1996).

Fazio y Olson (2003) opinan que dada esta procedencia cognitiva del término, cuando se aplica a las actitudes debe tener un significado similar, es decir, las actitudes implícitas serían aquellas que el sujeto desconoce o no es consciente de que las tiene. Sin embargo, este no es el caso de las mediciones realizadas mediante las medidas implícitas en Psicología Social, ya que no podemos afirmar que los individuos desconozcan sus actitudes. Es decir, el hecho de que los participantes puedan no ser conscientes de que sus actitudes están siendo medidas no quiere decir que desconozcan poseerlas. Debemos distinguir por tanto entre el que seamos conscientes o no de que poseemos cierto conocimiento, y que seamos conscientes de usarlo en un momento dado. En otras palabras, lo que Fazio y Olson sugieren es que es la propia medición lo que es implícita o explícita, desconociendo si la actitud lo es o no. Por tanto, estos autores no encuentran justificable calificar las actitudes medidas de esta forma como implícitas, sino que, en su opinión, lo más adecuado es ver las *medidas* y no las actitudes, como explícitas o implícitas. Admiten esta posibilidad como la más adecuada dada la amplia aceptación e introducción de estos términos en la literatura social, aunque reconocen su preferencia por los términos “medidas directas e indirectas” (Dovidio y Fazio, 1992) que tienen menos connotaciones asociadas a la conciencia. Siguiendo la propuesta de Fazio y Olson, haré referencia a medidas, no a actitudes, explícitas o implícitas.

El conocimiento implícito difiere claramente del explícito en la escasa capacidad que muestran los individuos para dejar de mostrar el primero, en situaciones en las que por las razones que sean no quieren o no deben mostrarlo, por ejemplo, porque deja de ser válido (Jiménez, Vaquero, y

Lupiáñez, 2006). En ese sentido, Maass, Castelli y Arcuri (2000) proponen un continuo para ordenar las medidas de prejuicio de acuerdo con su grado de facilidad o dificultad para que las personas puedan inhibir de forma intencionada sus respuestas. De manera simplificada, las medidas se distribuirían de la siguiente manera:

- En un extremo del continuo encontraríamos las escalas de racismo tradicional o tareas de distribución de recompensas. Estas tareas se caracterizan por permitir un fácil control intencional de las respuestas.
- Más hacia el centro se situarían medidas como la medición de la distancia de asiento o el contacto visual, caracterizadas por ser conductas que, aunque están bajo control consciente, no solemos prestarles atención y por tanto nos resulta más difícil de manipular intencionadamente.
- Por último, en el otro extremo podríamos encontrar medidas de tipo fisiológico o cognitivas como las tareas con *priming*, en las que según estos autores, la inhibición intencional es prácticamente imposible.

2.4 El *Priming* como medida implícita.

La primera vez que se empleó el término "*priming*" fue en 1951 por Lashley para referirse a una activación interna temporal de determinadas tendencias de respuesta, es decir, la preparación intencional de nuestras representaciones mentales en función de la respuesta que se requiere dar. Sin embargo, no fue hasta que Storms (1958) llevó a cabo un experimento en el

que los sujetos tenían que memorizar una lista de palabras cuando se descubrió la influencia pasiva del *priming*. Estos primeros estudios son fundamentales para el actual desarrollo de la distinción entre formas explícitas e implícitas de la memoria (Greenwald y Banaji, 1995).

En el ámbito de la Psicología Social el estudio pionero sobre *priming* fue realizado por Higgins, Rholes y Jones (1977). En esta investigación se facilitaban rasgos de personalidad (p. ej., a unos participantes se les presentaban rasgos positivos como “aventurero”, “independiente” y a otro grupo, rasgos negativos como “imprudente”, “reservado”) y posteriormente, en una tarea descrita como totalmente independiente a la fase previa, comprobaban qué impresiones se formaban de una persona que se comportaba de manera ambigua en relación con los rasgos primados (p. ej., decidía navegar solo por el océano en vez de seguir estudiando). En función de que los rasgos primados fueran positivos o negativos, los participantes se formaban una mejor o peor impresión del protagonista del relato, si ser conscientes de que la tarea previa había afectado a sus juicios posteriores. Desde entonces, son innumerables las investigaciones que han utilizado este paradigma en nuestra área.

En términos generales, cuando hablamos de la facilidad de activación de estructuras de conocimiento social y cómo éstas influyen los fenómenos psicológicos sin que la persona se dé cuenta, se puede diferenciar entre estudios de *priming*, por un lado, en los que interesa la activación *temporal* en un contexto determinado de las representaciones mentales que tiene una

persona y cómo esta activación interactúa con la información contextual para producir percepciones, evaluaciones, motivaciones y conductas (Bargh, 1997) (por ejemplo, la investigación clásica de Higgins et al. descrita anteriormente); y, por otro lado, investigaciones en las que se pretende simular efectos automáticos propios de representaciones mentales más *permanentes* o que trascienden al contexto actual (Bargh y Chartrand, 2000).

Bargh y Chartrand (2000) resumen las principales técnicas de investigación con *priming*. En primer lugar, para los estudios en los que interesa la activación temporal de las representaciones mentales se pueden utilizar dos técnicas (aunque según los propios autores de esta distinción, la diferencia entre ambas es mucho más compleja de lo que ellos plantean y se dan ejemplos de estudios que no podrían ser clasificados claramente como de uno u otro tipo):

- *Priming conceptual*: Consiste en la activación temporal de representaciones mentales (conceptos) en un contexto determinado de manera que ejerzan una influencia pasiva, no intencionada y sin que el sujeto se dé cuenta de esta influencia en contextos siguientes, no relacionados, hasta que la activación se disipe. Por ejemplo, el estudio clásico con *priming* de Higgins et al. (1977).
- *Mindset Priming (inducción de modos de pensar o esquemas de procesamiento)*: En este caso lo que se prima no son conceptos sino, esquemas de procesamiento o formas de pensar determinadas ante una situación. Por ejemplo, podemos facilitar que la gente utilice estrategias de

razonamiento más deliberativas (p.ej., presentándoles una persona que está reflexionando acerca de diferentes opciones o alternativas dentro de un plan) o de implementación (p.ej., presentando a una persona que está pensando en cómo ejecutar un plan), y ver cómo afecta en la forma posterior de procesar la información o de tomar decisiones (Gollwitzer, Heckhausen, y Steller, 1990).

En segundo lugar, para los estudios interesados en investigar las redes de representaciones permanentes en memoria simulando experimentalmente efectos de automaticidad, se suele emplear el *priming* secuencial. Dado que ésta es la técnica elegida para la realización de mis experimentos, paso a explicarla detalladamente a continuación.

Priming secuencial: Pretende estudiar la estructura asociativa de la mente a través de la automaticidad. Se diferencia de los tipos de *priming* anteriores en que no sirve para examinar los efectos residuales de la experiencia reciente si no, las conexiones permanentes entre dos representaciones de la memoria, entre las cuales la activación se expande automáticamente (por ejemplo, entre un estímulo actitudinal y su evaluación – individuo perteneciente a un grupo social y sus estereotipos- o entre dos conceptos diferentes –poder y sexo-). Esta técnica se basa en la teoría de las redes asociativas (Anderson y Bower, 1973) la cual afirma que la memoria está organizada en diferentes nodos interconectados de tal manera que la activación surgida en alguno de ellos se expande automáticamente hacia los nodos más cercanos interconectados.

En el procedimiento usado generalmente se mide el tiempo que se tarda en responder a una palabra objetivo (*target*, en inglés), en función de su relación con una palabra previa (*prime*, en inglés), a la que no es necesario responder. La lógica subyacente es que se tardará menos en responder a aquellas palabras relacionadas con la palabra previa. Cuando se utiliza este procedimiento de *priming* secuencial se manipulan los intervalos entre la presentación del *prime* y la del *target*, para poder hacer inferencias acerca de si el efecto es automático, o por el contrario han tenido lugar procesos controlados. Se considera que si la presencia del *prime* afecta a las respuestas dadas ante el *target* cuando el intervalo entre ambos es muy pequeño (p.ej., 250 ms), no da tiempo a que participen procesos controlados, y por tanto, el efecto de facilitación se produce porque ambos estímulos están relacionados en la memoria a largo plazo; mientras que si el intervalo entre ambos estímulos es suficientemente largo (p.ej., 750 ms), podemos poner en marcha procesos de control sobre nuestras respuestas, bien activando intencionalmente ciertas representaciones, o inhibiéndolas en caso de que se activen automáticamente pero no deseemos usarlas. Por tanto, si hay capacidad atencional y tiempo suficiente, podemos desarrollar estrategias para inhibir o modificar la activación automática (Posner y Snyder, 1975; Shallice, 1972).

Neely (1977) puso a prueba esta hipótesis manipulando la distancia temporal entre el inicio de la presentación del estímulo *prime* y el inicio de la presentación del estímulo *target*, distancia a la que denominó SOA (del inglés *Stimulus Onset Asynchrony*); además, manipuló la presentación de los *primes*

de tal manera que predijeran la combinación semánticamente inconsistente con el *target* (esto es, el *prime* “cuerpo” era presentado en la mayoría de los ensayos antes de la aparición de muebles, mientras que el *prime* “mobiliario” solía ir seguido de la presentación de partes del cuerpo). De esta manera, en la condición de SOA largo la presentación de los *primes* favorecía las respuestas a objetos de la categoría contraria, de acuerdo con la predictividad implementada por la manipulación experimental. A pesar de ello, en la condición de SOA muy breve encontraba que los *primes* de cada categoría favoreciendo la respuesta para objetos pertenecientes a esa misma categoría. Es decir, cuando los sujetos disponían de más tiempo para aplicar el procesamiento controlado, sabían que la palabra “cuerpo” iba seguida de muebles y viceversa, por lo que preparaban su respuesta y tardaban menos en esas condiciones a pesar de su incoherencia semántica; sin embargo, cuando se restringían las posibilidades de que hubiera procesamiento controlado, necesario para que se diera ese efecto de preparación activa por parte del sujeto, se activaba la asociación automática entre el nombre de la categoría (“mobiliario” o “cuerpo”) y los objetos pertenecientes a esa categoría.

Muchas investigaciones sobre actitudes sociales que las personas suelen ser reticentes a admitir de manera explícita, como opiniones estereotipadas o prejuiciosas acerca de grupos sociales, han utilizado este paradigma para estudiarlas, ya que las evaluaciones son tan rápidas que no es posible controlar intencionalmente nuestra respuesta. En este tipo de estudios, se han empleado bien tareas de evaluación (responder si el estímulo presentado es positivo o negativo), bien tareas de decisión léxica (diferenciar

palabras reales del léxico de un idioma de secuencias de letras sin sentido), o bien tareas de pronunciación (leer en voz alta la palabra presentada) para medir las latencias de respuesta.

Una crítica que se puede hacer al primer tipo de tareas es que es más difícil sacar conclusiones sobre la independencia o no intencionalidad del efecto, ya que los participantes están pensando conscientemente en términos evaluativos. El segundo tipo solventa este problema, pero implica tener que despreciar la mitad de la información recogida y por tanto duplicar el número de ensayos por condición, ya que los ensayos con no-palabras no tienen interés teórico para este tipo de estudios y en cualquier caso, también implica una toma de decisión sobre la naturaleza del estímulo, incrementando el tiempo necesario para responder y la varianza explicada por las diferencias individuales en la realización de juicios evaluativos. Por último, las tareas de pronunciación se consideran las más sensibles para este tipo de estudios ya que superan las dificultades explicadas de las otras dos, aunque son más costosas en cuanto a los recursos materiales y al control de las condiciones de recogida de datos se refiere. Además, tienen una desventaja añadida al usarlas en castellano, ya que, al contrario que en el inglés, por ejemplo, en castellano no es necesario acceder al significado para pronunciar una palabra, por lo que estas medidas no son apropiadas para estudiar *priming* semántico en idiomas de ortografía transparente como el castellano.

En cualquier caso, son generalmente los objetivos concretos de la investigación a realizar los que guían la elección de una técnica u otra. En

nuestro caso, dado que nos interesa estudiar el contenido semántico de los estereotipos activados, pero a su vez, controlando si dicho contenido se ve afectado por la valencia de los mismos, el tipo de tarea más adecuado para nuestro objeto de estudio es la tarea evaluativa, que nos permite analizar la interacción entre la activación del contenido semántico (ortogonal a la tarea que se realiza) y evaluativo.

III. MODULACIÓN CONTEXTUAL DE LOS ESTEREOTIPOS Y EL PREJUICIO.

La concepción clásica de los estereotipos y del prejuicio como sesgos implícitos estables, y resistentes al cambio (Bargh, 1999; Devine, 1989; Dovidio, Kawakami, Johnson, Johnson, y Howard, 1997; Fazio, Jackson, Dunton, y William, 1995) ha sido ampliamente cuestionada en las dos últimas décadas. Así, frente a esa supuesta rigidez se ha propuesto que ambos procesos, estereotipia y prejuicio, tienen un carácter maleable de manera que no sólo su aplicación, sino también su activación se ve influida por diversos factores motivacionales y situacionales (Blair, 2002). No obstante, es importante aclarar que el hecho de que se pongan de manifiesto las influencias contextuales no entra en contradicción con la asunción de que estos procesos son activados en parte de manera automática, tal como proponía Bargh (1989) al hablar de *automaticidad condicionada*. En este sentido debemos distinguir entre procesos *estrictamente automáticos* (es decir, aquellos que no son modulables por la atención) y procesos *automáticos por defecto* (es decir, que se pueden producir totalmente al margen de la atención, pero que pueden ser modulados por ésta en determinadas circunstancias) (Ruz y Lupiáñez, 2002).

Probablemente, la investigación de Blair y Banaji (1996) fue la primera en proponer que la activación de los estereotipos y prejuicio podía ser controlada, demostrando la importancia de las *expectativas previas* y las *restricciones cognitivas*. Blair y Banaji realizaron una serie de estudios con

priming (la tarea de los participantes consistía en clasificar distintos nombres propios como masculinos o femeninos), en los que se pone de manifiesto que la activación espontánea de los estereotipos de género dependía de las expectativas de los participantes que habían sido manipuladas previamente por los experimentadores (en un grupo se les advertía previamente que cuando apareciera en la pantalla una palabra estereotípica masculina, como por ejemplo “ambicioso”, debían esperar que a continuación se presentase un nombre de hombre, mientras que cuando apareciera una palabra estereotípica femenina, se presentaría un nombre de mujer –estrategia estereotípica-; mientras que al otro grupo se les decía que si la primera palabra presentada era estereotípica masculina, debían esperar que la segunda fuera un nombre de mujer, y viceversa –estrategia contra-estereotípica-). Los resultados mostraron que cuando se creaba una expectativa contra-estereotípica desaparecía la activación automática de las asociaciones estereotípicas. No obstante, este resultado quedaba matizando por la manipulación de las restricciones cognitivas a las que se enfrentaban los participantes, manipuladas mediante la modificación de los intervalos de presentación de los estímulos en pantalla: en línea con los resultados de Neely (1977) descritos anteriormente, en la condición de expectativa contra-estereotípica, cuando apenas había restricciones a la utilización de recursos cognitivos (SOA = 2000 ms), el efecto de facilitación del estereotipo se veía completamente invertido (es decir, la respuesta facilitada era la contra-estereotípica). Cuando las restricciones eran elevadas (SOA = 350 ó 250 ms), en cambio, se producía una reducción significativa de dicho efecto aunque no llegase a invertirse por completo. Quizá

las condiciones de procesamiento no fueran tan restrictivas como en el caso de Neely (1977), y por ello no llegara a invertirse el efecto.

Otra investigación pionera en este campo que ya defendía claramente el carácter *condicionado* de la automaticidad de los estereotipos fue la de Macrae, Bodenhausen, Milne, Thorn y Castelli (1997) quienes mostraron que los *objetivos de procesamiento* que tienen los participantes durante la visión de una persona pueden moderar su activación. Estos autores arguyen que es necesario un procesamiento a nivel semántico del estímulo-*prime* (que se procese el significado del mismo, más allá de sus características superficiales) para que se favorezca la aparición de ciertas tendencias de respuesta en una situación determinada (efecto *priming* o de facilitación). Para probar sus hipótesis realizaron un estudio con *priming* en el que los participantes tenían que hacer dos tareas (paradigma de doble tarea). En primer lugar, se les presentaron fotos de caras de mujeres o de objetos del mobiliario de la casa durante 1000 ms para que dijeran, bien si pertenecían a la categoría de objetos animados o inanimados (grupo 1: tarea semántica), bien si aparecía un punto blanco en la imagen (grupo 2: detección de una característica) o simplemente decir cuando detectaban la aparición de la foto (grupo 3: exposición). A continuación, en todos los grupos aparecían cadenas de letras que formaban palabras o no palabras pronunciables para que las clasificasen como tales (segunda tarea: decisión léxica). Entre las palabras, cuatro eran adjetivos estereotípicos de las mujeres y cuatro contra-estereotípicos (es decir, más propios de los hombres). Encontraron que en la tarea de decisión léxica el grupo 1 (juicio semántico) se diferenciaba significativamente de los otros dos

cuando los adjetivos mostrados eran estereotípicos y la imagen mostrada era una mujer (es decir, mostraba un efecto de *priming* semántico del estereotipo), no pudiendo ser atribuido este resultado a una falta de procesamiento correcto de la imagen en cualquiera de los grupos.

Otras investigaciones posteriores siguieron aportando evidencias que apoyan ese carácter maleable de los estereotipos y del prejuicio, a pesar de ser automáticos. En una amplia revisión llevada a cabo por Blair (2002) se sintetizan cuatro tipos de factores personales o situacionales que pueden condicionar su activación: Motivos personales o sociales (Sinclair y Kunda, 1999), estrategias específicas (Blair y Banaji, 1996; Kawakami, Moll, Hermsen, Dovidio y Russin, 2000), el centro de atención del perceptor (Macrae, Bodenhausen, Milne, Thorn, y Castelli, 1997; Wittenbrink, Judd y Park, 2001a), y la configuración de los estímulos percibidos (Wittenbrink, Judd y Park, 2001b).

La constatación de la maleabilidad de prejuicios y estereotipos tiene importantes implicaciones a nivel teórico, para comprender los procesos subyacentes a ambos, y desarrollar modelos que expliquen el procesamiento inicial de la información social. Pero son mayores incluso sus implicaciones a nivel práctico, ya que cuestionan la idea previamente instaurada de que las conductas y evaluaciones sesgadas de los demás son tan automáticas que no se pueden modificar, abriendo así la puerta a todo un mundo de estrategias para modificar el conocimiento implícito que subyace a los estereotipos y prejuicios. En nuestra investigación vamos a estudiar la maleabilidad de estas

creencias sociales mediante dos estrategias distintas: a) El contexto físico asociado a distintos roles sociales; b) El entrenamiento en asociaciones contra-estereotípicas.

3.1 Influencia del contexto físico y de los roles sociales sobre la activación de los estereotipos y prejuicio

La investigación de Wittenbrink, Judd y Park (2001a) se considera paradigmática en la demostración de la influencia del *contexto* en el que se sitúa la persona percibida, perteneciente a una categoría social determinada (p.ej., una persona negra que aparece en el contexto de una barbacoa no será percibida de igual modo que la misma persona en el contexto de una riña callejera). Estos autores realizaron un estudio con *priming* en el que manipularon el contexto en el que aparecía una persona blanca o negra, por medio de las imágenes utilizadas como *primes* (utilizando como fondo el interior de una iglesia – contexto positivo- o bien la esquina de una calle con un muro cubierto de *graffitis* –contexto negativo-). La tarea de los participantes consistía en categorizar los adjetivos presentados como *targets* en positivos o negativos. Encontraron que cuando el fondo de la imagen era negativo se facilitaba tremendamente la evaluación de los *targets* negativos (se replican los resultados encontrados por Fazio, et al., 1995). Sin embargo, cuando el fondo era una iglesia no sólo no ocurría esto, sino que incluso se tendía a facilitar la evaluación de los rasgos positivos.

Los autores concluyen que los estereotipos y las actitudes grupales automáticas son efectivamente sensibles a los cambios en el contexto situacional. Proponen que un análisis más detallado de los procesos cognitivos y perceptivos subyacentes a la activación del concepto quizás sugiriese un mecanismo secuencial por medio del cual un mayor conjunto de contenidos de memoria se activaría inicialmente pero sería a continuación filtrado según la relevancia contextual. Es decir, consideran que la activación es en principio más tosca pero el contexto la hace específica y esto ocurre rápidamente sin necesidad de ningún control activo por parte del perceptor.

Posteriormente, basándose en la investigación de Wittenbrink y colaboradores (2001a), Barden, Maddux, Petty y Brewer (2004) diseñaron un conjunto de estudios para probar si la moderación contextual del sesgo racial se debía a los roles sociales implicados. Sus resultados confirmaron sus hipótesis, mostrando que los roles sociales asociados a distintos contextos (trabajador de una fábrica, persona religiosa, prisionero, abogado, estudiante, atleta) podían reducir o incluso revertir completamente el patrón típico de sesgo racial tanto en medidas directas como indirectas. Por ejemplo, presentaban imágenes de personas negras o asiáticas en un contexto académico (para activar el rol de estudiante), o bien en un contexto deportivo (para activar el rol de deportista). Encontraron un sesgo a favor de las personas asiáticas en el contexto académico, y por el contrario, un sesgo a favor de las personas negras en el contexto deportivo.

Barden y colaboradores (2004) consideran que sus datos se pueden explicar como causa de la activación de diferentes subtipos (estudiante asiático, o jugador de baloncesto negro) que se asocian con características y evaluaciones específicas (Devine y Baker, 1991). Otra posible explicación proviene de la teoría de la incongruencia de rol (Eagly y Karau, 2002), es decir, el hecho de que las respuestas afectivas hacia un determinado subtipo sean más positivas o negativas, dependería de la falta de congruencia entre las características estereotípicas asociadas a una categoría y las consideradas necesarias para desarrollar cierto rol (p.ej., el estereotipo de asiático como inteligente, analítico, etc., corresponde con las habilidades propias del estudiante, por tanto la evaluación resultante será positiva, mientras que el estereotipo de negro por el contrario, se contradice con esas habilidades, dando lugar a una evaluación más negativa).

En el caso de género, Rudman y Kilianski (2000) emplearon un paradigma de priming evaluativo para comprobar si el prejuicio se activaba por igual para ambos géneros cuando eran asignados a roles con el mismo estatus (es decir, cuando se asignaban a roles de alto estatus -o de bajo estatus- tanto hombres como mujeres). En este caso, los roles se manipulaban mediante dibujos esquemáticos de hombres y mujeres vestidos con la indumentaria propia de cada profesión. Encontraron que cuando ambos géneros se asignaban a posiciones de alto estatus, se observaba un sesgo positivo hacia los hombres en comparación con las mujeres; por el contrario, cuando se presentaban ambos en roles de bajo estatus, se observaba una tendencia no significativa a mostrar un sesgo positivo hacia las mujeres. Estos resultados

corroboran las predicciones de la teoría de la incongruencia de rol (Eagly y Karau, 2002) a nivel implícito.

No obstante, en todas estas investigaciones el énfasis está puesto fundamentalmente en la activación automática de sesgos evaluativos o *prejuicio implícito*, en términos de Wittenbrink y colaboradores (2001a). No queda claro, sin embargo, qué sucede con los estereotipos asociados a las categorías estudiadas, si son igualmente moderados por las influencias contextuales, y si su activación depende del contenido evaluativo de los mismos. Una diferencia fundamental entre la investigación de Wittenbrink y colaboradores (2001) y la de Barden y colaboradores (2004) es que en la primera se hace referencia al contexto como claramente positivo o negativo, mientras que en la segunda ya se intuye cierta ambigüedad acerca de la valencia del contexto, es decir, el mismo contexto puede facilitar evaluaciones positivas o negativas dependiendo de la relación entre las características estereotípicas de la persona-objetivo y las habilidades necesarias sugeridas por el contexto. Por ejemplo, el contexto de una clase (académico) va a facilitar positividad para un estudiante asiático, pero no para uno negro; mientras que el contexto de campo de baloncesto funciona al contrario. En estas situaciones, el prejuicio aparece como una consecuencia directa de la falta de consistencia entre las expectativas estereotípicas asociadas al contexto (p.ej., un buen estudiante ha de ser inteligente) y a la persona-objetivo (p.ej., una persona negra se considera poco inteligente de forma estereotipada).

Esta distinción entre evaluar a la persona *en* un contexto particular (positivo o negativo), o evaluar a la persona *para* un contexto particular (para desarrollar un rol asociado a ese contexto) ha sido puesta de manifiesto por Diekman y Hirnisey (2007) desde la perspectiva de la teoría de la incongruencia de rol (Eagly y Karau, 2002; Eagly y Diekman, 2005). Según esta perspectiva, los estereotipos en la percepción social de personas categorizadas (en función de su género, raza, edad, etc.), son la clave fundamental de que se desarrollen o no actitudes prejuiciosas o conductas discriminatorias hacia esas personas en un contexto determinado.

Si bien la evidencia muestra la importancia de los estereotipos asociados a diferentes contextos en la evaluación de las personas, no obstante, se sabe poco acerca de cómo las influencias contextuales afectan a la activación de dichos estereotipos. A raíz de estas investigaciones cabe preguntarse por ejemplo, si el contexto y los roles afectan igualmente a la activación de los estereotipos, y si son igual de salientes los estereotipos para una u otra categoría dentro de un mismo contexto. Siguiendo con el ejemplo anterior, ¿es igual de saliente la dimensión de *competencia* para evaluar a un estudiante negro que para evaluar a un estudiante asiático)?, o viceversa, ¿es igual de saliente la dimensión de *competencia* para evaluar a una persona negra en un contexto académico que en un contexto deportivo? A lo largo de nuestra investigación hemos tratado de dar respuesta a estas cuestiones.

3.2 Influencia del contexto en la modificación del prejuicio implícito

La posibilidad de cambiar las creencias sociales existentes, como los estereotipos o el prejuicio, ha sido siempre una preocupación fundamental de la investigación en Psicología Social. La evidencia expuesta anteriormente acerca de la maleabilidad de los sesgos sociales implícitos sugiere que ese cambio debe ser posible dada la flexibilidad de estas creencias para adaptarse a las demandas de la situación. La literatura revisada hasta ahora evidencia dicha maleabilidad asociada a situaciones específicas. Existen además evidencias acerca de cómo se pueden modificar dichas asociaciones mediante procedimientos de intervención directa, bien sean de manera explícita (p.ej., mediante estrategias de contacto intergrupales), o implícita (p.ej., mediante procedimientos de re-entrenamiento asociativo).

Las investigaciones sobre reducción de prejuicio se han centrado tradicionalmente en estrategias que funcionan a un nivel de procesamiento más explícito, centradas sobre todo en la hipótesis del contacto (Allport, 1954) y las condiciones bajo las cuales se reduce el conflicto intergrupales de manera efectiva (Weber y Crocker, 1983; Brown y Hewstone, 2005). En los últimos años, diversos estudios avalan que la maleabilidad de los sesgos intergrupales hace posible su reducción incluso a nivel implícito mediante el uso de diversas estrategias, como por ejemplo, mediante la preactivación de palabras asociadas a control (Araya, Akrami, Ekehammar, y Hedlund, 2002), el uso de imágenes mentales contra-estereotípicas (Blair, y Lenton, 2001), o

simplemente mostrando imágenes de miembros de una categoría que son admirados o rechazados por nuestra sociedad (Dasgupta y Greenwald, 2001).

También se han empleado estrategias basadas en el condicionamiento evaluativo contra-estereotípico (Olson y Fazio, 2006). Estos autores mostraron cómo un condicionamiento de los estímulos Negro-Bueno y Blanco-Malo, llevado a cabo sin que los participantes fueran conscientes de que se estaba realizando, reducía de manera significativa las actitudes raciales activadas automáticamente, incluso dos días después de que se produjera el condicionamiento.

Siguiendo una lógica similar, Kawakami, Moll, Hermsem, Dovidio y Russin (2000) consiguieron reducir la activación de los estereotipos raciales y de *skinheads* mediante un entrenamiento en negación de las asociaciones estereotípicas existentes. Concretamente, se pedía a los participantes que respondiesen “no” cuando bajo la fotografía de una persona de un grupo social determinado apareciese un rasgo estereotípicamente asociado a su categoría, y por el contrario, que respondiesen “sí” cuando el rasgo presentado no estaba asociado culturalmente a la misma. Basándose en estos resultados, el equipo de Kawakami ha intentado más recientemente comprobar si los efectos del entrenamiento en asociaciones contra-estereotípicas se ven reflejados también a nivel conductual, concretamente en la toma de decisiones en una tarea de selección de candidatos para un puesto laboral (Kawakami, Dovidio, y van Kamp, 2005). En este caso, los autores encuentran que el entrenamiento en asociaciones no estereotípicas de rasgos para hombres y mujeres reduce la

discriminación sexual en las decisiones pero sólo cuando los participantes están sometidos a condiciones con alta carga cognitiva o bien, cuando el entrenamiento contra-estereotípico está claramente dissociado de la tarea de selección. Es decir, que la eficacia del entrenamiento dependía de que los participantes no fuesen conscientes de que se estaba tratando de influir en sus decisiones posteriores o bien, cuando las condiciones les impedían utilizar estrategias de procesamiento más controlado. Por tanto, aunque el entrenamiento en asociaciones contra-estereotípicas demuestra ser eficaz en el cambio de la activación de estas creencias a nivel cognitivo, no lo es tanto a nivel conductual.

Por último, el grupo de Kawakami, ha utilizado otra estrategia también indirecta de reducción del prejuicio que, en lugar de basarse en el cambio de asociaciones en memoria semántica, lo hace en la manipulación de conductas de aproximación o evitación (hacia fotografías de personas blancas o negras mediante un *joystick*). En esta investigación han encontrado evidencia de reducción de sesgo interracial, así como un incremento de los comportamientos de aproximación hacia el exogrupo en interacciones sociales reales (Kawakami, Phillips, Steele, y Dovidio, 2007).

Hasta aquí, la evidencia mostrada se centra en tratar de modificar las evaluaciones prejuiciosas o conductas discriminatorias hacia una categoría social desfavorecida en general (p.ej., negros, mujeres, personas mayores, etc.). Sin embargo, como hemos comentado anteriormente, el prejuicio tiene múltiples funciones y se expresa de manera diversa entre distintos grupos

sociales, tanto de alto como de bajo estatus. Falta evidencia empírica acerca de cómo los miembros de los grupos desfavorecidos responderían a ese tipo de estrategias de re-entrenamiento para la modificación del prejuicio. Es decir, se desconoce si ese tipo de estrategias serían igualmente efectivas para reducir el prejuicio cuando éste tiene una función instrumental de *resistencia* hacia las condiciones socio-estructurales desventajosas para el endogrupo.

Dado el importante carácter motivacional del prejuicio en estos casos, sería de esperar que se viese incrementado al entrenar a los miembros de un grupo desfavorecido en asociaciones estereotípicas, y que se redujese al entrenar asociaciones contra-estereotípicas. Consideramos que es interesante analizar si dichos cambios en los niveles de prejuicio hacia un exogrupo de mayor estatus se producen por igual en las dimensiones estereotípicas de competencia (directamente asociada al estatus) y sociabilidad (asociada a las relaciones interpersonales). Asimismo, cabe preguntarse, cuando se da una reducción en el prejuicio hacia el exogrupo, si dicha reducción viene derivada fundamentalmente de un incremento en la evaluación positiva del exogrupo (es decir, favoritismo exogrupal), o por el contrario una reducción de la evaluación negativa (derogación exogrupal). En la última parte de nuestra investigación, trataremos de dar respuesta a estas cuestiones analizando el prejuicio de las mujeres hacia los hombres.

Por último, los paradigmas que han empleado el entrenamiento asociativo para estudiar el cambio en las asociaciones prejuiciosas (Kawakami et al., 2000; 2005) han estudiado esas asociaciones de manera

descontextualizada, es decir, relacionando miembros de una categoría social en general con atributos o características estereotípicas. Sin embargo, la literatura presentada anteriormente acerca de la maleabilidad de los sesgos intergrupales y las influencias que el contexto puede tener en los mismos, nos indica la importancia de no considerar exclusivamente las categorías sociales de manera abstracta y descontextualizada. Es importante por tanto, vincular la relevancia de las influencias contextuales con los intentos por modificar de manera implícita esos sesgos evaluativos. En nuestra investigación pretendemos ahondar en la influencia del contexto y los roles sociales en la modificación de sesgos evaluativos automáticos asociados a las dimensiones estereotípicas de género.

AIMS OF THE RESEARCH

PLANTEAMIENTO DE LA INVESTIGACIÓN

The general aim of this thesis was to provide further evidence for a better understanding of stereotyping and prejudice as automatic but malleable processes.

From the classical Social Cognition perspective, stereotypes and prejudice are considered as stable and abstract mental representations that are activated and applied mostly in automatic ways (Bargh, 1999; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Fazio, Jackson, Dunton, & William, 1995). However, recent evidence is inconsistent with these expectations. It has been proposed that the activation of the stereotypes can be controlled (Blair & Banaji, 1996), and there is evidence that stereotype and prejudice activation are malleable processes (for a review, see Blair, 2002). Furthermore, this malleability is not contradictory with the idea that these associations are partly activated in an automatic way, according to the notion of *conditional automaticity* (Bargh, 1989). To acknowledge the malleability of social biases has important theoretical implications, particularly for the development of models explaining the underlying mechanism of social information processing in early stages. Also, it has relevant practical implications as it challenges the assumption that because judgements and behaviours are automatic, they cannot be changed.

Some interesting research on the contextual influences on the activation of automatic biases has shown that these processes are influenced by the

physical background in which the target person appears (Wittenbrink, Judd, & Park, 2001) and that this moderation effect might be explained by the different roles associated to particular contexts (Barden, Maddux, Petty, & Brewer, 2004). However, this line of research has mainly drawn conclusions about the evaluative content of social judgments (i.e., implicit prejudice), whereas, information regarding how the same contextual influences affect the activation of the cognitive representations of groups (i.e., stereotyping) at the implicit level is lacking. Considering the strong relation between stereotypic beliefs and prejudice (Eagly y Chaiken, 1998; Eagly & Diekman, 2005; Fishbein y Ajzen, 1974; Schneider, 2004), it is important to clarify whether the same contextual contingencies that affect the activation of prejudice or intergroup bias, similarly influence the activation of stereotype content. Particularly, there is a large evidence of what the contents of stereotypes are in general, and how these contents apply to a specific context (i.e., subtypes) (e.g., Devine & Baker, 2001; Deaux & La France, 1998; Fiske, Cuddy, Glick, & Xu, 2002). Clarifying evidence about the *processes* that determine how these contents are activated and used is needed. This was precisely the first aim of our research, i.e., to provide empirical evidence of the automatic activation of stereotypes and whether this activation is contingent on the context. Specifically, we aimed at answering the following questions:

Do stereotypes activate automatically when a categorical target is presented?

If so, what *type* of stereotypic content (i.e., abstract versus specific) is automatically activated?

Does role related context affect the activation of stereotypic content?

Further research has shown the malleability of implicit biases by demonstrating the possibility to change the underlying associations. For example, Kawakami and her colleagues (Kawakami, Moll, Hermsem, Dovidio & Russin, 2000; Kawakami, Dovidio, & van Kamp, 2005) trained participants in negating stereotypical associations, and measured the effects of this training on subsequent stereotype activation (cognitive measure: person categorization task) or decision making (behavioural measure: candidates selection task). However, these attempts have been generally directed to change the stereotypic prejudice towards stigmatized groups from the perspective of advantaged groups, whereas to our knowledge, the perspective of the disadvantaged groups has not been explored yet at the implicit level. Nevertheless, we consider exploring the perspective of disadvantaged groups is important because it allows us to explore the motivational character of prejudice as a way of resisting social disadvantage (Scheepers, Spears, Doosje, & Manstead, 2006). Also, the associative training paradigm used by Kawakami et al., focused on changing the prejudiced associations towards abstract social categories (e.g., elderly people, black people, etc.) without considering the context-dependent character of these associations (Blair, 2002). Therefore, the second general aim of our research was to explore the use of prejudice as implicit resistance in the specific context of gender roles, when either the traditional distribution of roles or a change in that distribution was emphasized. Particularly, we aimed at answering the following questions:

Do women show automatic ingroup bias towards men at the implicit level?

Do they show stronger implicit resistance when a traditional role distribution is emphasized?

Do they reduce their implicit bias when a change in the distribution of roles is emphasized?

These two main issues, whether stereotypes activate automatically and depending on context, and whether implicit prejudice can be used as a resisting strategy against social disadvantage, were investigated in three studies.

Firstly, we need to clarify what *type* of stereotypical content is automatically activated when a categorical target is presented. Is it rather abstract or content specific? In the Experimental Series 1, we contrast two complementary hypotheses, the *generalized stereotyping hypothesis* and the *specific content-valence hypothesis*. Do we automatically activate specific stereotypical content when encountered with a target person (e.g., women-caring, incompetent)? Or, do we activate initially a whole stereotypical dimension creating a mental set to evaluate the target person according to our expectations (e.g., women facilitate the activation of the warmth dimension faster than the competence dimension, and viceversa for men)?

Once the activated stereotypical content was clear for gender as a general dimension, in the Experimental Series 2, we looked at the influence of role-related context in the activation of stereotypes, and whether this contextual

contingency occurred automatically. In a set of three studies we tested whether gender stereotypical associations activate automatically (using different SOA lengths in an evaluative priming task) and how this process is conditioned by the context in which the target is presented (using male-related and female-related contexts as backgrounds). The question is whether men and women presented in their traditionally associated contexts (i.e., occupational vs. domestic) or in counter-stereotypical ones are perceived in the same stereotypical way as women and men in general (i.e., without a context, experimental series 1).

Finally, in the Experimental Series 3, we intended to provide evidence for the instrumental use of prejudice by women (as members of a low status group) when they were trained in associations that either reinforced the stability of their social disadvantage, or associations that promote instead social change and an improvement in their status. Also, because we were studying these effects in the context of social roles, which are strongly related to the content of gender stereotypes (Eagly & Steffen, 1984), we analyzed the activation of implicit bias on the two associated stereotypical dimensions of warmth and competence (Fiske et al., 2002).

EXPERIMENTAL RESEARCH

**Experimental series 1 / Serie experimental 1:
Activación automática de las dimensiones de
competencia y sociabilidad en el caso de los
estereotipos de género¹**

*Automatic activation of competence and warmth
dimensions in the case of gender stereotyping*

¹ Paper published as de Lemus, Moya, Bukowski, & Lupiáñez (2007). Activación automática de las dimensiones de competencia y sociabilidad en el caso de los estereotipos de género. *Psicológica*, in press.

RESUMEN

Se realizó un estudio experimental, en el que participaron 43 estudiantes de Psicología voluntarios, con el fin de medir la activación de las dimensiones estereotípicas de género, mediante un paradigma de *priming* como medida indirecta de la estereotipia de género, y bajo condiciones experimentales que limitaban los recursos cognitivos disponibles, maximizando el procesamiento automático. Se utilizaron como dimensiones estereotípicas respecto al género la sociabilidad o expresividad (propia de las mujeres) y la competencia o instrumentalidad (propia de los hombres). Se utilizó una tarea de *priming* en la que los rasgos de competencia y sociabilidad, que los participantes debían categorizar como positivos o negativos, eran precedidos de fotografías de hombres y mujeres. Los resultados mostraron efectos de facilitación para la información estereotípica, apoyando así la hipótesis acerca de la activación automática de las dimensiones estereotípicas (competencia y sociabilidad) y demostrando la relevancia de la evaluación de las personas en una determinada dimensión u otra en función de su grupo de género.

ABSTRACT

An experimental study was conducted with a sample of 43 Psychology students who volunteered for it. The main goal was to measure gender stereotypical dimensions activation using a priming paradigm as an indirect measure, and under highly restrictive experimental conditions that reduce the

availability of cognitive resources to maximize the use of automatic processing. Two gender stereotypical dimensions were used: warmth or expressiveness (more related to women) and competence or agency (mostly related to men). We used a priming task in which competence and warmth traits were primed with pictures of men and women. Participants were asked to categorize the traits as positive or negative. Results showed priming effects for the stereotypical information, supporting the hypothesis about automatic activation of stereotypic dimensions (competence and warmth) and emphasizing the relevance of the person's evaluation in differential dimensions depending on their gender group.

INTRODUCCIÓN

Los estereotipos de género son un conjunto estructurado de creencias, compartidas dentro de una cultura, acerca de los atributos o características que poseen hombres y mujeres. Dichas características pueden referirse tanto a rasgos psicológicos como a roles o actividades considerados como más propios de los hombres o de las mujeres (William y Best, 1990). En cuanto a la estereotipia de rasgo, en el caso del género, la literatura propone que los estereotipos diferencian entre hombres y mujeres mediante dos dimensiones: expresividad (emocional, cariñosa, comprensiva, cotilla, intolerante) más asociada a las mujeres, e instrumentalidad (racional, inteligente, eficaz, inconstante, incapaz) más asociada a los hombres (Spence y Helmreich, 1978). Estas dimensiones coinciden con la propuesta de Glick y Fiske (1999), quienes consideran que los estereotipos clasifican a cualquier grupo a lo largo de dos dimensiones: *competencia*, entendida como capacidad para alcanzar metas prestigiosas, y *sociabilidad*, entendida como simpatía interpersonal (Glick y Fiske, 1999; Fiske, Cuddy, Glick y Xu, 2002).

Los estereotipos que tenemos acerca de determinadas categorías sociales influyen en nuestra percepción e interpretación de la realidad, y en nuestra conducta (Moya, 2003). En este sentido, proporcionan además un claro indicador social sobre la situación de la mujer en la sociedad (Morales y López, 1993). Estos estereotipos (al igual que las demás representaciones mentales que poseemos) sólo van a influir en los demás procesos psicológicos cuando se encuentran activados. Por este motivo es interesante conocer cuáles son

esos estereotipos y bajo qué condiciones se activan con mayor o menor facilidad ya que esto puede tener importantes repercusiones de cara a la intervención en prevención del prejuicio y la discriminación.

La activación de estas representaciones mentales dependerá de su accesibilidad, aplicabilidad y saliencia (Higgins, 1996). La accesibilidad de los estereotipos (que consiste en la probabilidad de activación del conocimiento disponible) se ve incrementada cuando éstos han sido recientemente activados (*priming*), son frecuentemente utilizados o presentan características llamativas que facilitan su recuperación en memoria. Sin embargo, aunque un determinado conocimiento sea fácilmente accesible, no se aplicará a menos que el perceptor lo considere adecuado a la situación que está percibiendo. Además, las condiciones de la situación que se está percibiendo pueden incrementar o disminuir la saliencia del conocimiento estereotípico. Así, las características visibles (el atractivo o la edad) o la diferencia de un estímulo en alguna característica fundamental respecto al resto de estímulos presentes (por ejemplo, cuando en un entorno laboral hay una o pocas mujeres en una plantilla formada mayoritariamente por hombres) pueden favorecer la activación de unos u otros estereotipos (Moya y Rodríguez-Bailón, 2005).

Desde finales de los 80 de siglo pasado (Blair y Banaji, 1996; Devine, 1989; Fazio, 1990) se viene estudiando el proceso de estereotipia considerando que en él pueden estar participando dos tipos de procesos, uno automático y otro controlado (Chaiken y Trope, 1999). El automático supuestamente se activaría inmediatamente ante la presencia de una clave

categoría (i.e., que hiciera referencia a un grupo social determinado), sin que participara el razonamiento controlado del individuo. Por otro lado, actuaría el proceso controlado cuando la persona dispone de recursos (cognitivos, tiempo y motivación), de forma que en ciertas situaciones logre impedir que esa activación automática inicial se manifieste finalmente en su respuesta (o module su aparición), tratando así de adecuar su comportamiento a sus intereses y motivaciones (deseabilidad social, expectativas, etc.). Concretamente, el principal marco teórico que ejerció y continúa ejerciendo mayor influencia en el estudio de los procesos de estereotipia y prejuicio es el modelo de disociación de Patricia Devine (1989). Según este modelo, los estereotipos conforman el componente automático, mientras que las creencias personales dan lugar al componente controlado de las actitudes. Hay que diferenciar por tanto entre conocimiento de un estereotipo cultural y su aceptación, es decir, Devine defiende que los estereotipos existen al margen de los individuos y son culturalmente adquiridos. La mera pertenencia de una persona objetivo a un grupo, facilita la activación del estereotipo en la memoria del perceptor, sin embargo, para que se pueda producir la inhibición de respuestas automáticamente activadas es necesario tiempo y capacidad cognitiva.

No obstante, estos desarrollos teóricos dentro de la Psicología Social se han visto supeditados en gran parte al desarrollo de medidas que permitieran estudiar tanto los procesos controlados como los automáticos. Tras décadas de estudio centradas en el uso de procedimientos *directos* (i.e., en los que se pregunta explícitamente a las personas acerca de sus opiniones sobre una

determinada categoría social), y ante la aparición de formas de prejuicio más sutiles, como el racismo moderno (McConahay, Hardee y Batts, 1981), o el neosexismo (Tougas, Brown, Beaton y Joly, 1995; Moya y Expósito, 2001), era necesario desarrollar nuevas medidas alternativas que no se vieran tan afectadas por los *factores de respuesta* (e.g., deseabilidad social o control de impresiones) ni por los *problemas de autoconciencia*, debidos a la existencia de diferencias interpersonales en cuanto a capacidad para “darse cuenta” de las propias opiniones y estados internos (Nisbett y Wilson, 1977).

El desarrollo de procedimientos de medición más *indirectos* (i.e., en los que no es necesaria la introspección de los individuos sobre los constructos o asociaciones que se pretenden medir), ha posibilitado el estudio de los procesos subyacentes al prejuicio y la estereotipia de manera empírica. Se han desarrollado paradigmas que permiten controlar la cantidad de recursos cognitivos que las personas pueden utilizar al emitir una respuesta ante un estímulo para verificar la automaticidad de dichos procesos; o bien paradigmas en los que se manipulan diversas variables, de manera explícita o implícita, para comprobar de qué manera afectan tanto a la activación como a la aplicación de esas creencias estereotípicas (Brauer, Wasel y Niedenthal, 2000). Por ejemplo, la medición implícita de los estereotipos de género ha demostrado ser un importante predictor de las metas académico-profesionales de las mujeres (Kiefer y Sekaquaptewa, 2007). Kiefer y Sekaquaptewa encontraron que las mujeres que mostraban un menor estereotipo implícito de género a mitad de un curso de matemáticas, cuando terminaban el curso sacaban mejor nota y tenían una mayor intención de continuar sus estudios y

de dedicar su carrera profesional a las matemáticas. En este caso, el procedimiento utilizado para medir los estereotipos fue el *Implicit Association Test* (IAT; Greenwald, McGhee y Schwartz, 1998).

Otro de los procedimientos indirectos ampliamente utilizado en la literatura sobre el prejuicio y la estereotipia es el paradigma de *priming* (Fazio, Jackson, Dunton y William, 1995), cuya validez ha sido ampliamente demostrada en relación con la predicción de comportamientos posteriores de los participantes (Fazio et al., 1995; Dovidio, Kawakami, Johnson, Johnson y Howard, 1997; Dovidio, Kawakami y Gaertner, 2002; Dijksterhuis, Aarts, Bargh y van Knippenberg, 2000). En el ámbito de la Psicología Social, el estudio de Higgins, Rholes y Jones (1977) es pionero en este contexto al utilizar un procedimiento de *priming* para facilitar el procesamiento de rasgos de personalidad (i.e., aventurero o imprudente) y posteriormente comprobar qué impresiones se formaban los participantes acerca de una persona que se comportaba de manera ambigua en relación con los rasgos primados (por ejemplo, decidía hacer un viaje en solitario por el océano). En función de que los rasgos primados fueran positivos o negativos, los participantes se formaban una mejor o peor impresión del protagonista del relato.

En el estudio de los estereotipos de género, Banaji, Hardin y Rothman (1993) aplicaron esta misma metodología y encontraron que la preactivación del concepto “dependiente” (congruente con el estereotipo femenino), influía en la formación posterior de impresiones sobre una persona objetivo (en inglés, *target*) cuando se trataba de una mujer que se comportaba de manera

ambigua en cuanto a su dependencia, mientras que cuando se trataba de un hombre comportándose de igual modo, la activación previa del rasgo “dependiente” no afectaba a la formación de impresiones posterior. Banaji y colaboradores concluyeron de este estudio que para que se produzca el efecto de facilitación son necesarias no sólo la accesibilidad y la aplicabilidad interpretativa del concepto primado, sino también el ajuste (en inglés, “match”) entre el concepto primado y los estereotipos del grupo al cual pertenece el estímulo objetivo. A este tercer criterio lo denominaron *aplicabilidad social*.

En otros casos, el paradigma de *priming* ha sido empleado para analizar el carácter automático de los estereotipos de género y las condiciones específicas en las cuales su activación puede verse moderada (Blair y Banaji; 1996). Estos autores utilizaron un paradigma en el cual activaron en primer lugar un contenido asociado al estereotipo (i.e., rasgo de personalidad, rol social, atributos físicos u objetos) y a continuación aparecían nombres de hombre o de mujer como estímulo objetivo. La tarea de los participantes era clasificar los nombres como masculinos o femeninos. Estos autores encontraron evidencias de facilitación de los estereotipos de género bajo condiciones con restricciones cognitivas moderadas, ya que para sus experimentos emplearon un SOA¹ de 350 ó 250 ms. Sin embargo, cuando instruyeron a los participantes para que tuvieran expectativas contra-estereotípicas (e.g., se les decía que cuando el estímulo previo *-prime*, en terminología inglesa- fuera estereotípico masculino debían esperar que

¹ SOA son las siglas para “Stimulus Onset Asynchrony”, un término acuñado por Neely (1977) que hace referencia a la distancia temporal entre el inicio de la presentación del estímulo *prime* y el inicio de la presentación del estímulo objetivo. La manipulación del SOA se utiliza normalmente para distinguir entre procesos cognitivos más automáticos (SOA cortos) y procesamiento más controlado (SOA largos).

apareciera un nombre femenino como estímulo objetivo) el efecto de facilitación disminuía significativamente bajo las mismas restricciones cognitivas, o se revertía completamente cuando las restricciones dejaban de ser tan estrictas (SOA = 2000 ms). Blair y Banaji concluyeron que sus estudios son una prueba de la activación automática de los estereotipos de género y de cómo los perceptores pueden controlar o incluso eliminar dicha influencia.

No obstante, es importante matizar que en el estudio de Blair y Banaji, al utilizar el estereotipo como estímulo previo, y el género como estímulo objetivo, no se puede concluir que el género influya en la activación de los estereotipos, sino más bien en procesos más tardíos de atribución. Es decir, que dicho paradigma no refleja que al ser percibida una persona, su pertenencia grupal influya en la activación de características estereotípicas que se le asocian. Lo que sí parecen mostrar es que las categorizaciones sociales que realizamos después de percibir una información, se ven determinadas por el ajuste estereotípico de dicha información con una categoría de género en particular. Además, al tener los participantes que realizar una tarea de categorización de género (clasificar los nombres como femeninos o masculinos), la propia predisposición mental de la tarea podría estar influyendo en la activación del estereotipo, y su uso para la realización de la misma. Por tanto, una cuestión que permanece como objeto importante de estudio es determinar si el género de las personas percibidas activa automáticamente los estereotipos asociados a dicho género.

Por otro lado, numerosas investigaciones con medidas explícitas han demostrado que los estereotipos de género no son estándares rígidos según los cuáles se evalúa a las personas de manera homogénea en relación con una dimensión determinada (e.g., *competencia* o *sociabilidad*). Una de las aportaciones más relevantes en la literatura de la última década propone que los estándares según los cuáles evaluamos a las personas en una dimensión dada varían en función del género de esa persona (Biernat, 1995; Biernat, Manis, y Nelson, 1991), o bien que existe un “doble estándar” para evaluar a distintas personas en función de su género (Foddy y Smithson, 1989; Pugh y Wahrman, 1983; Ridgeway, 1982). Así, por ejemplo, si la competencia se asocia más fuertemente al género masculino, el nivel de competencia mínimo exigido a una mujer para ser considerada como competente puede ser inferior al que es exigido a un hombre en su misma situación (Biernat y Kobrynowicz, 1997). Una posible explicación de porqué se establece distintos estándares para las dimensiones estereotípicas, en función del género de la persona que se está evaluando, puede ser que una dimensión dada sea más relevante para evaluar a los miembros del grupo de género que se asocia a dicha dimensión estereotípica. Es decir, cuando percibimos a un hombre puede ser más importante determinar su grado de competencia que su grado de sociabilidad, mientras que cuando percibimos a una mujer priorizamos el evaluarla en la dimensión de sociabilidad antes que en la de competencia. Por ello, es importante estudiar si al percibir a una persona (e.g., hombre) tendemos a evaluarla de manera automática en la dimensión estereotípicamente asociada a su grupo de género (e.g., competencia) y necesitamos más tiempo para evaluarla en la dimensión contraestereotípica (e.g., sociabilidad).

Sabemos por tanto que la dimensión de competencia suele asociarse de manera estereotípica a los hombres, mientras que la dimensión de sociabilidad se asocia más a las mujeres. Además, sabemos que cuando se evalúa a hombres y mujeres de forma general, el patrón resultante de estereotipia muestra un contenido mixto para las dos dimensiones, es decir, los hombres tienden a ser vistos como altos en competencia y bajos en sociabilidad, mientras que a las mujeres se las ve como altas en sociabilidad y bajas en competencia (Glick y Fiske, 1999; Fiske, Cuddy, Glick y Xu, 2002). Sin embargo, no conocemos cómo operan estos procesos cognitivos a un nivel implícito: ¿Activamos directamente de manera automática el patrón específico de estereotipia propuesto por Fiske y sus colaboradores (2002), o activamos en primer lugar la dimensión estereotípica en la que es más relevante evaluar a la persona objetivo antes de hacer una evaluación específica de ella?

El principal objetivo de nuestra investigación es comprobar si la activación automática de los estereotipos de género hace referencia a la activación de las dimensiones en general, o se produce una activación automática específica de los estereotipos de alta competencia-baja sociabilidad para los hombres, y alta sociabilidad-baja competencia para las mujeres (Glick y Fiske, 1999; Fiske, Cuddy, Glick y Xu, 2002).

En la investigación que presentamos hemos medido la activación automática de las dimensiones estereotípicas de género (i.e., competencia y sociabilidad), mediante un paradigma de *priming* como medida indirecta, y bajo

condiciones experimentales que limitan los recursos cognitivos disponibles de manera que no pueda ser aplicado el procesamiento controlado. Por tanto, a diferencia de Blair y Banaji (1996) quienes investigaron, como se menciona anteriormente, si un rasgo estereotípico es asignado con mayor probabilidad a uno u otro grupo de género, nuestro principal objeto de interés es investigar si el género activa automáticamente la dimensión estereotípica. Para ello, hemos desarrollado un paradigma en el cual se activa una categoría de género mediante imágenes de hombres y mujeres, y a continuación se presentaban rasgos estereotípicos de género para ser evaluados.

Para poner a prueba estas hipótesis, utilizamos una tarea en la que se presentaban rasgos de competencia o sociabilidad, precedidos por imágenes de hombres o de mujeres. Los participantes debían categorizar los rasgos como positivos o negativos. Es importante destacar que se trata por tanto de una medida totalmente indirecta de la relevancia de las dimensiones estereotípicas, siendo la respuesta que debían emitir los participantes (valencia) ortogonal a la dimensión estudiada (género / competencia-sociabilidad). Lo más importante, el uso de palabras positivas y negativas, nos permite poner a prueba la hipótesis acerca de la activación específica de los estereotipos de género basada en la propuesta de Glick y Fiske (1999), ya que las palabras positivas se corresponden con las categorías de alta competencia y alta sociabilidad, mientras que las palabras negativas corresponden a las categorías baja competencia y baja sociabilidad (ver Anexo 1).

Si, tal como predecimos, nuestra representación de “hombre” y “mujer” esta relacionada con unas dimensiones específicas más que con otras (dimensiones estereotípicas de género), al presentar imágenes de hombre facilitaremos la categorización de palabras relacionadas con competencia, más que cuando presentamos imágenes de mujer. Mientras que cuando se presenta en primer lugar una imagen de mujer facilitaremos la categorización de palabras relacionadas con sociabilidad, más que cuando se presenta una imagen de hombre. Por tanto, para demostrar que se produce una activación de los estereotipos en nuestros participantes cuando se les hace saliente la variable género, esperamos encontrar un efecto de *priming* tal que los TR para los ensayos congruentes con el estereotipo (hombre-competencia; mujer-sociabilidad) sean menores que para los ensayos incongruentes (hombre-sociabilidad; mujer-competencia). Es decir, esperamos que el género facilite el uso del esquema perceptivo congruente con el estereotipo, más que la percepción de contenidos específicos referentes a rasgos concretos.

No obstante, si las representaciones de “hombre” y “mujer” están fuertemente relacionadas, más que con unas dimensiones categóricas estereotípicas, con unos contenidos específicos dentro de cada una de dichas dimensiones (competencia y sociabilidad, altas o bajas), debiéramos encontrar una interacción entre la congruencia y la valencia, de forma que los efectos de congruencia fuesen opuestos para la valencia negativa. Así, al presentar imágenes de hombre facilitaremos la categorización de palabras positivas de competencia (i.e., alta competencia) y negativas de sociabilidad (i.e., baja sociabilidad), más que cuando presentamos imágenes de mujer. Mientras que

cuando se presenta en primer lugar una imagen de mujer facilitaremos la categorización de palabras positivas de sociabilidad (i.e., alta sociabilidad) y negativas de competencia (i.e., baja competencia), más que cuando se presenta una imagen de hombre.

MÉTODO

Participantes

En este experimento participaron 43 estudiantes de Psicología (37 mujeres y 6 hombres) que participaron en él voluntariamente para la obtención de créditos.

Aparatos y estímulos

Para la programación de la tarea de *priming*, la presentación de los estímulos y el registro de las respuestas se utilizó el programa E-prime 1.1 (Schneider, Eschman, Zuccolotto, 2002). Los participantes completaban la tarea en un laboratorio con la luz apagada, sentados a unos 50 cms del monitor (17 pulgadas).

Las imágenes que se utilizaron en el experimento como estímulos previos, eran fotografías de caras de 3 hombres y 3 mujeres con gesto neutro. La selección de los rasgos típicos de competencia y sociabilidad que se iban a emplear como estímulos objetivo, se hizo a partir de los datos obtenidos en un

estudio previo realizado con 149 estudiantes de primer curso de la Facultad de Psicología de la Universidad de Granada (Puertas, 2003). Se utilizaron 8 rasgos de competencia, 4 con valencia positiva (*Capaz, Inteligente, Exigente, Racional*) y 4 con valencia negativa (*Ineficaz, Inconstante, Incapaz, Intransigente*), y 8 de sociabilidad, 4 con valencia positiva (*Amable, Agradable, Sensible, Sentimental*) y 4 con valencia negativa (*Cotilla, Intolerante, Hostil, Superficial*). Se emplearon adjetivos neutros en cuanto al género con el objetivo de que no afectase este factor a su evaluación, dado que la variable que se pretende medir en nuestro estudio es precisamente la estereotipia de género.

Procedimiento

Los participantes debían realizar una tarea evaluativa consistente en categorizar la palabra objetivo como positiva o negativa lo más rápidamente posible e intentando no cometer errores.

Al comienzo de cada ensayo aparecía un punto de fijación (“+”) de color negro de 4 mm de alto y ancho, en el centro de la pantalla. Tras 1000 ms se presentaba en la misma posición, la imagen (estímulo previo) durante 28 ms. Transcurrido un intervalo de 70 ms durante el cual la pantalla permanecía en blanco, se presentaba la palabra objetivo o *target*. El estímulo objetivo permanecía en la pantalla durante 100 ms, y a continuación aparecía una pantalla en blanco hasta que el participante diera una respuesta, o en su defecto, hasta un máximo de 1900 ms.

Diseño

El diseño experimental fue 2 x 2 x 2, siendo las variables independientes Género (2; Hombre vs. Mujer), Tipo (2; Competencia vs. Sociabilidad) y Valencia (2; Positivos vs. Negativos) todas ellas manipuladas intraparticipantes. Las variables Tipo y Valencia hacen referencia a la naturaleza de los rasgos. Los participantes realizaron 4 bloques de 48 ensayos, en los que se presentaba 6 veces cada una de las 16 palabras, precedidas tanto de una foto de hombre como de mujer. Por tanto, había un total de 24 observaciones para cada condición experimental.

Como variable dependiente se registró tanto el TR como el porcentaje de errores.

RESULTADOS

El porcentaje de errores y ensayos de no respuesta (en inglés, *misses*) fue tan sólo de 7.6%, siendo estos ensayos eliminados de los análisis de TR. Los ensayos con respuesta correcta con latencia menor de 200 ms o mayor de 1500 ms fueron igualmente excluidos del análisis de TR, considerados en el primer caso anticipaciones y en el segundo pérdidas de concentración, lo que dejaba fuera un 1% del total de los ensayos.

Dado nuestro interés en la modulación del procesamiento de los rasgos por el *priming* de género, y para evitar diferencias entre las diferentes palabras

debidas a variables no controladas (frecuencia de uso, etc), se computaron índices de facilitación para cada palabra y participante. Para ello, para cada participante y para cada palabra, se restó la media del TR en cada condición de congruencia al TR medio de esa palabra para ese participante. El mismo proceso se realizó con los porcentajes de errores. De esta forma, un índice negativo indica un menor TR y un índice positivo significa una mayor TR para esa condición experimental. Con posterioridad se computaron los índices de facilitación promedio para cada participante y condición experimental. Los índices de facilitación de TR y errores se introdujeron para su análisis en sendos ANOVAs de medidas repetidas con los tres factores del diseño intrasujeto 2 (Género; hombre vs. mujer) x 2 (Valencia; positivos vs. negativos) x 2 (Tipo; competencia vs. Sociabilidad). En la tabla 1 se muestra el promedio de estos índices para cada condición experimental.

Tabla 1. Índices de facilitación medios y desviaciones típicas para cada condición experimental.

		Negativos		Positivos	
Tipo		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
HOMBRE	Competencia	-3.21	18.47	-1.65	26.98
	Sociabilidad	-3.64	21.13	-4.28	18.67
MUJER	Competencia	3.21	18.47	1.65	26.98
	Sociabilidad	3.64	21.13	4.28	18.67

En el análisis del TR se vio confirmada nuestra hipótesis al encontrar que la interacción entre las variables Género y Tipo es significativa, $F(1, 42)=5.5257$, $p=.0235$, mostrando un efecto de facilitación en la activación de las

dimensiones estereotípicas de género (hombre-competencia, mujer-sociabilidad). Mientras que, en contra de la hipótesis alternativa de activación específica, esta interacción no se veía modulada por la Valencia, $F < 1$. Ningún otro efecto fue significativo para el análisis de los TR. Por su parte, el análisis de los errores no mostró efectos significativos.

Para facilitar la comprobación de nuestra hipótesis y la presentación de los datos de manera que se pueda apreciar más claramente el efecto de *priming*, se creó una nueva variable Congruencia (2; Congruente vs. Incongruente) a partir de la combinación del género de la persona que aparecía en la imagen usada como estímulo previo (hombre vs. mujer) y la variable Tipo (competencia vs. sociabilidad). Se consideran “congruentes” los ensayos con palabras objetivo de sociabilidad precedidos de una foto de mujer, o con palabras objetivo de competencia precedidos de una foto de hombre, e “incongruentes” los ensayos con palabras objetivo de competencia precedidos de una foto de mujer, o con palabras objetivo de sociabilidad precedidos de una foto de hombre. De esta manera, nuestra hipótesis se vería confirmada al encontrar un efecto principal de Congruencia, en lugar de una interacción entre Género y Tipo. Se volvió a repetir el análisis, en este caso mediante un ANOVA de medidas repetidas 2 (Congruencia; congruente vs. Incongruente con el estereotipo) 2 (Valencia; positivos vs. negativos) x 2 (Tipo; competencia vs. Sociabilidad). Los resultados muestran que el efecto principal de Congruencia era estadísticamente significativo, $F(1, 42) = 5.5257$, $p = .0235$, $M_{\text{Congruentes}} = -3.1953$, $M_{\text{Incongruentes}} = 3.1953$, el cual indica que se da un efecto de *priming* tal que cuando las palabras objetivo de competencia o sociabilidad son

congruentes con el estereotipo del género primado por la foto previa, los participantes son más rápidos en responder que cuando la relación entre la imagen y la palabra es incongruente con el estereotipo. Como se observa en la Figura 1, este efecto de congruencia no estaba moderado por la Valencia ($F < 1$). El efecto de congruencia no se ve moderado tampoco por la variable Tipo, $F < 1$, siendo por tanto equivalente para ambas dimensiones estereotípicas.

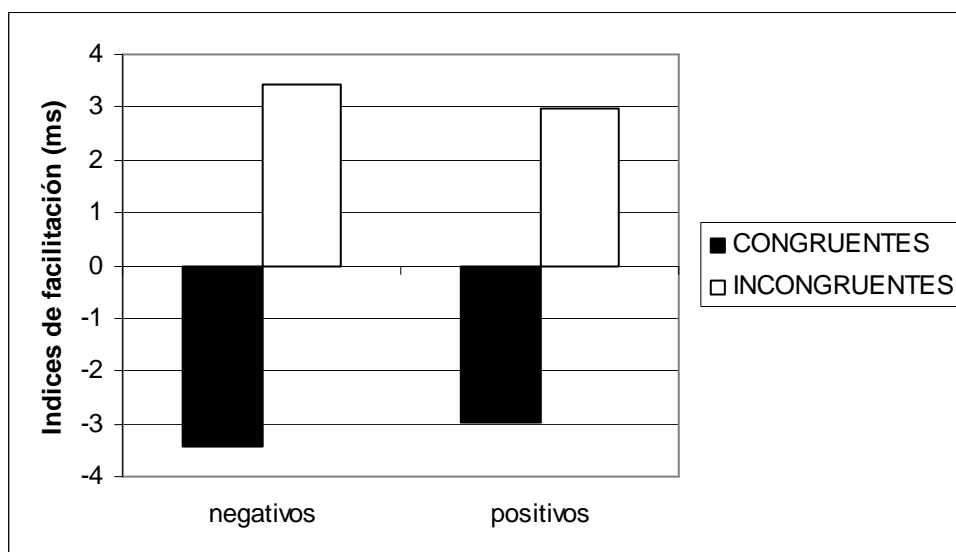


Figura 1. Efecto de facilitación de los ensayos congruentes con los estereotipos de género independientemente de la valencia.

DISCUSIÓN DE LA SERIE 1

Nuestro objetivo principal en esta investigación era aportar evidencia clarificadora sobre los procesos cognitivos subyacentes a la activación de los estereotipos de género. Concretamente, se pretendía dilucidar si se produce una activación inicial de la dimensión estereotípica a nivel implícito, o por el contrario, se activa de manera automática el contenido específico de los estereotipos. Nuestros resultados aportan evidencia sobre la activación automática de las dimensiones estereotípicas de género, es decir, competencia

y sociabilidad, cuando nos encontramos, respectivamente, con un hombre o con una mujer, independientemente de la valencia. Observamos un efecto de *priming* de estereotipia tal que los participantes son más rápidos en responder ante ensayos en los que la relación estímulo previo-estímulo objetivo va acorde con el estereotipo de género que cuando la relación es contra-estereotípica. Además, dicho efecto no está modulado por la valencia de las palabras tal y como proponía la hipótesis de la activación específica de los estereotipos (Fiske, Cuddy, Glick y Xu, 2002). Se confirma que los estereotipos de género se manifiestan de manera significativa incluso cuando son medidos de forma tan indirecta, al realizar los participantes una tarea completamente ortogonal a la dimensión de estereotipia manipulada.

Nuestros resultados muestran que la dimensión de competencia está más asociada con los hombres que con las mujeres, dado que cuando se presenta una imagen de hombre antes de la palabra, los participantes son más rápidos para categorizar dicha palabra ya sea positiva o negativa, de alta o de baja competencia. Por la misma lógica, la sociabilidad se asocia más a mujeres que a hombres al facilitar la imagen de mujer la clasificación de las palabras asociadas a dicha dimensión. En este sentido, nuestros datos sugieren claramente que la competencia en general es una dimensión más relevante para la evaluación de los hombres y la sociabilidad en general para la evaluación de las mujeres.

Tanto la literatura sobre aplicabilidad social (Banaji et al., 1993) como la literatura sobre la variabilidad de los estándares en los procesos de estereotipia

(Biernat, 1995; Biernat et al., 1991; 1994; 1997) parecen poner de manifiesto la relevancia de las categorías o dimensiones congruentes con los estereotipos de género y al mismo tiempo, la flexibilidad de su influencia en los procesos evaluativos y de percepción social, tanto de manera explícita como implícita. Puede que uno de los mecanismos cognitivos subyacentes, relacionado con dichos cambios en los criterios evaluativos que empleamos para los estereotipos de género, sea el priorizar la evaluación de las personas que percibimos en la dimensión que es congruente con el grupo de género al cual pertenecen. En definitiva, que en un estadio muy temprano del procesamiento de la percepción de personas, nos resulta más importante evaluar la competencia de los hombres y la sociabilidad de las mujeres más que la sociabilidad de los hombres y la competencia de las mujeres.

El efecto de relevancia diferencial de las dimensiones estereotípicas que hemos encontrado, ayuda a perpetuar los estereotipos de género, en tanto que este mecanismo establece una distinción en el procesamiento de estímulos sociales en función de su pertenencia grupal. El procesamiento más rápido de una dimensión sobre otra puede tener implicaciones en la formación de impresiones, por ejemplo debidas a los efectos de orden. Según Hamilton y Sherman (1996), la impresión que nos formamos al percibir a una persona, cuando es percibida como miembro de un grupo entitativo (i.e., un grupo unitario y consistente), se basa más en la primera información que procesamos acerca de esa persona (efecto de primacía) que en la información que se procesa con posterioridad (efecto de recencia). Por tanto, en los casos en que se percibe a una mujer desde una perspectiva generalizada sobre su grupo de

género (e.g., “todas las mujeres son iguales”), se va a generar una impresión de ella basada fundamentalmente en su grado de sociabilidad, mientras que se va a infravalorar la importancia de su grado de competencia, incluso cuando éste sea alto.

Nuestros resultados no confirman que a nivel implícito se cumpla la propuesta de Glick y Fiske (1999), según la cual los hombres son percibidos como altos en competencia y bajos en sociabilidad, mientras que las mujeres son percibidas como altas en sociabilidad y bajas en competencia. No obstante, reflejan la relevancia de dichas dimensiones para realizar juicios acerca de hombres y mujeres. Recuérdese que según el modelo de estereotipia de estos autores, la competencia suele estar asociada a los grupos de alto estatus y la sociabilidad a los de bajo estatus, sirviendo esta asociación para el mantenimiento y la justificación del statu quo, los roles sociales tradicionales y las desigualdades de género (Eagly, 1987; Glick y Fiske, 1999; Jost y Banaji, 1994; Sidanius y Pratto, 1999; Tajfel y Turner, 1979). Además, podemos utilizar estos estereotipos para dar una explicación psicológica a hechos sociales como por ejemplo, considerar que no hay más mujeres en puestos de poder porque no tienen las características de competencia necesarias para ser líderes (Expósito y Moya, 2005; Huici, 1984).

Asimismo, es un resultado especialmente relevante la constatación de que dicha activación de las dimensiones estereotípicas de competencia y sociabilidad ocurre de manera automática ya que este patrón de resultados se produjo en nuestro experimento bajo condiciones cognitivamente muy

restrictivas (SOA de 98 ms) en las que es muy difícil que acontezca algún tipo de procesamiento controlado. Concretamente, hemos empleado un SOA con una duración menor a 100 ms, muy inferior a la utilizada en la literatura previa en la cual se empleaban SOA de 250-350 ms para demostrar la automaticidad de la activación de los estereotipos (Blair y Banaji, 1996). En otro estudio diferente (de Lemus, Moya y Lupiáñez, 2007) hemos observado que este efecto de priming observado con 100 ms no sólo no se ve incrementado en un SOA de 630 ms, sino que tiende a desaparecer. Todo ello incidiría en su carácter automático, ya que si tuviera algún componente más controlado el efecto debiera verse incrementado con un SOA más largo, en el que es más fácil la implicación del procesamiento controlado.

Por tanto, aplicando los presupuestos de la teoría de las redes asociativas (Anderson y Bower, 1973), parece que existen conexiones permanentes entre dos representaciones de la memoria (pertenencia a un grupo de género y dimensiones estereotípicas) entre las cuales la activación se expande automáticamente; de manera que ante la presencia de una clave grupal (por ejemplo, un miembro del grupo de género) se produce un procesamiento informativo automático en función de las creencias estereotípicas que la persona mantenga acerca del género como objeto de actitud. La concepción que se tiene desde la Psicología Social acerca del componente cognitivo de las actitudes (los estereotipos) como pensamientos y creencias sobre el objeto de actitud que reflejan asociaciones entre dicho objeto y diferentes características o atributos, se comprende fácilmente como una concreción de esta teoría de las redes asociativas.

Desde el marco de la Psicología Social, el modelo MODE (Fazio, 1990; Fazio y Olson, 2003) aporta un buen marco teórico para interpretar la posible influencia de los procesos automáticos y controlados en estos resultados. Este modelo postula que para evitar la activación automática de los estereotipos es necesario por un lado tener las “oportunidades” para hacerlo y por otro, estar motivado para ello. Esta propuesta teórica va en consonancia con argumentos ampliamente desarrollados desde la Psicología Cognitiva los cuales proponen que si hay capacidad atencional y tiempo suficiente, podemos desarrollar estrategias para inhibir o modificar la activación automática (Posner y Snyder, 1975; Shallice, 1972).

Dado que los estereotipos son con frecuencia automáticos y por tanto de difícil control, sobre todo en aquellas situaciones en que nos comportamos sin prestar atención a nuestra conducta, y que la mayoría de las investigaciones muestran la resistencia al cambio de las actitudes implícitas mediante procedimientos explícitos (Bargh, 1999; Fazio, Sanbonmatsu, Powell y Kardes, 1986), quizás una forma más eficaz a corto plazo de modificar los estereotipos sería mediante procedimientos implícitos, para cambiar las asociaciones existentes en memoria.

ANEXO 1.

Palabras empleadas como estímulos objetivo.

COMPETENCIA		SOCIABILIDAD	
POSITIVAS	NEGATIVAS	POSITIVAS	NEGATIVAS
Capaz	Ineficaz	Amable	Cotilla
Inteligente	Incapaz	Agradable	Intolerante
Exigente	Inconstante	Sensible	Hostil
Racional	Intransigente	Sentimental	Superficial

**Experimental series 2: Contextual contingency of
automatic gender stereotype activation: the specific
role of warmth and competence dimensions¹.**

¹ Manuscript submitted as de Lemus, Moya, & Lupiáñez (2007). Contextual contingency of automatic gender stereotype activation: the specific role of warmth and competence dimensions. *European Journal of Social Psychology, special issue on fundamental dimensions of social judgement*.

ABSTRACT

In a set of two studies, we tested whether gender stereotypical associations are activated automatically (using different SOA lengths in an evaluative priming task) and how this process is conditioned by the context in which the target is presented. Two stereotypical dimensions were used: warmth (related to women) and competence (related to men). In Study 1 (N=86), results showed priming effects for the stereotypical information, supporting the hypothesis about automatic activation of stereotypical dimensions. In Study 2 (N=100), results showed that stereotypes are changed by context, even though this might reinforce gender prejudice on other dimensions. Particularly, when a traditionally male associated context was presented (office), the automatic stereotype activation was the same as when no context appeared in previous research (women-warmth, men-competence); however when the primes appeared in a traditionally female associated context (kitchen) the stereotype activation reversed (women-competence, men-warmth). Theoretical implications for stereotyping research are discussed.

INTRODUCTION

The study of the stereotype processing over the past two decades has revealed an interesting debate anchored in two main positions. Some authors have argued that the stereotyping process is activated in an automatic way (Devine, 1989; Bargh, 1999). From this perspective it is assumed that implicit biases are stable, enduring, and resistant to change (Bargh, 1999; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Fazio, Jackson, Dunton, & William, 1995). On the other hand, it has been proposed that the activation of the stereotypes can be controlled (Blair & Banaji, 1996), and there is evidence that stereotype activation is malleable (for a review, see Blair, 2002). However, the literature supporting stereotypes and prejudice as malleable and context dependent structures (Blair, 2002) often mixes the processes of stereotyping and prejudice or social biases. Therefore, clearer evidence that isolates the malleability of the cognitive content activated, independently of the evaluative judgements that are made in parallel, is necessary. In the present research, we aim to provide such evidence for the stereotyping malleability in the case of gender, particularly, under highly restrictive cognitive conditions that allow only for automatic processing to occur.

To this end, we focus on three main research questions: a) what type of stereotypical content is activated automatically at the implicit level: specific content or more general dimensions of judgement?; b) are there any contextual influences at this level on the activation of the stereotypes (e.g., social roles, subtypes), or do they activate generally in all conditions for exemplars of a

given social category (e.g., women)?; c) when there is an influence of the context at the automatic level, how does it affect the activation of stereotypes? For this purpose, we frame our research on the stereotype content model (SCM; Glick & Fiske, 1999; Fiske, Cuddy, Glick & Xu, 2002) on the one hand, and the social cognition literature on automatic activation of stereotyping and prejudice previously cited, on the other hand.

Gender stereotype content

Gender stereotypes are sets of shared beliefs and expectations about the characteristics that men and women are perceived to have and “should” have (Fiske & Stevens, 1993). It has been proposed that they differentiate between men and women on two dimensions: communality or expressiveness more related to women, and agency or instrumentality mostly related to men (Bem, 1974; Eagly & Mladinic, 1989; Spence & Helmreich, 1978). These dimensions are consistent with the distinction that the SCM (Glick & Fiske, 1999; Fiske, et al., 2002) makes between competence and warmth as the two axes on which we place different groups of people according to their stereotypes. In the last few years, this two-dimensional perspective about how people describe and evaluate themselves and others has received strong support, and is considered to be universal (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005; Fiske, Cuddy, & Glick, 2006). In the case of gender, research shows that women are generally perceived as high in warmth but low in competence (paternalistic stereotype), whereas men are generally perceived as

high in competence but low in warmth (envious stereotype) (Eckes, 2002; Eagly, Wood, & Diekmann, 2000).

Based on this literature, one could argue that as competence is stereotypically related to men, it is more relevant to evaluate men's competence in comparison to women's; whereas, as warmth is traditionally associated with women, it is more relevant to evaluate women's warmth in comparison to men's. Thus, when evaluating men and women in general, the resulting activated stereotype shows a mixed content for both genders along these two dimensions (envious and paternalistic stereotype, respectively). However, it remains unclear whether and, if so how this judgemental cognitive process occurs at the implicit level. Do we activate the specific mixed pattern of gender stereotypes proposed by Fiske and colleagues (2002) automatically, or do we activate first the whole stereotypical dimension before making a specific social judgement of the perceived person along that dimension?

To be able to answer this first question we explored the activation of gender stereotypes in an earlier study (de Lemus, Moya, Bukowski, & Lupiáñez, 2007). We used an evaluative priming paradigm in order to test two complementary hypotheses: According to the *generalized stereotyping hypothesis*, participants would activate the whole stereotypical dimension (i.e., competence for male primes, and warmth for female primes) independently of the valence of the traits. On the other hand, following the *specific content-valence hypothesis*, the valence would interact with the activation of the stereotyping dimensions producing the mixed pattern of gender stereotypes

proposed by Fiske and her colleagues (2002), formed by a paternalistic stereotype towards females (high warmth-low competence), and an envious stereotype towards males (high competence-low warmth), at an implicit level. Our results supported the generalized stereotyping hypothesis (the effect was not moderated by valence). We concluded that there is a relative importance of the gender dimensions at the implicit level, with competence (high-low) being the most relevant dimension for evaluating men, and warmth (high-low) the most relevant dimension for evaluating women.

Situational influences on stereotype content

The SCM proposes that warmth judgements are primary because they are a fundamental aspect of evaluation that affects our behavioural reactions directly, although this primacy is sometimes moderated by personal or situational factors (Fiske, et al., 2006). For instance, Abele (2003) has found evidence in a prospective study that warmth affects family related roles more, while competence affects career success more. Contextual manipulations have also been shown to moderate the relative accessibility of the two dimensions. Abele and Wojciszke (2007) provide clear evidence that while agency (competence) is more relevant for the self, communion (warmth) is more relevant for others. In the case of the perception of self-other outcome dependency, however, agency becomes more relevant for the other. These studies suggest the situational or contextual contingency of stereotyping dimensions.

Social role theory (SRT; Eagly, 1987) and role congruity theory (RCT; Eagly & Karau, 2002) also emphasize the role of context on determining gender stereotypes and prejudice. SRT proposes that social roles underlie the content of stereotypes, such that if men and women occupy the same roles, stereotypical judgements should disappear (Eagly & Steffen, 1984). Building on this theory, RCT proposes that prejudice is triggered when there is a mismatch between the stereotypically ascribed characteristics and the essential qualities demanded for a particular role (e.g., the case of women in leadership roles). According to the literature on subtyping, crossing gender with a more specific role category would lead to specific stereotypical associations for each subtype that differentiate it from both the global stereotype and the adjacent subtypes (Deaux, Winton, Crowley, & Lewis, 1985; Eckes, 2002).

From the above literature, we could say that there are role congruent subtypes (e.g., housewife, career men) and role incongruent ones (e.g., career women; male homemaker). We know that, at least in the case of females, the role incongruent occupations promote more negative social judgments (Eagly & Karau, 2002; Rudman, 1998). Still, information on how stereotype attribution processes work at a more basic and implicit cognitive level, is lacking. Does context moderate the activation of stereotypes? And when there is an influence of the context on the activation of stereotypes at the automatic level, what are the stereotypical dimensions that become more relevant? Does stereotype assimilation occur (as proposed by SRT), or does role congruity guide the evaluation of the person's capacity to perform successfully the prescribed role (i.e., his/her competence)?

At the implicit level, Wittenbrink, Judd, and Park (2001a) studied the effects of context on the activation of racial bias using an evaluative priming paradigm. Their results showed how a negative background (a graffiti-covered wall) facilitated the evaluation of negative targets when primed with a black person (vs. a white person). However, when the same person appeared on a positive background (a church), there was no facilitation of negative words, and even a tendency to facilitate the positive ones. The authors concluded, in line with conditional automaticity (Bargh, 1989), that automatic stereotypes and group attitudes are sensitive to changes in the context. Considering the short presentations of the stimulus (128 ms for *prime* and inter stimulus interval) Wittenbrink and his colleagues argued that this contextual influence happened automatically. In an extension, Barden, Maddux, Petty, and Brewer (2004) showed how contextual moderation of racial bias depends on social roles. They concluded that the subtyping mechanism (Devine & Baker, 1991) is the most predictive explanation for their findings, that is, the roles induced by the context evoked the activation of different racial subtypes (e.g., black prisoner, or black student). They proposed that role congruity theory (Eagly & Karau, 2002) could underlie the interactive effects found, though it does not predict all of their findings.

In the case of gender, Rudman and Kilianski (2000) used an evaluative priming paradigm to test whether prejudiced responses were given when both genders were assigned to roles with the same status. They found that when both genders were assigned to high status positions, a positive bias towards

men was shown, while when they were both assigned to low status positions, there was a tendency to show a bias towards women. These results are consistent with the role congruity theory (Eagly & Karau, 2002).

These three lines of research (Barden et al., 2004; Rudman & Kilianski, 2000; Wittenbrink et al., 2001a) clearly point to the relevance of contextual influences and role influences on the activation of automatic intergroup attitudes. However, it remains unclear whether context and social roles affect the activation of stereotypical content as well. The main research question here is therefore whether the same type of contextual influences these authors showed on prejudiced based bias, can also take place in the activation of the gender stereotypical dimensions of competence and warmth. Furthermore, we want to find evidence of whether the contextual influence related to social roles affects the general activation of the evaluative dimensions (de Lemus et al., 2007), or the specific stereotype content (i.e., high-low combinations of each dimension). As discussed by Wittenbrink et al., we propose that automatic stereotype activation does not preclude the possibility that stereotypes are also malleable.

Following up our study on the automatic activation of stereotypical dimensions (de Lemus et al., 2007) we would also like to provide further evidence that the priming effect found there is automatic. In our previous study, the priming effect occurred under highly restrictive conditions (a SOA of 98 ms). However there was no comparison group, so we could not exclude the possibility that the small effect found would be enhanced under less restrictive

conditions (when controlled processing is more likely). In this case, it could be argued that the observed priming effect was somehow due to controlled processing, which by being restricted led to a small priming effect. In order to differentiate automatically activated information from what activates once controlled processing is operating, it would be necessary to compare these two conditions by manipulating the duration of the stimulus onset asynchrony (SOA; Neely, 1977). This type of manipulation to study activation of stereotypes and prejudice was used by Locke, MacLeod and Walker (1994) to study the differences between high and low prejudiced people in the activation of stereotype-related information about Aborigines and women. Of interest here is their finding that stereotype activation occurred mostly in the short but not in the long SOA condition, providing evidence for the automaticity of the effect.

STUDY 1

Our goals in the following research were to evaluate evidence for: 1) gender stereotypic congruency in the activation of stereotypes, 2) whether the activated content is valence-specific or general, 3) whether these effects are moderated by the SOA diagnostic for automatic vs. controlled process, and 4) whether such effects, are sensitive to more complex contextual conditionality such as sub-typing. For that purpose we used an evaluative priming paradigm similar to the one used by Wittenbrink et al. (2001a; Study 2). We manipulated context by using two different picture backgrounds associated with gender, based on the distribution of women and men in social roles (Eagly & Steffen, 1984). Our prediction is that when a person is presented performing his/her

traditional role, priority would be given to evaluate him/her on the competence dimension (i.e., how competent the person is in his/her duties). This way, in an occupational role (i.e., office), dimensions will be evaluated in the traditional congruent way, that is, male primes will facilitate competence, whereas female primes will facilitate warmth. However, when we present the same people in a different context, associated with domestic roles (i.e., kitchen) the traditional congruence effect will not occur anymore or even it will be reversed.

METHOD

Participants

A total of 86 first year Psychology students (76 female and 10 male) at University of Granada voluntarily participated in this experiment in exchange for course credits for a social psychology course. The data from 3 outliers that consistently did not answer to some of the trials were excluded from analyses. This left the data from 83 participants for formal analysis.

Materials

To program the priming task, show the stimulus and register the responses, we used E-prime 1.1 (Schneider, Eschman, & Zuccolotto, 2002). The stimulus used as targets were 8 competence traits, 4 positive (*constancy – constancia-*, *motivation –motivación-*, *efficacy-eficacia-*, *intelligence - inteligencia*) and 4 negative (*demotivation –desmotivación-*, *inconstancy –*

inconstancia-, *inefficacy –ineficacia-*, *intransigence –intransigencia*), and 8 warmth traits, 4 positive (*goodness –bondad-*, *understanding –comprensión-*, *sensitivity –sensibilidad-*, *friendliness –simpatía*) and 4 negative (*antipathy –antipatía-*, *hostility –hostilidad-*, *indiscretion –indiscreción-*, *misunderstanding –incomprensión*)¹, following Puertas (2003)². The images used as primes were pictures of men and women with an emotionally neutral face taken for the purpose of this experiment, in two different contexts (a kitchen and an office). Some of the primes used are shown in Figure 1.



Figure 1. Examples of stimuli used as primes in Study 1.

¹ We decided to keep the original Spanish words used as targets together with the English translation in the description of the method, because despite we tried to find the most appropriate terms to translate them, it was very difficult in some cases to find words with exactly the same meaning in both languages.

² For half of the participants we also included 8 filler words, 4 positive and 4 negative, not related to the gender stereotypes, to make the trait-gender connexion more subtle, and the cover story more credible. The filler trials were not analysed.

Procedure

Participants were asked to do an evaluative task in which they had to categorize a target word as positive or negative as fast as possible while trying not to make any mistakes. These words were preceded by the image of either a man or a woman, and as a cover story, participants were told that the experiment was trying to measure automaticity in word perception and judgement; consequently, this process should not be affected by interfering images. At the beginning of each trial a fixation point (“+”) appeared on the middle of the screen. The prime was presented after 1000 ms in the same location during 28 ms. After a varying interval (70 or 602 ms) in which the screen was blank, the target word appeared. The target was presented at the centre of the screen until the participant gave a response, or until a maximum of 2000 ms³. The complete priming sequence is shown in Figure 2. In all conditions, 50% of the stimuli were positive and 50% negative. All participants were presented with an equal number of stereotype congruent trials (i.e., when the prime was a female, the target was a warmth trait, and when the prime was a male, the target was a competence trait) and stereotype incongruent trials (i.e., when the prime was a female, the target was a competence trait, and when the prime was a male, the target was a warmth trait).

³ To enhance the probability of automatic responses, the time half of the participants had to give a response to the target word was limited to 1000 ms.

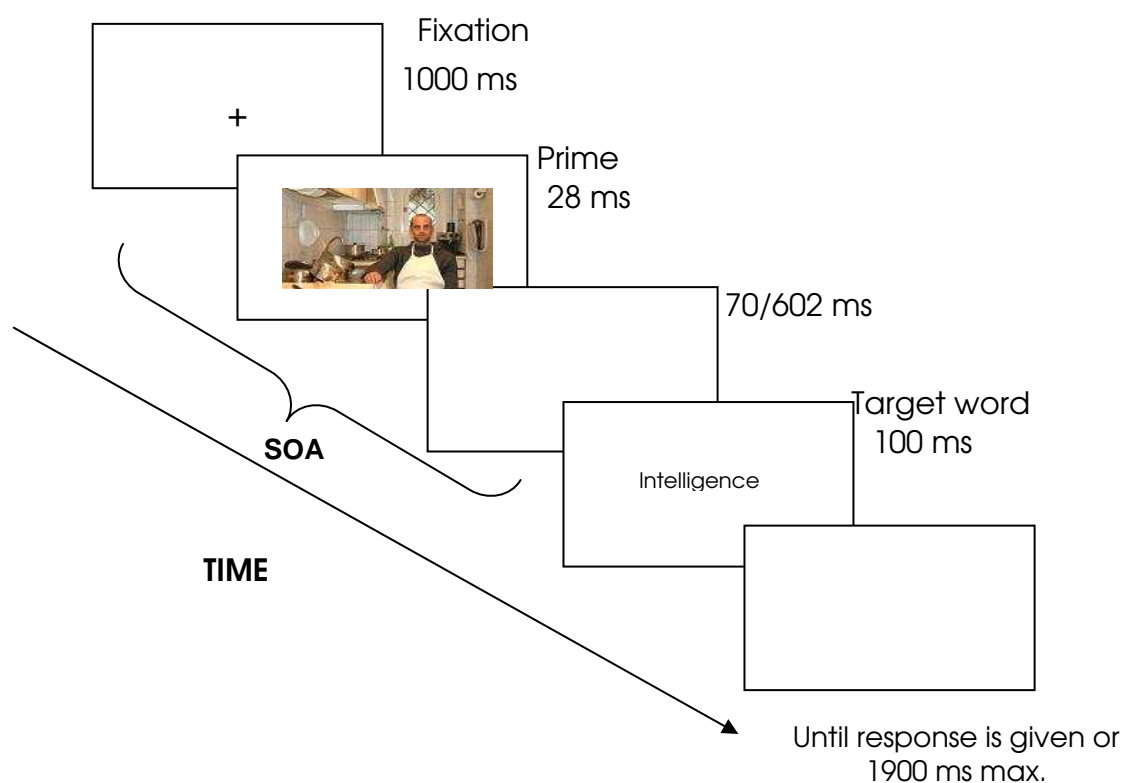


Figure 2. Priming sequence for Study 1.

In a different session⁴, participants were asked to evaluate the pictures they had been exposed to in the experimental session, to check whether they perceived the primes as representative of the shared social image of men and women in the Spanish society nowadays, and whether they thought the picture were positive or negative in valence. Firstly, they were asked the same question about each picture used in the experimental session: *To what extent do you consider this picture accounts for the image that our society have of men/ women?* The answer was measured on a 7-point scale (1: Not at all; 7: Perfectly). Secondly, they were asked to evaluate again the same set of pictures on a scale from 1 (very negative) to 7 (very positive).

⁴ Fourteen participants did not attend to the second session of Study 1.

Design

The experimental design was a 2 (Congruency: congruent vs. incongruent), x 2 (Type: competence vs. warmth), x 2 (Context: kitchen vs. office), x 2 (SOA: short = 98 ms vs. long = 630 ms), x 2 (Valence: positive vs. negative) within participants design. The variables Type and Valence refer to the nature of the target word. The independent variable Congruency indicates the gender stereotype congruency, so that trials in which the prime was a female and the target was a trait of warmth, or the prime was a male and the target was a trait of competence, were considered congruent, etc.

Each target word was presented 8 times, preceded by pictures of men and women either in a kitchen or an office; there were 16 observed data for each experimental condition. The dependent variable was reaction time (RT).

RESULTS AND DISCUSSION

We were interested in the modulation of gender priming on the trait processing, and wanted to avoid individual differences between the words used due to uncontrolled variables (frequency of use, subjective familiarity, etc.). For that purpose facilitation scores were computed for each word and participant by subtracting, for each participant, the average RT to each word from the corresponding reaction times per experimental condition. This way, a negative index shows a faster RT and a positive index shows a slower RT for each experimental condition. In a last step, average facilitation indexes were

computed for each participant and experimental condition. The means of the facilitation indexes per condition are shown in Table 1.

Trials with incorrect responses (3.86%) or no response (0.79%) were eliminated from the analyses. Trials with reaction times faster than 200 ms or greater than 1500 ms were equally discarded, considered as anticipations and lack of concentration respectively. This implied that a further 1.50% of the trials were discarded. A 2 (Congruency) x 2 (Type) x 2 (Context) x 2 (SOA) x 2 (Valence) repeated measures ANOVA was conducted to test our hypotheses.

Regarding the stereotyping hypotheses, there was a main effect of Congruency, $F(1, 81)=11.38$, $p=.0011$, indicating that participants reacted faster when they were presented with trials congruent with the gender stereotype ($M_{\text{Congruent}} = -2.02$, $SD=.56$) than to the ones incongruent with the stereotype ($M_{\text{Incongruent}} = 1.60$, $SD=.54$). As shown in Figure 3 (left panel), this congruency effect was independent of valence, $F < 1$. These results replicated the effect found in previous literature (de Lemus et al., 2007). Participants were also faster at the longer SOA, $F(1, 81)=237.14$, $p<.0001$, ($M_{\text{Short}}=16.93$, $SD=1.13$; $M_{\text{Long}}= -17.35$, $SD=1.11$), thus showing the usual temporal preparation effect.

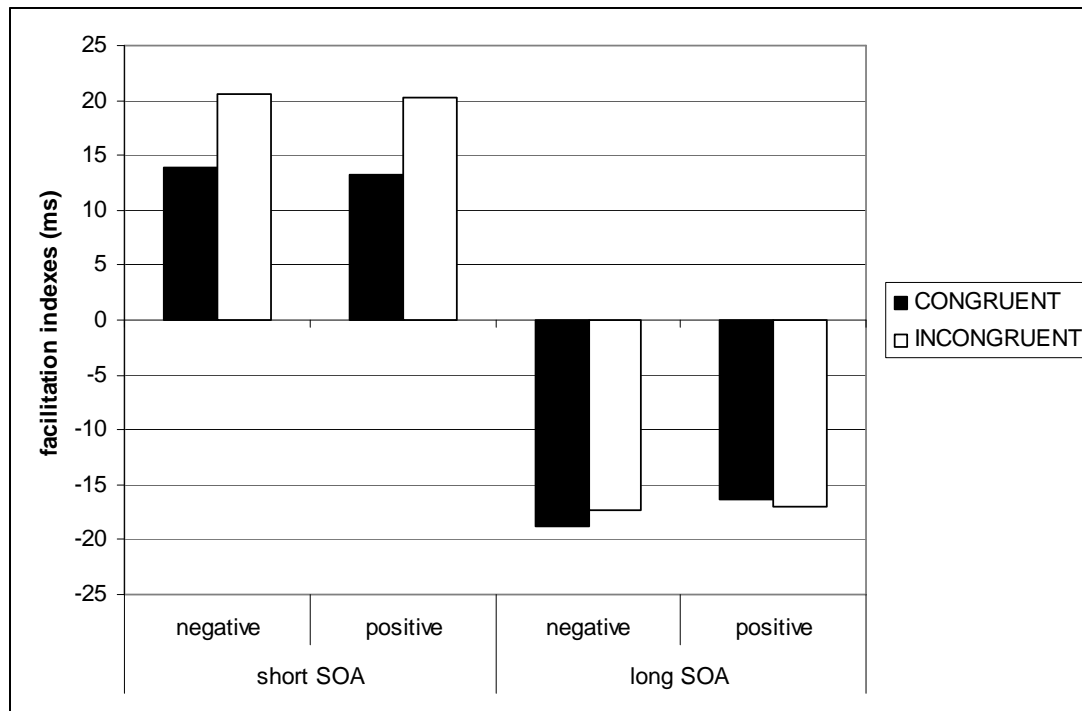


Figure 3. Congruency effect as a function of Valence and SOA. Note that the congruency effect is only present at the short SOA, independently of valence.

Our hypothesis regarding the automaticity of the congruency effect was confirmed in a significant Congruency x SOA interaction, $F(1, 81)=4.22$, $p=.0420$, indicating the congruence effect occurred in the short SOA condition, $F(1, 81)=16.85$, $p<.0001$, and not in the long SOA, $F<1$. In other terms, as it can be seen in Figure 3, the priming effect occurred *only* in the most cognitively constrained condition (short SOA), and actually disappeared at the long SOA, where more opportunity for controlled processing is present. This result suggests that the priming effect is highly automatic, and strongly supports the assumption that the stereotypical dimensions are activated without the participation of controlled processing, emphasizing the importance that the fundamental dimensions for social judgements (Fiske et al., 2006; Judd et al., 2005) have from a very early stage of encoding.

Finally, a significant four-way interaction was found between the variables Congruence, SOA, Type, and Context, $F(1, 81)=4.05$, $p=.0460$. However, when both SOA conditions were analyzed separately the interaction between congruence, type and context disappeared in both cases, showing no evidence for our hypothesis about context contingency. The four way interaction was probably due to small differences in the tendencies of the SOA conditions. The most interesting result is that in the short SOA condition, when the stereotypical dimensions activates automatically, context does not affect this differential activation of the dimensions.

Questionnaire measures analyses

In order to analyse the two explicit questionnaire measures collected in a different session we used a 2 x 2 repeated measures ANOVA with the variables Gender (2; Male vs. Female) and Context (2; Kitchen vs. Office) as within participants factors. When participants were asked about the match between the pictures and the social images of men and women in our society, a main effect of Gender was found, $F(1, 71)=38.01$, $p<.0001$, $M_{\text{female}} = 5.16$, $M_{\text{male}} = 4.48$; as well as a main effect of Context, $F(1, 71)=98.86$, $p<.0001$, $M_{\text{kitchen}}=4.22$, $M_{\text{office}}=5.41$. However, the most theoretically interesting result is the significant interaction between these two variables, $F(1, 71)=163.32$, $p<.0001$, which provides evidence for the socially shared perception in our society of the congruence between gender stereotypes and traditional roles distribution. Thus, women are seen as more prototypical when they appear in a kitchen ($M=5.56$) than in an office ($M=4.75$), $F(1, 71)=14.23$, $p=.0003$, with men more

prototypical when they appear in an office ($M=6.08$) than in a kitchen ($M=2.88$), $F(1, 71)=317.51$, $p<.0001$. Crossed-gender comparisons within context show that women in a kitchen are seen as more typical than men, $F(1, 71)=146.41$, $p<.0001$; whereas, men in an office are seen as more typical than women, $F(1, 71)=72.70$, $p<.0001$.

A very similar pattern of results was found analysing the evaluations of the pictures (positive-negative). There was a main effect of Gender, $F(1, 71)=26.73$, $p<.0001$, $M_{\text{female}} = 5.25$, $M_{\text{male}} = 5.67$, and a main effect of Context, $F(1, 71)=63.61$, $p<.0001$, $M_{\text{kitchen}} = 4.90$, $M_{\text{office}} = 6.01$. Once again, the most relevant result was the interaction between these two variables, $F(1, 71) = 49.01$, $p < .0001$, showing that when female appeared in an office context ($M=6.27$) they were evaluated more positively than when they appeared performing their traditional gender role ($M=4.23$), $F(1, 71) = 114.72$, $p < .0001$, or when a man appeared in the same office context ($M=5.77$), $F(1, 71) = 25.38$, $p < .0001$. For the male pictures, there was no difference between the two contexts, ($M_{\text{kitchen}}=5.57$, $M_{\text{office}}=5.77$; $F=1.00$, $p=.32$). These results support that our participants do not endorse in general the classical stereotypical distribution of roles, but instead they show a positive attitude towards the incorporation of women to traditionally male occupations.

To sum up, results support our two first hypotheses. However, we found no clear evidence that stereotypical activation is contingent on the context, so no support was found for our third hypothesis. The most probable explanation for this is that the design we used could be too resource demanding. In fact,

even though context was generally perceived by most of the participants, when asked explicitly after the experiment about the content of the pictures they had seen, almost 25% of the participants only referred to the gender of the primes, but not to the context. Therefore, although we cannot reliably infer from this data that participants did not perceive the context, as it was collected from open questions, it indicates somehow that the context was not salient enough for them.

In this study we manipulated the context in a randomized within participants design as Wittenbrink and others (2001a) did in their study 2, but unlike them, instead of presenting a preview of the context before the prime person appeared, we presented the context with the person embedded and for a very short duration (28 ms). The double use of randomized presentation of context (i.e., kitchen and office varied from trial to trial) and the short presentation of it (i.e., both the prime and the context were presented for just 28 ms) might have hindered any contextual modulation.

In order to increase the processing of the context, and study the contextual modulation on automatic activation of stereotypes, we ran two further experiments in which context processing was enhanced either by increasing the time allowed to process it, or by keeping constant one context within a block of trials.

STUDY 2

The main goal of Study 2 was to replicate Study 1, but with a more effective manipulation of the context. For this purpose, we enhanced the processing of context by two means, each one of them aiming at solving the two elements in the design of Study 1 considered responsible for the lack of contextual modulation, that is, randomized context presentation and insufficient presentation time. In study 2a, everything was as in Study 1 except that we manipulated the context between blocks. This way, participants were always processing the primes within a current context that was kept constant during a complete block of 48 trials. In Study 2b, context was manipulated randomly within blocks, as in Study 1, but now it was previewed before the prime was presented for a longer time (1000 ms), so that participants would have more time to process it. In both studies, the predictions are the same as in study 1.

METHOD

Participants

A total of 100 first year Psychology's students (81 females and 18 males; mean age = 18.74) from the University of Granada voluntarily participated in this study in exchange for course credit for a social psychology course.

The data from 1 participant with very low percentage of accuracy (55%) was excluded from all analyses. This left the data from 99 participants for formal

analysis, 45 of them (41 females and 4 males) participated in the study 2a and the other 54 (40 females and 14 males) participated in the study 2b.

Materials

The materials used in study 2 were exactly the same as those used in study 1. Additionally, for study 2b, the images of the kitchen and the office (without any person on them) were used, to be presented before the person appeared in the same background (i.e., preview of the context).

Procedure

Study 2a. The task and the priming sequence was the same as in study 1. The main difference in this group was that the context in which the prime-person appeared was manipulated between blocks. That is, in each block of 48 trials male or female primes were presented randomly but always appearing in the same context (either a kitchen or an office). That is, during a whole block of trials, pictures of men and women were randomly appearing in a particular context (e.g., kitchen); whereas in the next block of trials the same people were appearing in the other context (e.g., office). The order of the blocks was counterbalanced across participants.

Study 2b. Firstly, participants were shown a picture of the context (either the kitchen or the office) with a fixation point during 1000 ms; immediately after, a person appeared in the context for 28 ms. The rest of the sequence is the

same as in study 2a. In this case, as in study 1, context was manipulated within blocks.

As in study 1, in both studies, 2a and 2b, participants were asked in a different session⁵ to evaluate the pictures previously used as primes to check if they were perceived as matching the social image of men and women nowadays, and to evaluate the valence, positive or negative, of each picture. The scales used were the same as in Study 1.

Design

We used the same design as in study 1. And once again, facilitation indexes were calculated for each experimental condition.

RESULTS AND DISCUSSION

Study 2a: Blocked context

As in the study 1, trials with incorrect responses (4.89%) or no response (0.32%) were eliminated from the analyses. Trials with RT faster than 200 ms or greater than 1500 ms were equally discarded, considered as anticipations and lack of concentration respectively. This implied that an additional 0.58% of the trials were discarded.

⁵ Twelve participants did not attend to the second session of Study 2.

Facilitation indexes for RTs were analyzed by means of a 2 (Congruency: congruent vs. incongruent) x 2 (Type: competence vs. warmth) x 2 (Valence: positive vs. negative) x 2 (Context: kitchen vs. office) x 2 (SOA: short vs. long) repeated measures ANOVA. The mean facilitation indexes per condition are shown in table 1.

Table 1. Mean facilitation indexes for the three studies.

			Short SOA (98 ms)				Long SOA (630 ms)			
			KITCHEN		OFFICE		KITCHEN		OFFICE	
			-	+	-	+	-	+	-	+
STUDY 1	CONGRUENT	<i>Competente</i>	11	11	17	12	-22	-19	-16	-12
		<i>Warmth</i>	8	14	20	16	-19	-18	-17	-17
	INCONGRUENT	<i>Competente</i>	25	19	21	25	-15	-19	-21	-18
		<i>Warmth</i>	23	18	14	18	-19	-19	-15	-13
STUDY 2A	CONGRUENT	<i>Competente</i>	14	15	12	15	-27	-8	-10	-6
		<i>Warmth</i>	13	10	11	13	-16	-22	-1	-5
	INCONGRUENT	<i>Competente</i>	9	6	23	17	-15	-19	-6	-19
		<i>Warmth</i>	18	5	12	17	-20	-14	-17	-4
STUDY 2B	CONGRUENT	<i>Competente</i>	4	19	7	6	-14	-9	-9	-17
		<i>Warmth</i>	25	15	9	17	-10	-15	-10	-12
	INCONGRUENT	<i>Competente</i>	14	10	15	24	-11	-18	-6	-15
		<i>Warmth</i>	8	3	8	19	-16	-14	-13	-13

Following our predictions, we analyzed the interaction between Congruency, Context and SOA that was marginally significant $F(1, 44)=3.25$, $p=.0781$. The means for each condition indicated, in the short SOA, a tendency to activate the traditional gender stereotypical dimensions in the context of an office ($M_{\text{Congruent}} = 12.79$; $M_{\text{Incongruent}} = 17.14$), and a tendency to reverse this effect it in the context of a kitchen ($M_{\text{Congruent}} = 13.03$; $M_{\text{Incongruent}} = 9.62$) as predicted in our hypotheses; however this interaction was not significant, $F(1, 44) = 1.44$, $p = .2364$.

Study 2b: Context preview.

As in the previous studies, trials with incorrect responses (6.38%) or no response (1.10%) were eliminated from the analyses. Trials with RT faster than 200 ms or greater than 1500 ms were equally discarded, considered as anticipations and lack of concentration respectively. This implied that an additional 2.01% of the trials were discarded. The mean facilitation indexes per condition are shown in table 1.

To test our predictions in the short SOA condition, we checked that the Congruency x Context interaction was significant, $F(1, 53)=5.62$, $p=0.0214$. Planned comparisons showed the activation of the gender stereotypical dimensions in the office ($M_{\text{Congruent}} = 9.65$; $M_{\text{Incongruent}} = 16.66$) and the reversal in the context of the kitchen ($M_{\text{Congruent}} = 15.63$; $M_{\text{Incongruent}} = 8.84$) were marginal, $F(1, 53)=2.65$, $p=.1097$, and $F(1, 53)=3.13$, $p=.0826$, respectively.

When study 2a and 2b were analyzed together, the variable Experiment did not have a significant effect, $F < 1$, neither it interacted with any other variable. Therefore, in order to increase power, a combined analysis was performed taking together the participants from the two experiments. The interaction Congruency x Context x SOA was significant, $F(1, 98)=4.08$, $p=.0461$. As it is shown in Figure 4, the expected pattern of Congruency x Context in the short SOA was found, $F(1, 98)=6.57$, $p=0.0119$. The planned comparisons analyses for both contexts showed: a) a marginally significant activation of the stereotypical gender dimensions in the office, $F(1, 98)=3.59$, p

=.0609; b) a reversal of the activation in the kitchen, $F(1, 98)=4.19, p=.0433$ ⁶.

No effects were found in the long SOA condition.

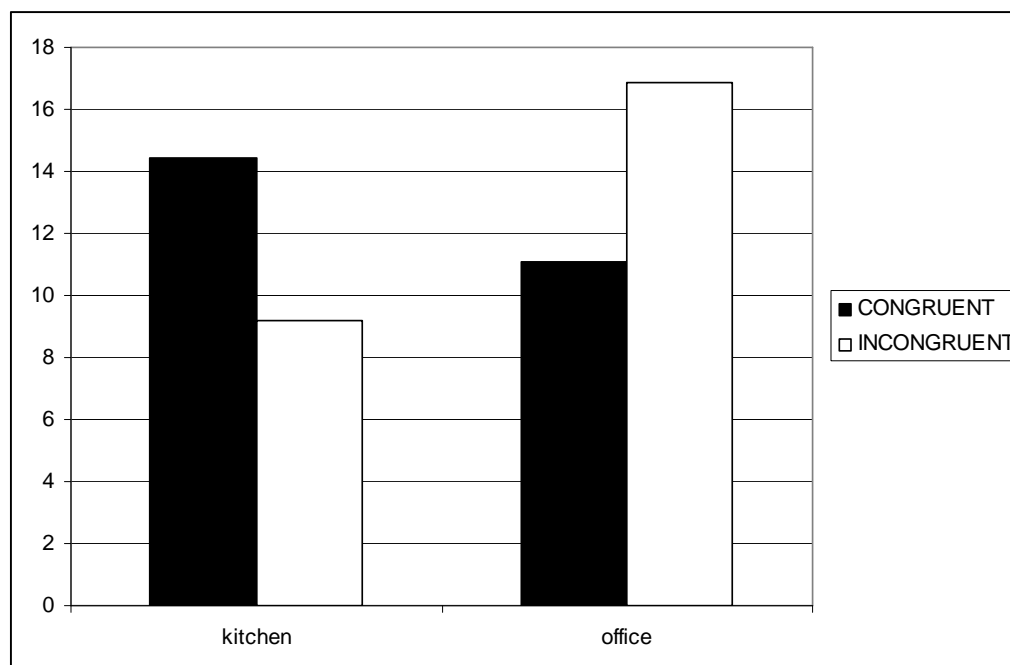


Figure 4. Congruency effect as a function of Context. Note that stereotype activation reverses in the kitchen context.

To summarize, when context processing is enhanced in Study 2 we find that, in the short SOA condition, context moderates the activation of the gender stereotypical dimensions in such a way that, in an occupational context (office), there is a tendency to show a congruence effect, that is, to activate the traditional stereotypes (men-competence; women-warmth). Whereas in a domestic context (kitchen), the congruence effect is reversed, that is,

⁶ There was also a significant interaction between Congruency, Type and Valence, $F(1, 98)=7.62, p=.0069$. Its analysis showed that for negative valence words there was an interaction between Congruency and Type, $F(1, 98)=9.02, p=.0034$, indicating faster RTs for the congruent words of competence (prime: male), and the incongruent words for warmth (prime: male). The same interaction was not significant for the positive words, $F<1$. That is, the interaction was due to a negative bias towards the male targets in both types of traits. This result is interesting for the literature in prejudice processing, and the theoretical differences between stereotypes and prejudice, as it shows that independently of the stereotype content, there is a tendency to show ingroup bias (taking into account that most of the participants were female).

participants activate more the competence traits for women and the warmth traits for men.

Questionnaire measures analyses

Explicit measures were also analyzed for Study 2a and 2b together for the sake of simplifying the presentation of the results, and considering that there are no differences between the two groups. The collected data were analysed by means of a 2 (Gender; Male vs. Female) x 2 (Context; Kitchen vs. Office) repeated measures ANOVA. The results completely replicated those found in Study 1. When participants were asked about the match between the pictures and the social images of men and women in our society, a main effect of Gender was found, $F(1, 87)=61.32, p<.0001, M_{\text{female}}= 5.13, M_{\text{male}}= 4.47$; as well as a main effect of Context, $F(1, 87)=148.65, p<.0001, M_{\text{kitchen}}=4.27, M_{\text{office}}=5.34$. Again, a highly significant interaction between these two factors was found, $F(1, 87)=201.24, p<.0001$. The analysis of the interaction showed that women are seen as more prototypical when they appear in a kitchen ($M=5.45$) than in an office ($M=4.82$), $F(1, 87)=16.06, p=.0001$, while men are more prototypical when they appear in an office ($M=5.86$) than in a kitchen ($M=3.08$), $F(1, 87)=389.94, p<.0001$. Also, crossed-gender comparisons within context show that women in a kitchen are seen as more typical than men, $F(1, 87)=180.44, p<.0001$; whereas, men in an office are seen as more typical than women, $F(1, 87)=88.45, p<.0001$.

The analysis of the pictures evaluations (positive-negative) also replicated the results of Study 1. There was a main effect of Gender, $F(1, 87)=32.88, p<.0001, M_{\text{female}} = 5.10, M_{\text{male}} = 5.49$, and a main effect of Context, $F(1, 87)=70.85, p<.0001, M_{\text{kitchen}} = 4.89, M_{\text{office}} = 5.70$. The interaction between these two variables was also highly significant, $F(1, 87) = 58.69, p < .0001$, showing that when female appeared in an office context ($M=5.96$) they were evaluated more positively than when they appeared performing their traditional gender role ($M=4.25$), $F(1, 87) = 111.18, p < .0001$, or when a man appeared in the same office context ($M=5.45$), $F(1, 87) = 26.82, p < .0001$. For the male pictures, there was no difference between the two contexts ($M_{\text{kitchen}} = 5.52, M_{\text{office}} = 5.41; F<1$).

The results on the explicit measures show that the pictures showing role congruity (i.e., women presented in a kitchen, and men in an office), in the two studies, are perceived as consistent with the socially shared image of men and women in our society. On the other hand, the pictures in which women appeared in the context of an office and men in a kitchen (that is, the ones that show role incongruity) are perceived as different to the current social image of men and women in the society. At the same time, the evaluations the participants made of the pictures, show that they support the current attempts of changing social roles, especially on the side of women who move into the working force.

GENERAL DISCUSSION OF EXPERIMENTAL SERIES 2

The main goal of this research was to clarify the cognitive process underlying the activation of gender stereotypes in social perception. Particularly, we wanted to explore the automaticity of competence and warmth activation, and whether this process is context dependent. The current investigation provides four main conclusions that answer our main research questions: a) The congruency effect seems to reflect the activation of the general dimension (i.e., competence and warmth) under which to evaluate men and women, respectively, rather than specific contents, as the effect was independent of valence. b) The congruency effect occurs under conditions promoting strictly automatic processing (i.e., short presentation time of the primes, and the use of an orthogonal task to the stereotype content). c) The congruency effect is independent of context, unless context is sufficiently emphasized. d) When context is emphasized, the congruency effect is reversed in a context prototypically associated to women's traditional roles (kitchen).

The congruency effect found when context processing is not emphasized (Study 1) replicates our previous research (de Lemus, et al., 2007), showing an automatic activation of the stereotypical dimensions of judgement, that is independent of valence⁷. Furthermore, gender stereotypical dimensions seem to be activated automatically. This is confirmed by the fact that the effect observed under cognitively restrictive conditions (SOA of 98 ms), in which

⁷ Participants' sex was not moderating the congruency effect (all $F_s < 1$), suggesting that stereotype activation equally applies to male and female participants. This result is consistent with the assumption of stereotypes as shared knowledge (Auster y Ohm, 2000; Bem, 1974; Devine, 1989; Hamilton, 1981; Tajfel, 1981).

controlled processing is precluded, is not enhanced but rather disappears, when a longer SOA (630 ms) is used, in order to favour controlled processing. This result is particularly important because it supports the idea that at a very basic level of processing, dimensions are activated more broadly when we encounter a member of a social group, according to what type of traits are more desirable or expected for that particular person. Therefore, the activated dimension is the one in which it is more relevant to evaluate the person. As Wittenbrink and his colleagues (2001a) pointed out, a sequential mechanism might be taking place in which a quite broad set of memory contents would activate initially, and later only some of those contents would be selected.

However, as previously shown in the literature about racial bias activation (Wittenbrink et al., 2001a; Barden et al., 2004), this activation is not generic, but contingent on the context, at least when it is emphasized enough to be processed as well as the gender of the person. When this condition is met, the dimension (competence or warmth) that becomes more relevant to evaluate depends on the interaction between context and gender. In other words, context can make the congruency effect not only to disappear, but completely reverse. This way, when the target person (male or female) is perceived without a context or appears in a traditional male context (office), the traditional gender stereotypes are activated, because men have been traditionally associated with competence and women with warmth dimensions. Despite the fact that many women already engage in paid work, we could argue that in the context of the office it is still more relevant to evaluate men's competence, as usually they are the ones that hold positions of authority, whereas women, are more likely to

hold low status positions (e.g., secretary), traditionally more associated with warmth dimension (Fiske, et al., 2002). However, when we presented the primes in a typically female context, and therefore, low status, it was more relevant to evaluate women's competence, as it is a context that reflects their traditional roles and duties. By contrast because it is an unusual context for men, it became more important to evaluate their warmth. This result is consistent with the literature proposing that men displaying feminine behaviours tend to be associated with female stereotypical traits (Deaux & Lewis, 1984).

The context contingent priming effects found in our studies reflect a differential relevance of the stereotypical dimensions of judgement, at the implicit level. This cognitive effect might be related to the role congruity theory, particularly with the explanation given by this theory to the perpetuation of prejudice towards female leaders (Eagly & Karau, 2002). According to Eagly and Karau, those situations that enhance the perception of incongruity between the traditional female gender role and leadership roles are the ones that more clearly provoke the development of negative attitudes towards female leaders and also, obstacles to females' success in reaching and holding high status positions. The authors give two explanations of why this perceived incongruity provokes prejudice towards female leaders: The first argues that incongruity is based on the stereotypical adscription of agentic traits (related to the leader role) to men. The second emphasizes the prescriptive aspect of gender stereotypes, expressing that a traditionally male role is less desirable for a woman. According to our findings, the evaluation of the female gender role's prescriptive (injunctive) component (i.e., warmth) occurs with little processing,

both when context is not precluded and in an office setting. We could speculate that when the female target is breaking the norm, for example, by trying to achieve a leader position, she would be immediately negatively evaluated on warmth, and this negative evaluation would also affect the following assessment of competence (i.e., which refers to the qualities believed to be essential for successfully perform the leader role) as an halo effect.

Order effects can have an impact on impression formation. Hamilton and Sherman (1996) argue that the impression we create when we perceive someone as a member of an entitative group (i.e., a cohesive and consistent group), is based more on the first information we process about that person (primacy effect) than on the information processed later on (recency effect). So, when women are perceived mainly in terms of their warmth, their competence will be underestimated even when it is high. For example, according to Fiske's research on the effects of prescriptive stereotypes (Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991; Fiske, 1993), a woman can be denied a promotion for being overaggressive and for her lack of femininity. So, as far as warmth is the primary evaluated dimension for a woman, she cannot be judged equal to a man in a situation that demands more agentic capacities than communal skills. On the other hand, she will only get a more competence based evaluation when she is already behaving according to the prescriptive norm (i.e., performing some domestic tasks), and the stereotype is not threatened. In this sense, the effect found helps to sustain and perpetuate gender stereotypes.

Similarly, this implicit effect of stereotype activation might be related to the shifting standards theory (Biernat, 1995; Biernat & Manis, 1994) and suggest a possible explanation of how standards are activated at the implicit level. The implicit differential relevance of one dimension in a particular context might set the differential standards to evaluate a person in that particular dimension, that is, the first dimension to evaluate is the one that sets the highest standard for the role congruent group.

In a more general level, the evidence shown in this paper supports Blair's point on malleability of the automatic activation of stereotypes (2002), giving further evidence of the contextual contingency of stereotyping, particularly adding the relevance of stereotype content to Wittenbrink and colleagues' (2001a) and Barden and colleagues' (2004) research on racial bias (or "stereotypic prejudice"), and extending it to the case of gender stereotypes. Furthermore, the use of an evaluative task to measure stereotype activation, allowed us to show the relative relevance of the dimensions, competence and warmth, independently of the valence (i.e. "stereotyping without prejudice"). This point is important because although many theorists equate stereotyping and prejudice, others see these as wholly independent questions that are theoretically and empirically separate (e.g. Oakes, Haslam & Turner, 1994).

Stereotypes activate mental sets of how to evaluate people, directing our expectations of what is the most important information we need to search for when encountering with a person depending on the situation and the gender categorization of that person. Previous research has used evaluative priming

paradigms mainly to measure automatic prejudice (Fazio, et al, 1995), whereas the default option for measuring automatic stereotypes was the lexical decision task (Wittenbrink, Judd, & Park, 1997). The type of task used to measure any of these two automatic processes has been proved to influence the priming effects found and also, the relations with other explicit measures (Wittenbrink, Judd, & Park, 2001b). Wittenbrink and others argue that different types of tasks may tap into different memory contents, reflecting different components of the attitudes or stereotypes measured. We consider that it is also very interesting to use an evaluative task to measure stereotype activation in the way we showed, as a tool to test the actual role of the stereotypical dimensions independently of the valence. Applying associative networks theory (Anderson & Bower, 1973) assumptions, it seems there are permanent connections between different memory representations (gender categorization, situations or roles, and stereotypical dimensions), among which activation spreads automatically. In our research, when we face a member of a gender group, we could argue that the whole dimension of competence or warmth is activated automatically according to stereotypical beliefs about gender and roles, setting us in a mental disposition to evaluate the person on that particular activated dimension.

As a final remark, our research emphasizes the relevance of studying implicit processes. In the case of gender, for example, the implicit evaluation of stereotypes has proved to be a very important predictor of women's performance in Maths courses and further professional aspirations (Kiefer & Sekaquaptewa, 2007). Knowing more about how these implicit mechanisms operate can help us understand why explicit procedures generally fail to change

implicit attitudes (Bargh, 1999; Fazio, Sanbonmatsu, Powell & Kardes, 1986), and guide the development of more useful interventions, maybe based on implicit procedures to change associations in semantic memory.

In conclusion, the interaction between gender and context guides our perception and judgement of people from a very early stage of processing, by telling us how important it is to evaluate people on a particular dimension (competence vs. warmth). Paradoxically this contextual sensitivity reinforces gender stereotypes (and) prejudice at another level. So, although our results shows how gender stereotypes are not generic but specific to context, the influence of the context is strongly determined by gender traditional distribution of roles (Eagly, 1987), suggesting for example that the competence domain of women is heavily gender stereotypic (kitchen). This activation of the stereotypical dimensions in a way that prioritises the evaluation of people according to traditional labour segregations enhances the perpetuation and justification of the status quo, traditional gender roles and gender inequalities (Glick & Fiske, 1999; Jost & Banaji, 1994; Sidanius & Pratto, 1999; Tajfel & Turner, 1979). In further research it would be very interesting to study what happens when we provide additional information about the equivalent role developed by men and women primes (i.e., showing that the social role is equally distributed for both sexes), and see whether it helps to people form a more egalitarian image of the perceived person, so gender stereotypes will not be activated differentially for men and women in one context, in line with the social role theory (Eagly, 1987).

**Experimental series 3: The effects of stereotype
(in)congruency training on automatic gender bias:
implicit resistance to sexist role relations**

ABSTRACT

In two studies we tested implicit resistance to sexist role relations from the perspective of women participants as targets of this social disadvantage. In Study 1 (N=29), we tested the automaticity of the implicit intergroup bias using an evaluative priming paradigm. In Study 2 (N=70), we used an associative procedure to train two different groups either on stereotypical gender-role associations (emphasizing the stability of stereotypical roles), or on counter-stereotypical associations (suggesting that roles are changing and the position of the ingroup is improving). We looked at the effects of the training on women's implicit intergroup bias as a measure of their implicit resistance on both competence and warmth stereotypical dimensions. Results showed that ingroup bias was activated automatically at the implicit level, and was mainly due to ingroup favouritism, when no particular association is enhanced (Study 1), whereas when traditional gender-role associations were being trained participants activated implicit resistance in the form of outgroup derogation both on the competence and on the warmth dimension (Study 2). When training counter-stereotypical gender-role associations, participants significantly reduced their implicit resistance on the warmth dimension, but not on the competence dimension (Study 2). Results are discussed in relation to intergroup relations and the literature on the malleability of stereotypes.

INTRODUCTION

Many approaches to stereotyping and prejudice are based on the plausible assumption that exposure to stereotype relevant information about groups drive our stereotypic beliefs and promote prejudice based on them. For example an influential approach suggest that gender stereotypes reflect the distribution of men and women into stereotypic social roles (Eagly & Steffen, 1984) so that one way to break down these stereotypes and the prejudice based on them is to change the gender role distribution. Another demonstration of this approach to changing stereotyping and prejudice at the implicit level, is by training (new) stereotypic associations associated with stigmatized groups (e.g., Kawakami, Moll, Hermsem, Dovidio, & Russin, 2000; Kawakami, Dovidio, & van Kamp, 2005). In short, if we can change the associations, in reality and in the head, we should be able to change the stereotypes and the prejudice based on them. While valuable, this approach also leads us to neglect some important aspects of stereotyping and prejudice. By emphasizing the role of stereotypes as cognitive representations, more motivated processes may be overlooked. Second, it tends to prioritise the stereotypes held about certain stigmatized groups from the perspective of people in general, and advantaged groups in particular. In this paper we combine these neglected elements to consider how members of the disadvantaged group (women) react at the implicit level to particular distributions of men and women in social roles, as conveyed by a training paradigm. We argue that the perspective of the disadvantaged group provides much motivation to resist disadvantageous (sexist) stereotypic distributions in feedback, providing an impetus to react with implicit intergroup

bias rather than simply to accept and reflect the stereotypic distributions provided in associative training.

Stereotype training: Reflecting vs. resisting stereotypes

According to social role theory (Eagly & Steffen, 1984) stereotypes reflect the gender distribution of roles in the society. A change in this distribution should therefore lead to a change in the stereotypical beliefs, and a resulting change in the evaluations of the groups based on the stereotypes. Role incongruity theory (Eagly & Karau, 2002), refines this approach by acknowledging that undermining prejudice simply by redistributing the roles may not be so straightforward, because prejudiced evaluations may also reflect the perceived incongruity between the stereotypical traits associated with a person and the relevant skills associated to a particular role. However, what still remains unclear from these theories is how members of the group that is the target of stereotyping and prejudice themselves react to this distribution of roles, depending on whether they reflect the stability of the traditional gender relations or an improved position for women.

One way to investigate this is by adapting the training paradigm developed by Kawakami and colleagues (e.g., Kawakami et al., 2000). This paradigm is particularly interesting because it allows the manipulation of feedback on the relation between gender and stereotypic roles, and also affords the assessment of implicit (intergroup) biases in the accessibility of stereotypes. This previous research shows that counter-stereotypic training can reduce

stereotypic prejudice, even at the implicit level (Kawakami et al., 2000; 2005). However, this work focuses more on the effects of associative training on stereotyping (cognitive representations of groups) than on prejudice (affective evaluations of groups). Since prejudice seems to predict discrimination much better than stereotypes do (Dovidio, Brigham, Johnson, & Gaertner, 1996), we consider it relevant to study the effects of training associations on evaluative reactions.

Also relevant to this point is that associative training research has hitherto focused on stereotypes and discriminatory behaviour of “perpetrator” groups towards the disadvantaged target groups; little attention has been paid to the perspective of the “victims” or targets of prejudice themselves (see Dion, 2002; Operario & Fiske, 1998), presumably because they are less in need of training as such. However, exposure to stereotype training information among groups who are the target of stereotypic prejudice is no less interesting because they have a vested interest in the picture that emerges, and are likely to be motivated to resist and even challenge unfavourable images of their group (e.g., Schaller & Maass, 1989).

No research to our knowledge has considered how such training feedback might impact on the group that is typically the target of prejudice. Such research would help us to understand better the role of competition or intergroup biases as strategies of resistance to social disadvantage, even at the automatic or implicit level. Although intergroup bias has been analysed in detail by social identity theory (e.g., Mullen, Brown, & Smith, 1992; Scheepers,

Spears, Doosje, & Manstead, 2006; Tajfel & Turner, 1979), evidence about how and even whether such biases operate at the implicit level is largely lacking. In the present research we examine the effects of associative procedures in changing women's evaluative reactions towards men in counter-stereotypical contexts (i.e., suggesting the position of their group is improving) but also stereotypical ones (i.e., emphasizing the stability of a persisting stereotypic status disadvantage).

The literature has frequently emphasized the power and hierarchy driven differences between high and low status groups. As a consequence of social power dynamics, stereotyping and prejudice are particularly oppressive for certain individuals and groups (Operario, Goodwin, & Fiske, 1998; Tajfel & Turner, 1979). Traditionally, it has been proposed that individuals with high power over others are more likely to engage in stereotyping processes towards the subordinates, whereas subordinates are less likely to stereotype the powerful (Fiske & Dépret, 1996) and may even form unrealistically positive impressions of them (Stevens & Fiske, 2000). This paradoxical outgroup favoritism is in line with the proposal of a system justification mechanism by which disadvantaged groups accept their low status (Jost & Banaji, 1994) and was also anticipated by social identity theory, which predicts out-group favoritism when the high status of the out-group is stable and legitimate (Tajfel & Turner, 1979).

However social identity theory also argues that people will resist their status disadvantage and try to change it (Tajfel & Turner, 1979). For example,

Scheepers et al., (2006) showed that low status groups not always manifest positive attitudes towards the powerful outgroup, but rather they resist the disadvantage by showing ingroup bias for instrumental reasons (e.g., facilitating the social change). Because most of the social identity literature has studied intergroup bias processes at the explicit level, the remaining question is how do disadvantaged groups respond to stereotype and status relevant "training" at an implicit level. Thus how do they react, implicitly, when they receive training suggesting the position of their group is improving, compared to training suggesting that the stereotypic status disadvantage remains? Do they show implicit changes acknowledging the improvement, and therefore show less implicit bias? Does continuing status disadvantage lead to more implicit resistance and intergroup bias?

Negative orientations toward a dominant group have been traditionally proposed to be a mechanism for coping with victimization (Allport, 1954; Jones, 2005) and this fits in with the intergroup bias shown by disadvantaged groups in the social identity literature (Mullen, et al., 1992; Scheepers et al., 2006; Tajfel & Turner, 1979). We therefore propose that women, as members of a disadvantage group, do not just passively accept training, but react and respond to it with implicit intergroup bias when it threatens their group identity. We now also consider how the pattern of this bias might depend on the stereotypic dimensions and contexts used in training.

Specificity of intergroup biases: Moderating effects of context and dimension

The paradigm used by Kawakami and her colleagues (2000) has proved its efficacy in changing stereotypic associations to social categories in general. However, the evidence shows that stereotypes and prejudice are highly context-dependent processes. For instance, Eagly and Diekmann (2005) have framed prejudice as an attitude in context, constructed at the intersection of stereotypes and social roles. Social identity researchers have shown that intergroup bias might serve different social functions depending on the context (e.g., Scheepers et al., 2006). The study of implicit intergroup biases have also shown strong evidence for the malleable context-dependent nature of these stereotyping and prejudice effects (Barden, Maddux, Petty, & Brewer, 2004; de Lemus, Moya, & Lupianez, 2007; Rudman & Kilianski, 2000; Wittenbrink, Judd, & Park, 2001). In short, all of these research literatures point to the importance of context, which specifies the particular roles and their associated stereotypes (e.g., subtypes), and also the relevant dimensions on which people occupying these roles and contexts will be perceived and evaluated. It is therefore important to consider this conjunction of context, role and judgment dimension. This will allow us to develop a more ecological paradigm that bases the training of (counter)stereotypical associations in a simulation of real-life situations that capture the different roles occupied by men and women. Specifically we will use the moderating nature of context associated with traditional gender roles (i.e., occupational vs. domestic) as a means to manipulate stereotypes perception.

Given that the representation of the ingroup (women) and the outgroup (men) is related to their stereotypically associated roles (occupational vs. domestic), that are also associated with stereotypical traits dimensions (competence vs. warmth), it is important to see how any pattern of resistance or reduced implicit bias is manifested, especially in relation to the status-related dimension of competence (stereotypically associated with men) and the non-status related dimension of warmth (stereotypically associated with women). According to the stereotype content model, group status predicts competence whereas competition predicts warmth assessments (Fiske, Cuddy, Glick, & Xu, 2002). By representing women and men mostly in counter-stereotypical settings we are suggesting a positive change in the status of women as a group. One might therefore argue that our manipulation of the gender-context associations will more probably affect the activation of intergroup bias on the competence dimension. By emphasizing the possibility to change the ingroup status for the better, one could also argue that our manipulation would reduce the competition between the groups from women's perspective and that therefore, the change on the activation of intergroup bias will occur most probably on the warmth dimension. Because competence is a status defining characteristic (Fiske, et al., 2002; Ridgeway, 2001), it might be particularly difficult to change the judgments on this dimension, whereas it might be easier to change the evaluation of a person in terms of warmth. In the experiments reported in this paper, we will test whether any implicit intergroup bias in the accessibility of the stereotypical dimensions (warmth and competence) vary as a function of presenting a higher proportion of non-traditional gender-role associations.

The present research

Our main goal was to investigate the effect of training in counter-stereotypical context-gender associations on the automatic activation of implicit gender bias of women towards men, and whether this effect depends on the specific content of the evaluated traits (i.e., competence-related vs. warmth-related). Using a paradigm developed in earlier research (de Lemus et al. 2007, Study 2b), we tested the automaticity of the implicit bias (Study 1), and then manipulated the appearance of men and women in different contexts (stereotypical vs. counter-stereotypical) in an associative learning task to subsequently assess the participants' activations of evaluative attitudes towards the outgroup (Study 2).

STUDY 1

The purpose of study 1 was to replicate the Study 2 of de Lemus et al. (2007) excluding male participants in order to test the activation of a women's ingroup bias effect. We decided as well to introduce more constraining response conditions (the time participants had to respond to each trial was limited to 1000 ms), that would emphasize the automaticity of the process. We decided to do so, since the literature on prejudice and stereotyping processes often indicates that the former is even more automatic than the later, or at least that affect activates faster than higher level cognitive processes when a categorical stimulus is encountered (Cunningham, Johnson, Raye, Gattenby, Gore, & Banaji, 2004; Stapel, Koomen & Ruys, 2002). Furthermore, in order to

differentiate automatically activated information from controlled processing, we manipulated the duration of the stimulus onset asynchrony in two conditions (i.e., short SOA=98 ms between the face prime and the word target, and long SOA=630 ms) (Neely, 1977).

Two main hypotheses were established for the first study:

1. Without manipulating the associations of gender and occupational context, we expect to find a main gender bias effect that favours women (ingroup) versus men (outgroup). Following the previous literature using a similar paradigm as ours (Fazio, Jackson, Dunton, & William, 1995), we might expect the ingroup bias effect to be due to both ingroup favouritism (i.e., faster response to positive targets when primed with exemplars from the ingroup versus outgroup), and outgroup derogation (i.e., faster reaction times for negative targets primed with exemplars from the outgroup versus the ingroup). However, most literature on prejudice using different paradigms has found stronger evidence for the former (i.e., ingroup favouritism), than for the later (i.e., outgroup derogation) (Brewer, 1979; Dovidio, Evans, & Tyler, 1986; Mummendey, 1995; Perdue & Gutman, 1990). Therefore, an alternative hypothesis is that only ingroup favouritism would account for the gender bias effect, but not outgroup derogation, or at least, that ingroup favouritism would be the most important factor in the intergroup bias effect.

2. As in our previous research (de Lemus et al., 2007), and following the literature on automaticity of affective responses (Cunningham et al., 2004;

Stapel et al., 2002) we expect the intergroup bias effect to be highly automatic, thus being stronger in the short SOA than in the long SOA condition, or at least not bigger at the longer SOA.

METHOD

Participants

A total of 29 first year Psychology students at the University of Granada voluntarily participated in this experiment in exchange for course credit for a social psychology course.

Materials

A PC compatible computer running E-prime 1.1 software (Schneider, Eschman, & Zuccolotto, 2002) was used to program the priming task, show the stimulus and register the responses. Sixteen stimuli were used as targets, 8 competence related traits, 4 positive (*constancy –constancia-, motivation –motivación-, efficacy-eficacia-, intelligence -inteligencia*) and 4 negative (*demotivation –desmotivación-, inconstancy –inconstancia-, inefficacy –ineficacia-, intransigence -intransigencia*), and 8 warmth related traits, 4 positive (*goodness –bondad-, understanding –comprensión-, sensitivity –sensibilidad-, friendliness -simpatía*) and 4 negative (*antipathy –antipatía-, hostility –*

*hostilidad-, indiscretion –indiscreción-, misunderstanding –incomprensión)*¹, following Puertas (2003). The images used as primes were pictures of men and women with an emotionally neutral face, appearing in two different contexts (a kitchen and an office). All the materials used in this study were the same as the ones used by de Lemus, et al. (2007) in previous studies with similar samples.

Procedure

Participants were asked to perform an evaluative task in which they had to categorize the target word as positive or negative as fast as possible while trying not to make any mistake. As a cover story, they were told that the experiment aimed at measuring automaticity in word perception and judgement; consequently, a process that should be unaffected by the interfering visualization of images. At the beginning of each trial participants were shown a picture of a context with a fixation point during 1000 ms; immediately after, a person appeared in the context for 28 ms. The context and the person appearing on it were the priming stimuli. Next, after a varying interval (70 or 602 ms) in which the screen was blank, the target word appeared. The target was presented at the centre of the screen until the participant gave a response, or for a maximum of 1000 ms. The maximum time for response was limited to 1000 ms in order to encourage participants to respond as fast as possible, thus enhancing automatic processing in evaluation responses. In all conditions, 50% of the stimuli were positive and 50% negative. An example of a trial sequence is

¹ We decided to keep the original Spanish words used as targets together with the English translation in the description of the method, because despite we tried to find the most appropriate terms to translate them, it was very difficult in some cases to find words with exactly the same meaning in both languages.

represented in Figure 1. All participants were presented with an equal number of ingroup bias trials (i.e., positive traits when the prime was a woman, or negative traits when the prime was a man) and outgroup bias trials (i.e., the opposite coupling).

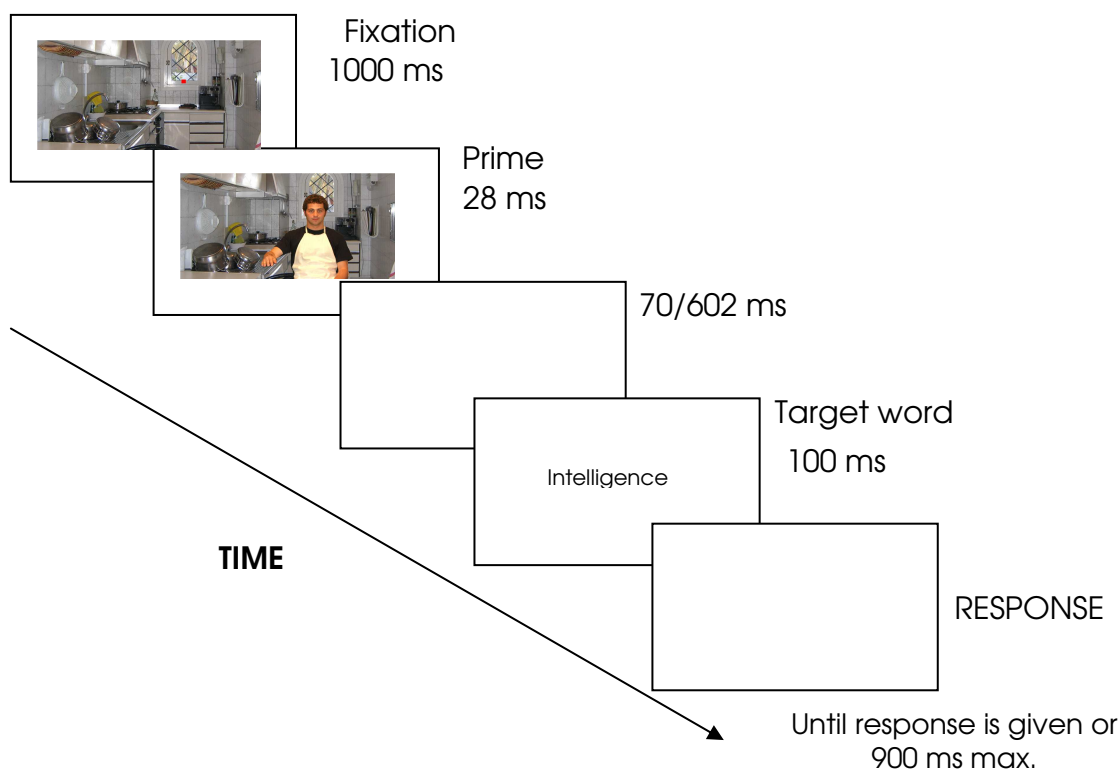


Figure 1. Priming sequence in Study 1.

In a different session², participants were asked to evaluate the pictures they had been exposed to in the experimental session, to check whether they perceived the primes as representative of the shared social image of men and women in our society nowadays, and whether they thought the picture were positive or negative in valence to check their explicit attitudes towards men and women in stereotypical and counter-stereotypical roles. Firstly, they were asked

² The second session took place around one week after the experiment, and 5 participants did not attend to the second session of Study 1.

the same question about each picture used in the experimental session: *To what extent do you consider this picture accounts for the image that our society has of men/ women?* The answer was measured in a Likert type scale with 7 points (1: Not at all; 7: Perfectly). Secondly, they were asked to evaluate the valence of the same set of pictures, by responding on a Likert scale from 1 (very negative) to 7 (very positive).

Design

The experiment had a 2 (Gender: women vs. men), x 2 (Type: competence vs. warmth), x 2 (Context: kitchen vs. office), x 2 (SOA: short = 98 ms vs. long = 630 ms), x 2 (Valence: positive vs. negative) within participants design. Type and Valence referred to the nature of the target word.

All experimental conditions were presented randomly within a block of trials. Each one of the target words was presented 16 times preceded by pictures of men and 16 times preceded by pictures of women, half of the times appearing in a kitchen and the other half in an office; thus, there were 16 observed data for each experimental condition. The main dependent variable was reaction time (RT).

RESULTS AND DISCUSSION

Trials with incorrect responses (7.71%) and those in which no response was emitted within the time limit of 1000 ms (2.07%) were eliminated from the

analyses. Trials with reaction times faster than 200 ms were equally discarded, considered as anticipations. This implied the elimination of a further 0.18% of the trials.

We were interested in gender priming on traits processing, while avoiding individual differences among the words used due to uncontrolled variables (frequency of usage, familiarity, etc.). For that purpose facilitation scores were computed for each word and participant by taking the average of all the responses to each word from each participant and subtracting this average from the corresponding reaction times of each critical condition of the study. This way, a negative index indicates a relatively faster RT whereas a positive index indicates a relatively slower RT for each experimental condition. In a last step, the final average facilitation indexes for each participant and experimental condition were computed and are shown in table 1.

Mean facilitation scores were introduced into a 2 (Gender: men vs. women) x 2 (Type: competence vs. warmth) x 2 (Context: kitchen vs. office) x 2 (SOA: 98 ms vs. 630 ms) x 2 (Valence: positive vs. negative) repeated measures ANOVA. Results showed a significant interaction between Gender and Valence, $F(1, 28)=4.3673$, $p=.0458$, indicating that women primes facilitated the categorization of positive traits ($M=-2.38$) comparing to negative traits ($M=1.15$), $F(1, 28)=4.3111$, $p=.0472$, whereas men primes facilitated the categorization of negative traits ($M=-1.22$) comparing to positive ($M=2.35$), $F(1, 28)=4.4196$, $p=.0446$.

Because we were interested in further studying how the interaction Gender x Valence was moderated by the other variables, we recoded it into an Intergroup Bias (ingroup vs. outgroup) factor. To summarize the studied category (e.g., gender) x valence interaction in a single index is a common strategy used to obtain a general picture of the direction and the magnitude of the bias effect (Barden, et al., 2004; Fazio et al., 1995). However, instead of calculating the index using a subtraction method, we calculated the Intergroup Bias index as a composite of the prime person gender (male or female) and the variable valence (positive vs. negative), so that trials in which the prime was a woman and the target was positive, or the prime was a man and the target was negative, were considered as measuring “ingroup bias”; while trials in which the prime was a woman and the target was negative, or the prime was a man and the target was positive, were considered as “outgroup bias”. This way, we still can control for the influence of valence, by introducing it as an independent factor in the analysis. As a result, positive scores indicate bias favouring women relative to men, whereas negative scores indicate bias favouring men relative to women. Table 1 shows the facilitation indexes for each condition considering the Intergroup Bias factor.

Table 1. Mean facilitation indexes (in ms) for Study 1.

		Short SOA (98 ms)				Long SOA (630 ms)			
		KITCHEN		OFFICE		KITCHEN		OFFICE	
		-	+	-	+	-	+	-	+
INGROUP BIAS	<i>Competence</i>	4	8	17	9	-10	-19	-10	-12
	<i>Warmth</i>	15	7	8	12	-8	-11	-17	-14
OUTGROUP BIAS	<i>Competence</i>	17	18	15	20	-18	-13	-14	-12
	<i>Warmth</i>	12	16	17	10	-18	-10	-9	-10

We analyzed the data in a 2 (Intergroup Bias: ingroup vs. outgroup) x 2 (Type: competence vs. warmth) x 2 (Context: kitchen vs. office) x 2 (SOA: 98 ms vs. 630 ms) x 2 (Valence: positive vs. negative) repeated measures ANOVA, in which the main effect of Intergroup Bias did not reach significance, $F(1, 28)=2.1993$, $p=.1492$. However, it interacted marginally with Valence, $F(1, 28)=3.1719$, $p=.0858$, showing a significant effect of Intergroup Bias only for the positive traits, $F(1, 28)=4.7836$, $p=.0372$, but not for the negative ones, $F<1$, as shown in Figure 2. In relation to our hypothesis 1, this result supports the previous literature on prejudice that has found stronger effects of ingroup favouritism than outgroup derogation.

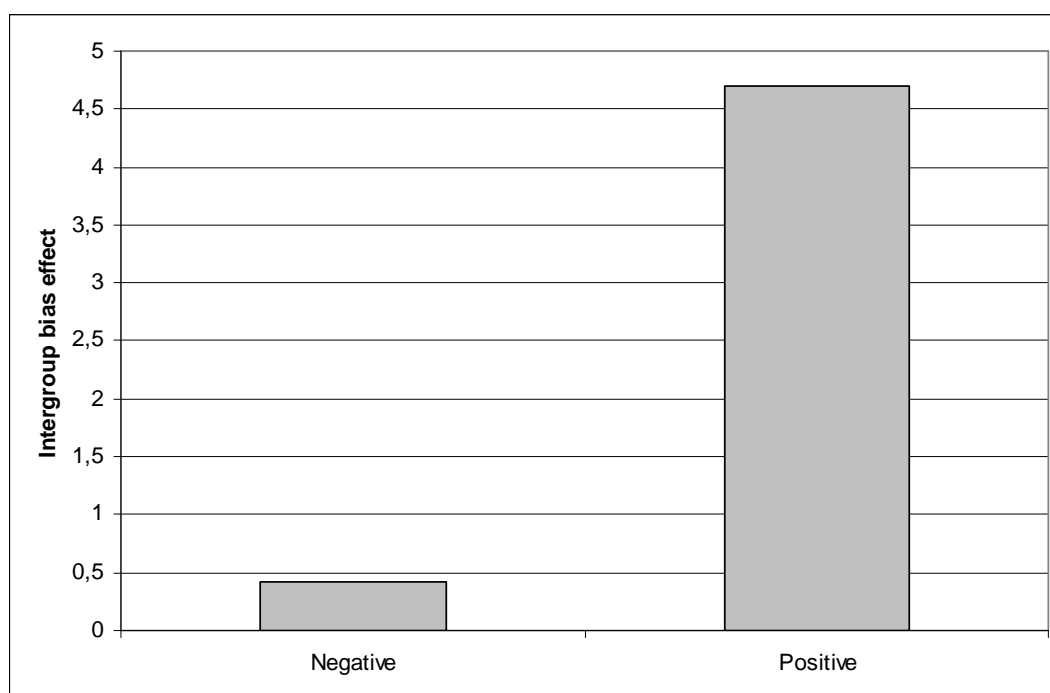


Figure 2. Intergroup bias effect for positive (ingroup favouritism) and negative (outgroup derogation) valence traits. The intergroup bias effects that are represented in the figure are computed by subtracting the index for the ingroup bias to the one for the outgroup bias, therefore more positive scores show stronger facilitation for the ingroup.

In relation to our second hypothesis regarding the automaticity of the intergroup bias effect, this effect marginally interacted with SOA, $F(1, 28)=$

3.4601, $p=.0734$. The analysis of the interaction showed that the intergroup bias effect was only significant for the short SOA condition, $F(1, 28)=7.1613$, $p=.0123$, and not for the long one, $F<1$, supporting our predictions about the automaticity of affective responses. That is, participants were automatically activating implicit prejudice towards the outgroup, because the effect of ingroup bias occurred under highly restrictive conditions (i.e., SOA of 98 ms and reaction time limit of 1000 ms) and was not enhanced when the conditions allowed for control processing to occur (i.e., an SOA of 630 ms did not increase the priming effect). The three-way interaction, Intergroup bias x Valence x SOA, was not significant, $F<1$.

As in our previous research, the usual temporal preparation effect was found, being participants faster at the long SOA condition than at the short one, $F(1, 28)=43.391$, $p<.0001$, ($M_{Short}=12.9328$, $SD=$; $M_{Long}= -13.0091$). Finally, the intergroup bias effect did not interact with the type of traits, $F<1$.

Questionnaire measures analyses

In order to analyse the two explicit questionnaire measures collected in a different session we used a 2 x 2 repeated measures ANOVA with the variables Gender (2; Male vs. Female) and Context (2; Kitchen vs. Office) as within participants factors. When participants were asked about the match between the pictures and the social images of men and women in our society, a main effect of Gender was found, $F(1, 23)=6.7008$, $p=.0164$, $M_{female} =4.29$, $M_{male} =5.52$, so that men in general were seen as more prototypical than women; as

well as a main effect of Context, $F(1, 23)=44.929$, $p < .0001$, $M_{\text{kitchen}}=5.10$, $M_{\text{office}}=4.70$, showing that the kitchen context was generally perceived as more prototypical than the office. However, the most interesting result was the significant interaction between these two variables, $F(1, 23)=77.390$, $p < .0001$, which provides evidence for the socially shared perception in our society congruent with gender stereotypes and traditional roles distribution. In other words, women were seen as more prototypical when they appear in a kitchen ($M=5.50$) than in an office ($M=3.08$), $F(1, 23)=6.5326$, $p=.0177$, whereas men were seen as more prototypical when they appear in an office ($M=6.32$) than in a kitchen ($M=4.71$), $F(1, 23)= 138.5601$, $p<.0001$. Also, crossed-gender comparisons within context show that in the kitchen women were seen as more typical than men, $F(1, 23)= 69.9566$, $p<.0001$; whereas, in the office men were seen as more typical than women, $F(1, 23)= 37.5008$, $p<.0001$. Summing up, these results evidence that the pictures used for the experiment were perceived as expected, in relation with the social image of men and women. That is, the pictures showing role congruity (i.e., women presented in a kitchen, and men in an office), are perceived as consistent with the socially shared image of men and women in our society. In contrast, the pictures in which women appeared in the context of an office and men in a kitchen (that is, the ones that show role incongruity) are perceived as different to the current social image of men and women.

A similar pattern of results was found analysing the evaluations of the pictures (positive vs. negative). There was a main effect of Gender, $F(1, 23)=10.476$, $p=.0036$, $M_{\text{female}} = 5.20$, $M_{\text{male}} = 5.86$, indicating that men in

general were seen as more positive than women, and a main effect of Context, $F(1, 23)=13.224$, $p=.0014$, $M_{\text{kitchen}} = 5.36$, $M_{\text{office}} = 5.70$, indicating that the context of an office is perceived more positively than the kitchen. Once again, the most relevant result was the interaction between these two variables, $F(1, 23)=5.0661$, $p=.0343$, showing that when female appeared in an office context ($M=5.69$) they were evaluated more positively than when they appeared performing their traditional gender role ($M=4.72$), $F(1, 23) = 8.0267$, $p=.0094$. For the male pictures, there was no difference between the two contexts, ($M_{\text{kitchen}}=6.00$, $M_{\text{office}}=5.72$; $F=1.3221$, $p=.2621$). Therefore, the main effect found showing that men were seen more positively in general, was due to the low evaluation of women when they were presented in the context of the kitchen. These results replicate our previous findings in other experiments (de Lemus et al., 2007) supporting that our participants do not endorse in general the classical stereotypical distribution of roles, but instead they show a positive attitude towards the incorporation of women to traditionally male occupations. This finding can be interpreted as an indirect proof of their egalitarian motives – a motivated resistance to the traditional gender stereotype.

STUDY 2

Having found support for the activation of ingroup bias under conditions that enhanced the automaticity of the process (Study 1), the aim of our second experiment was to study the influences on intergroup bias activation when associations between gender and occupational context are manipulated in a

way that either emphasizes the stereotypical distribution of roles in our society, or instead, associates counter-stereotypically gender and occupations.

For this purpose, we designed a study with two phases. In the first one, participants performed an indirect associative training task in which participants were *unaware* of the real purpose of the task, because the instructions they were given were unrelated to the stereotypical associations that were being trained. A third outdoor context was introduced and participants were asked to categorize people as male or female, but only when they appeared in an indoor context (the kitchen or the office). They were asked to withhold responses when people appeared in the outdoor control context. In different training conditions, men or women were disproportionally coupled with the kitchen or the office, but this coupling was totally irrelevant to the task, as participants only had to categorize people as male/female (the gender of the primes was equally distributed in both training conditions). This way, we intended to avoid the possible correction effects Kawakami et al (2005) found when participants do not want to be influenced in their opinions by the training. In the second phase, we tested the implicit prejudice activation using the same paradigm as in Study 1.

There are two main hypotheses for this study, the first one regarding the effect of practice during the training phase, and the second one regarding the influence of training on the activation of intergroup bias.

Practice Effect

Consistent with the findings of Kawakami and others (2000; 2005) that participants were able to respond increasingly faster to new non-stereotypic associations, we expect that during the training phase, practice will benefit the incongruent associations between gender and context. Therefore, only after practise with counter-stereotypical gender-context associations, responses will be faster in this condition than in the stereotypical associations. In contrast, participants trained in congruent associations will be fast in this condition from the beginning, independently of practice, in agreement with the gender-matching advantage (Fiske, 1998). Zárate and Sandoval (1995) found that stereotypic combinations of women and men with occupations were classified by occupation faster than the counter-stereotypic combinations; whereas Carpenter (1994) provided evidence for faster categorization by gender when gender was situationally salient.

Intergroup bias effect

Assuming that women, as a lower status group compared to men, will endorse defensive mechanisms such as prejudice towards the outgroup and enhancement of the ingroup (Allport, 1954; Tajfel & Turner, 1979), we expect that our female participants will perceive strong stereotypical associations (i.e., women in domestic roles, and men at the workplace) as a threat to their identity and their egalitarian motives (reflected in their explicit positive attitudes towards women in working roles in Study 1), and therefore increase the automatic

intergroup bias. However, contrary to our specific predictions in the first study, in this case we did not expect the intergroup bias to be restricted to ingroup favouritism, but to extend also to outgroup derogation. Over representing the outgroup in the high competence domain implies a threat for the ingroup identity related to that dimension. From the social identity perspective, it has been proposed that the most threatening situation for low status group is when their disadvantaged social position is clear-cut and stable. In these circumstances the members of the low status group “have nothing to lose” and they can react in the most extreme way, for example showing outgroup derogation or maximum differentiation strategies (Scheepers, et al., 2006).

On the other hand, training in counter-stereotypical gender-context associations that evoke alternative distribution of roles, should reduce the automatic gender bias of women towards men as it implies higher competence for the women and is consistent with the ingroup’s egalitarian motives. Therefore, this condition highlights the instability of the ingroup’s lower status position, decreasing the level of perceived threat. Regarding the stereotypical content of the ascribed traits, according to Eagly and Diekmann’s (2005) predictions of prejudice reduction when non-stereotypical characteristics are assigned to newcomers in a particular role (i.e., men in domestic roles), we expect that prejudice activation will be especially reduced in the warmth-related traits. That is, when men are over-represented in traditionally female roles that are associated with warmth abilities, male targets will be seen as warmer and therefore, prejudice towards them will be reduced, particularly on that dimension. This prediction is also consistent with the idea that women may be

less likely to concede ground on the competence dimension because of its direct relation with status (Fiske et al., 2002; Ridgeway, 2001). Because women as a group are stereotyped as low in that status-related dimension, they will presumably resist more on competence than on warmth. Once again we make these predictions for the implicit accessibility-based intergroup bias.

METHOD

Participants

A total of 75 female first year Psychology students at the University of Granada voluntarily participated in this experiment in exchange for course credit for a social psychology course. The data from 3 participants were excluded from analyses because of technical or situational reasons that did not allow them to conclude the experiment sequence. Also, data from two foreigner participants (Erasmus students) for which Spanish was not their first language were excluded. This left the data from 70 female participants for formal analysis.

Materials

As in Study 1, E-prime 1.1 software (Schneider, et al., 2002) was used to design and present the stimulus both in phase 1 (associative training) and phase 2 (evaluative priming task). In both phases, the images used as primes were pictures of men and women with an emotionally neutral face, appearing in three different contexts (kitchen, office, and an outdoor picture in a terrace).

In the training phase, the pictures in a traditionally female occupational context (kitchen), and a male occupational context (office) were similar to the ones used in Study 1, but with different persons appearing on them. Also, two instead of one picture were used for each context. Furthermore, two new pictures were introduced as neutral context (an outdoors terrace), on which men or women were presented. The same 6 persons (3 women and 3 men) were appearing in the kitchen and the office, while in the neutral context, 2 different men and 2 different women were used as primes.

In the test phase, the materials used included the same prime persons as those used in Study 1, presented in the two kitchen and the two office contexts, and the same pictures used in the training phase, for the neutral context.

Procedure

As a cover story, they were told that the experiment was designed to study decision making processes about social stimulus. In phase 1, they were told that the aim was to study the ability to inhibit categorical responses about pictures. In phase 2, they were told that the aim was to study word categorization.

Phase 1: Training phase. Participants were asked to do a simple categorization task in which they had to categorize the target person appearing in the image as a man or a woman, as fast as possible while trying not to make

any mistake. However, they were asked to respond only when the person appeared indoors (i.e., either in a kitchen or an office), withholding responses when he or she appeared outdoor (i.e., neutral context). The purpose of the task was to indirectly generate stronger associations between gender and a particular occupational context. The instructions to categorize only people appearing indoors were given in order to focus participants' attention separately on both the context (in order to know whether or not to respond) and the gender (in order to know what to respond), but not on the gender-context association, in order to avoid participants' awareness of the purpose of the study (Jiménez & Méndez, 1999). In 90% of the trials a person appeared either in a kitchen or in an office (45% of the trials each context), whereas in the remaining 10% of the trials, the target appeared in a neutral context. Three men and 3 women appeared both in the context of a kitchen and an office, whereas 2 different men and 2 different women appeared only in the neutral context (the people appearing in the occupational contexts differed from the ones in the neutral context to enhance the association between a specific person and specific occupational roles). As it occurred in Study 1, the image of the context with a fixation point on it appeared in first place during 1000 ms. The preview of the context was followed by the presentation of the target person embedded on it, until the participant gave a response or for a maximum of 2000 ms. One group was presented with 90% of the women appearing in a kitchen, and 90% of the men appearing in an office (Group 1: stereotypical training); whereas another group of participants was presented with 90% of the men appearing in a kitchen, and 90% of the women appearing in an office (Group 2: counter-stereotypical training). The proportion of men and women appearing in a neutral

context was held equal (50-50%). A Representation of the training phase sequence is shown in Figure 3. Participants were presented with 160 trials in total during the training phase.

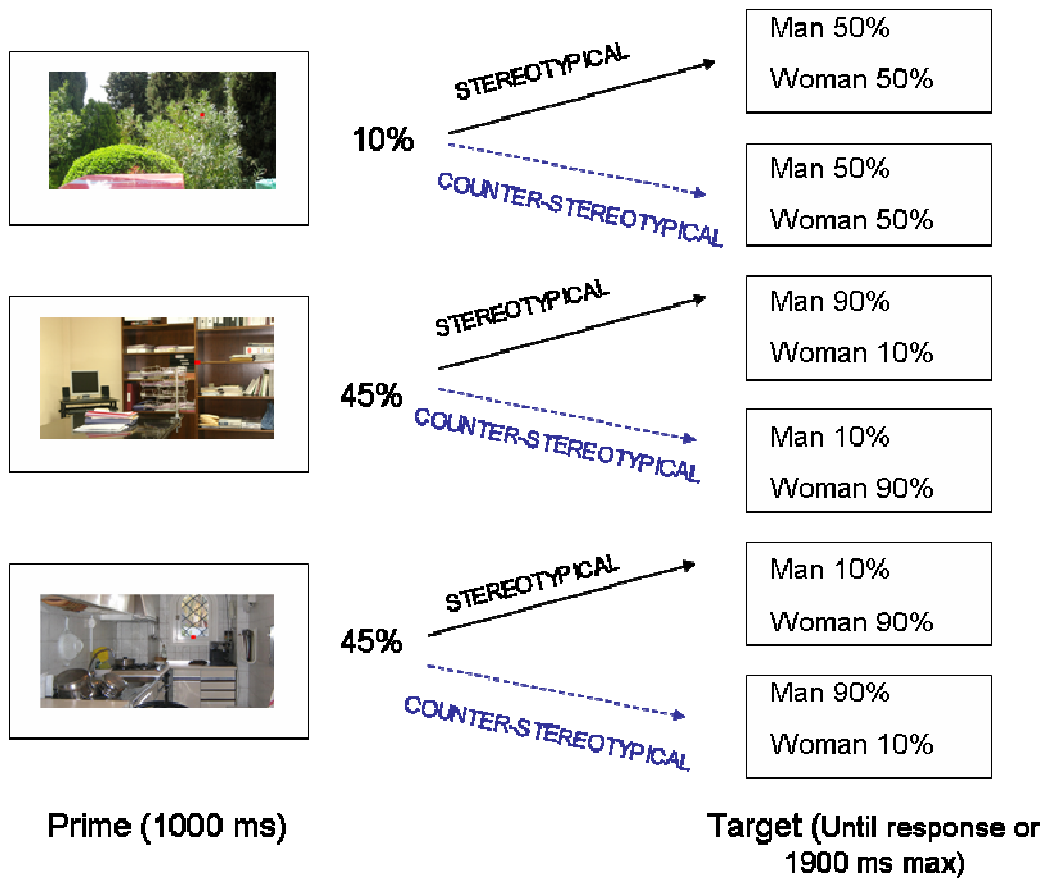


Figure 3. Procedure of the training phase.

Phase 2: Test phase. Participants of both groups were asked to perform exactly the same evaluative task as in Study 1. The only difference was that, instead of using only two contexts (kitchen and office), a third neutral context was used (i.e., the same one as in phase 1). The stereotype related contexts appeared in 80% of the trials (40% each), and the neutral context appeared in 20% of the trials. Participants were presented with 8 blocks of 80 trials each. The 2 female and 2 male persons that were used as primes were different from those used in phase one for both the kitchen and the office contexts; whereas

the persons used as primes in the neutral context conditions were the same ones from the phase 1.

After the end of phase 2, participants were asked to answer a few questions about the pictures of the contexts they had just seen during the previous task. Firstly, they were asked to what extent each picture of a kitchen could belong to a private house or a restaurant, or in the case of the office pictures, whether it was a secretary office or an executive one. The answer was measured in 7 points scale (1: house/secretary office; 7: restaurant/executive office). The aim of these questions was to evaluate whether the training manipulation affected the perceived status assigned to the different contexts (i.e., house kitchen or secretary office would imply lower status, whereas restaurant kitchen or executive office would imply higher status). Secondly, they were asked to what extent they thought in each one of those contexts worked a male or a female person. The answer was measured in a 7 points scale with (1: man; 7: woman).

Participants were debriefed in a later common debriefing session.

Design

Training phase. The experimental design for phase 1 was 2 (Gender: male vs. female) x 2 (Context³: kitchen vs. office) x 2 Practise (1st half vs. 2nd half) within participants. Gender and Context referred to the characteristics of

³ Although Context has three levels (Kitchen, Office, and outdoor setting) only the first two are considered for the analyses in phase 1, as no response was given in the outdoor settings.

the pictures presented as primes. Practise refers to the two halves of the training trials phase.

Test phase. The experimental design for this phase was 2 (Group: stereotypical vs. counter-stereotypical training) x 2 (Intergroup bias: ingroup vs. outgroup) x 2 (Type: competence vs. warmth) x 2 (Context: kitchen vs. office) x 2 (Valence: positive vs. negative). The first factor was manipulated between participants, whereas the other 4 were manipulated within participants. The variables Type and Valence referred to the nature of the target word. The independent variable Intergroup bias was a composite of the prime person gender (male or female) and the variable valence (positive vs. negative), as in Study 1.

RESULTS AND DISCUSSION

Training phase

First, an analysis of participants' accuracy rates was performed in order to detect participants with low accuracy in the training task. Three participants were specially lower than the rest (two of them seemed to have understood the instructions in the opposite way, as their accuracy was close to 0; the third one, presented an error rate over 20%, whereas any other participant presented less than 10% of errors). The data from these 3 participants were excluded from any further analysis. Also, for the analyses of phase 1, 8 participants who did not have results in some experimental conditions were excluded.

The mean RTs in phase 1 were introduced into a 2 (Gender: male vs. female) x 2 (Context: kitchen vs. office) x 2 (Practise: 1st half vs. 2nd half) repeated measures ANOVA. The results showed a main effect of context, $F(1, 57)=5.6894$, $p=.0204$, indicating faster reaction times when the picture appeared in a kitchen ($M=622$) than in an office ($M=642$).

Importantly, as expected, training facilitated responses to the associations that were trained, as it is shown by the interaction between Gender, Context, and Group of training $F(1, 57)=85.518$, $p<.0001$. Even more importantly, as predicted by hypothesis 1, this interaction was also moderated by Practise, $F(1, 57)=6.8743$, $p=.0112$. In the stereotypical training group the significant Gender x Context interaction ($F(1, 57)= 31.5174$, $p<.0001$) showed faster reaction times for man ($M=586$) than for woman ($M=706$) when they appeared in the office ($F(1, 57)= 32.1954$, $p<.0001$), and for woman ($M=569$) than for man ($M=655$) when they appeared in a kitchen ($F(1, 57)= 27,84522$, $p<.0001$). As shown in figure 4, these associations were present from the beginning as the interaction was independent of Practise, $F(1, 57)=1.5468$, $p=.2187$.

In contrast, in the counter-stereotypical associations the Gender x Context interaction depended on practice in the task, as shown by the three way interaction Gender x Context x Practise, $F(1, 57)=6.2364$, $p=.0154$ (see Figure 4). In the first half of training there were no significant differences in RT between man and woman in the kitchen, $F(1, 57)=2.3730$, $p=.1290$, although

the same differences were significant in the office, $F(1, 54)= 5.0374, p=.0287$. These results indicate that the association between women and office was learned faster than the association of men and kitchen. Importantly, both associations become stronger and well-learned in the second half of training: In the kitchen context, men were significantly facilitated as compared to women, $F(1, 57)=34.3958, p<.0001$; whereas, in the context of an office, women were significantly facilitated as compared to men, $F(1, 57)=9.2914, p=.0035$. These results support our hypothesis suggesting that training in counter-stereotypical associations requires more effort and time for the associations to be learned, than a stereotypical training. Furthermore, the tendencies in the first half of the training suggest that the most difficult association to learn is the one that situates a man in a kitchen instead of a woman, whereas the association of a woman instead of a man with an office is faster learnt. This result reflects the current socioeconomic changes, according to which the image of a working woman is nowadays more common than the image of a man performing domestic tasks.

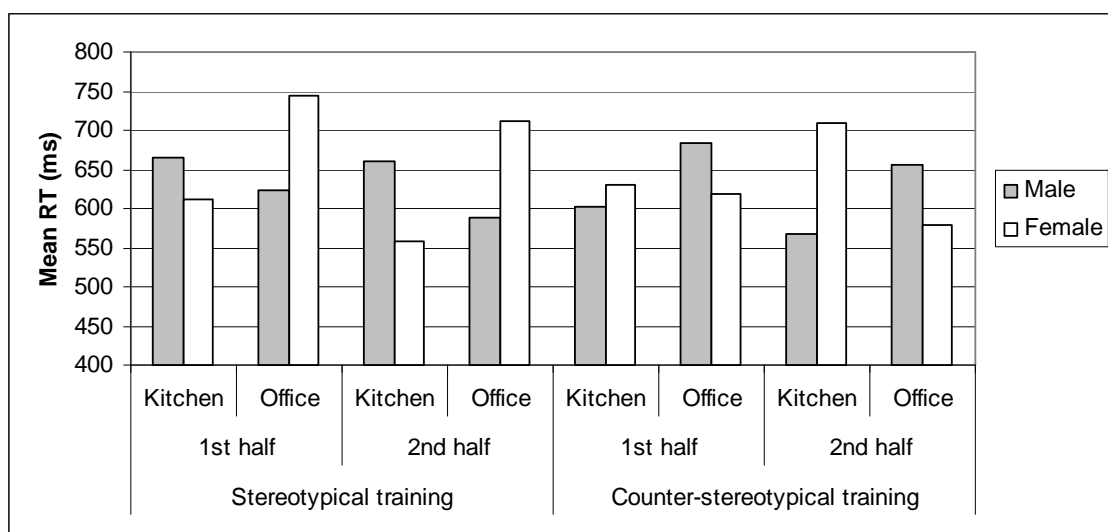


Figure 4. Effects of practice in the training phase depending on the group.

Questionnaire measures analyses

We present now the responses to the questions about the pictures of a kitchen or an office that the participants answered at the end of the experiment (after the test phase), because they provide important information about how the context is seen by the participants depending on whether they were trained in the stereotypical or the counter-stereotypical associations. The first question, about the perceived status of the contexts (low status: house kitchen, secretary office; high status: restaurant kitchen, executive office) was introduced in a mixed ANOVA, with Training group as a between participants factor, and Context as within participants factor. The results showed a marginal effect of Training group, $F(1, 65)=3.1172$, $p=.0822$. This result suggest that the group of participants trained in counter-stereotypical associations ($M= 3.05$) tend to see all the contexts as higher in status than the participants trained in stereotypical associations ($M= 2.65$). There was also a main effect of Context, $F(1, 65)=217.87$, $p<.0001$, indicating that the office was perceived as higher in status ($M=4.21$) than the kitchen ($M= 1.49$). The interaction between Context and Group was not significant, $F<1$.

The second question, regarding to the expected gender of the person working in each context (male =1, female =7) was introduced in a mixed ANOVA, with Training group as a between participants factor, and Context as a within participants factor. The analysis showed a main effect of Context, $F(1, 65)=4.8078$, $p=.0319$, indicating that the expected gender of the person working in a context was more probably female when the context was a kitchen

($M=4.45$) than when it was an office ($M= 3.95$). Interestingly, the interaction between Context and Group of training, $F(1, 65)=4.8078$, $p=.0319$, showed that the effect of context was only significant for the group trained in the traditional associations, whereas the group trained in the counter-stereotypical associations did not differentiate between men and women in the two contexts. That is, the first group expected that the person working in a kitchen was more likely to be female ($M=4.75$) than the person working in an office, who was more likely to be male ($M=3.75$), $F(1, 65)=9.2035$, $p=.0035$; in contrast, the second group thought the distribution of genders in the two contexts was equal ($M=4.16$ and $M=4.16$, respectively), $F<1$.

Test phase: Evaluative priming task

To measure the effects of the manipulation on the automatic activation of intergroup bias, we analyzed the responses of the participants to the evaluative priming task. As in the study 1, trials with incorrect responses (7.47%) or no response (2.35%) were eliminated from the analyses. Trials with RT faster than 200 ms (0.15% of trials) were equally discarded, considered as anticipations.

Facilitation indexes for RTs were analyzed by means of a 2 (Training group: stereotypical vs. counter-stereotypical) x 2 (Intergroup Bias: ingroup vs. outgroup) x 2 (Type: competence vs. warmth) x 2 (Valence: positive vs. negative) x 3 (Context: kitchen vs. office vs. neutral) repeated measures ANOVA, where the first factor was manipulated between participants, and the

rest within participants. The means of the facilitation indexes per condition are shown in Table 2.

Table 2. Mean facilitation indexes (in ms) for the test phase in Study 2.

			KITCHEN		OFFICE		NEUTRAL	
			-	+	-	+	-	+
Counter- stereotypi cal training	Ingroup Bias	Competence	-15	0	-2	1	-5	7
		Warmth	-8	-1	6	-3	8	6
	Outgroup Bias	Competence	0	-5	8	-1	21	6
		Warmth	-2	-5	0	2	-2	8
Stereotypi cal training	Ingroup Bias	Competence	-14	-2	0	1	-3	7
		Warmth	-8	-2	-11	-2	4	0
	Outgroup Bias	Competence	-6	-4	13	6	22	-7
		Warmth	5	-4	-1	9	27	-1

Effects of training in the activation of Intergroup Bias

Results showed a main effect of Intergroup bias $F(1, 65)=9.5404$, $p=.0030$, indicating faster RT for the ingroup bias trials ($M= -1.55$) than for the outgroup bias ($M= 3.69$). The interaction between Intergroup bias and Group was not significant ($F(1, 65)=1.6446$, $p=.2042$), so it did not completely confirm our hypothesis 2 according to which we expected a stronger ingroup bias effect (i.e., facilitation of positive traits after a female prime, and/or facilitation of negative traits after a male prime) for the stereotypical training group than for the counter-stereotypical training group. However, the three-way interaction between Intergroup bias, Group, and Type of traits was significant, $F(1, 65)=4.8835$, $p=.0306$, suggesting that the impact of the associative training on the activation of implicit bias depended on the content of the evaluated traits. In the stereotypical training group (Group 1) there was a significant main effect of Intergroup bias, $M_{\text{ingroup}}= -2.48$, $M_{\text{outgroup}}=4.95$, $F(1, 65)= 9.1446$, $p=.0036$, that

was independent of Type, $F < 1$. That is, as can be appreciated in Figure 5, when participants were trained in associating gender with stereotypical contexts there was an ingroup bias effect both for competence and warmth. This result replicates the findings of Study 1. In contrast, the interaction Intergroup bias x Type was significant in the counter-stereotypical training group (Group 2), $F(1, 65) = 5.2875$, $p = .0247$, indicating an ingroup bias effect only for competence, $M_{\text{ingroup}} = -2.63$, $M_{\text{outgroup}} = 4.83$, $F(1, 65) = 5.9010$, $p = .0179$, but not for warmth, $M_{\text{ingroup}} = 1.3727$, $M_{\text{outgroup}} = 0.0494$, $F < 1$.

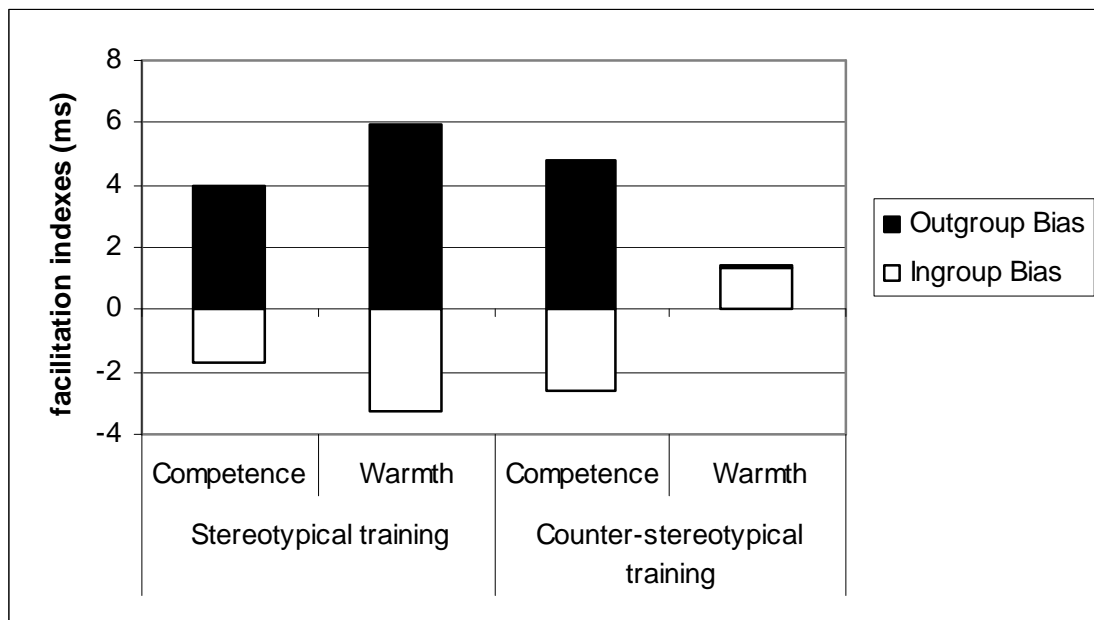


Figure 5. Effects of training on the intergroup bias depending on the stereotypical content of the traits (competence, warmth). The data presented show the magnitude of the intergroup bias effect (total length of each bar), specifying what part of the effect is due to ingroup bias and what is due to outgroup bias.

In order to explore further the cause of the lack of intergroup bias effect on the warmth traits, we performed an analysis with the factors Gender and Valence, to decompose the Intergroup Bias index. Therefore, we introduced the data in a 2 (Training group: stereotypical vs. counter-stereotypical) x 2 (Gender:

men vs. women) x 2 (Type: competence vs. warmth) x 3 (Context: kitchen vs. office vs. neutral) x 2 (Valence: positive vs. negative) repeated measures ANOVA. Results showed that the interaction Gender x Valence was significant, $F(1, 65)=9.5404$, $p=.0030$, indicating that there was an ingroup bias effect such that participants responded faster to positive targets ($M=0.90$) compared to negative ones ($M=7.08$) when they were primed with women, $F(1, 65)=11.5388$, $p=.0012$; whereas, participants had faster RTs for negative targets ($M=-4.02$) compared to positive ones ($M=0.31$) when they were primed with men, $F(1, 65)=6.3333$, $p=.0143$. The interaction Gender x Type was significant as well, indicating that there was an activation of the stereotypical gender dimensions, that is, when primed with men, participants were faster in responding to competence traits ($M=-3.77$) comparing to warmth traits ($M=0.06$), $F(1, 65)=6.7409$, $p=.0116$, whereas when primed with women, participants were faster in responding to warmth ($M=1.99$) compared to competence traits ($M=5.99$), $F(1, 65)=5.7791$, $p=.0191$. Most important theoretically, there was a significant four-way interaction between Training group x Type x Gender x Valence, $F(1, 65)=4.8835$, $p=.0306$, indicating an effect of the type of training in the interaction between the other three factors. As shown in Figure 6, the reduction of the ingroup bias effect in warmth was due to the elimination of the outgroup derogation effect in that dimension, $F<1$, therefore, men were no longer perceived as colder than women. In contrast, the counter-stereotypical training does not reduce women's resistance in the competence dimension. This result supports our hypotheses suggesting that the influence of counter-stereotypical training reduces ingroup bias, but only in the warmth dimension,

which is stereotypically associated to the stereotypical female roles (i.e., domestic tasks).

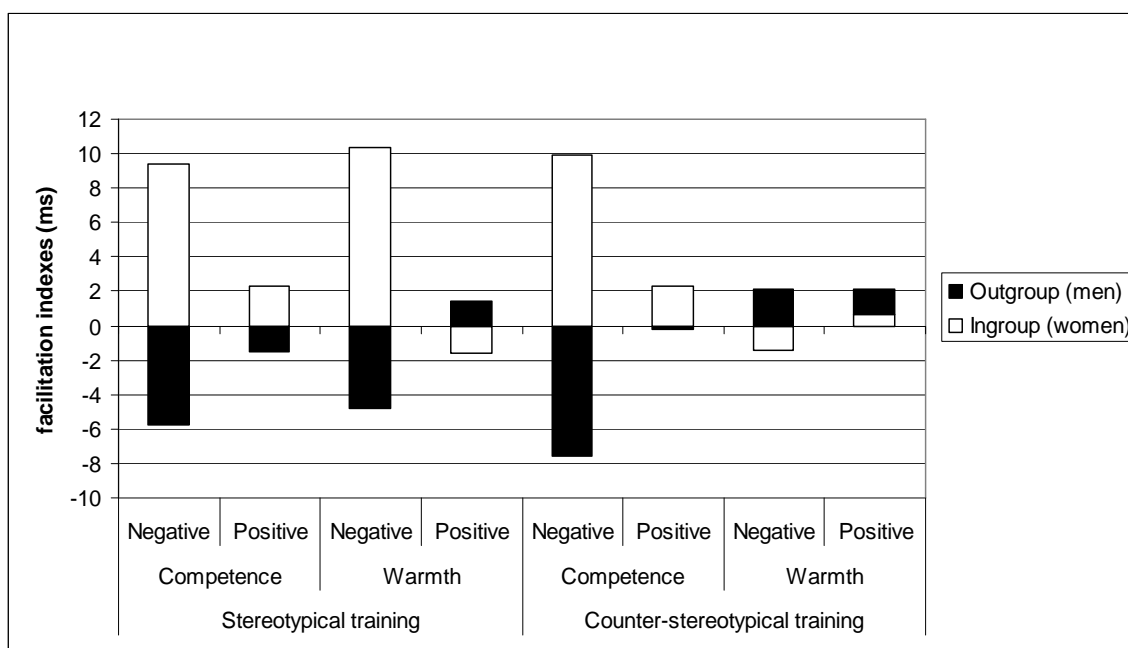


Figure 6. Effects of the Training manipulation on the interaction of Gender and Valence, moderated by Type of traits.

Intergroup Bias effect and Context

Our predictions regarding the enhancement of the ingroup bias by means of an increase in the outgroup derogation effect were partly supported by the significant interaction between Intergroup bias and Valence, $F(1, 65)=12.562$, $p=.0007$. The analysis of the interaction showed that the ingroup bias was exclusively due to an outgroup derogation effect, $M_{\text{ingroup, negative}} = -4.02$, $M_{\text{outgroup, negative}} = 7.08$, $F(1, 65) = 19.2940$, $p < .0001$, and not to ingroup favouritism, $M_{\text{ingroup, positive}} = 0.91$, $M_{\text{outgroup, positive}} = 0.31$, $F < 1$. However, this effect was not generalized to all the contexts, as shown by the interaction Intergroup bias x Valence x Context, $F(2, 130)=3.2235$, $p=.0430$, and shown in Figure 7. A

separate analysis of the two-way Intergroup bias x Valence in the three contexts revealed the nature of this interaction.

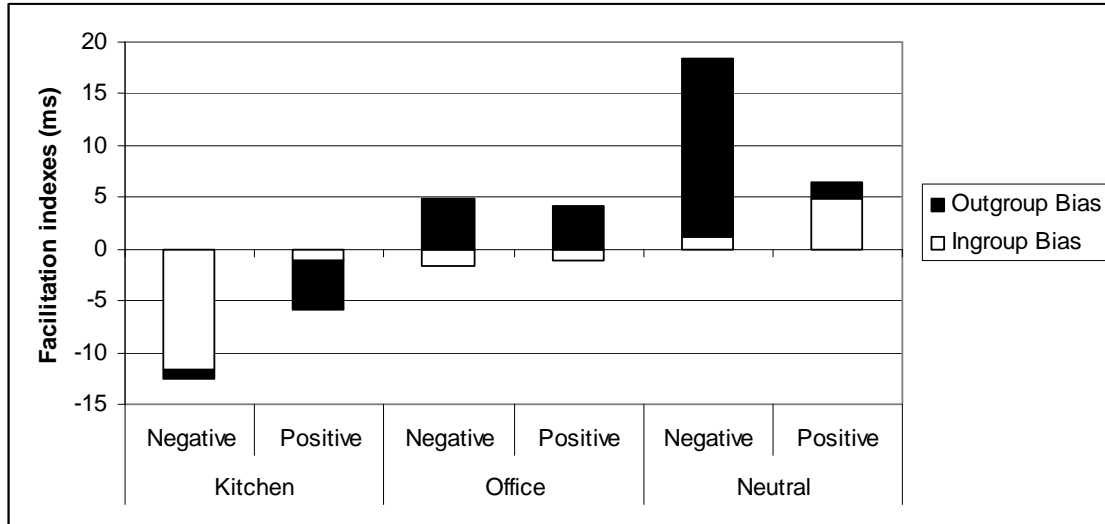


Figure 7. Intergroup Bias effect as a function of Context and Valence of traits. The data presented show the magnitude of the intergroup bias effect (total length of each bar), specifying what part of the effect is due to ingroup bias and what is due to outgroup bias.

In the context of a kitchen, the interaction Intergroup bias x Valence was significant, $F(1, 65) = 11.5585$, $p = .0012$, showing that there was a significant outgroup derogation effect ($M_{ingroup} = -11.60$; $M_{outgroup} = -0.88$, $F(1, 65) = 8.8708$, $p = .0041$), but no ingroup favouritism, $F(1, 65) = 1.3327$, $p = .2525$ (the means were even pointing in the opposite direction, $M_{ingroup} = -1.10$; $M_{outgroup} = -4.72$). The same pattern of results occurred in the neutral context, where the Intergroup bias x Valence interaction was also significant, $F(1, 65) = 8.7576$, $p = .0043$. The analysis of this interaction showed a significant outgroup derogation effect ($M_{ingroup} = 1.17$; $M_{outgroup} = 17.18$, $F(1, 65) = 8.0976$, $p = .0059$), but no ingroup favouritism, $F < 1$. These results suggest that male primes comparing to female

primes facilitated the categorization of negative targets when the primes appeared in a kitchen or in a neutral context across conditions.

However, in the context of the office, the interaction between Intergroup bias and Valence, was not significant, $F < 1$, but there was a main effect of Intergroup bias, $M_{ingroup} = -1.33$, $M_{outgroup} = 4.52$, $F(1, 65) = 5.1408$, $p = .0267$. This result suggests that women show ingroup bias in the context of the office, however, they do not show a prevailing outgroup derogation tendency in that context, probably due to reality constraints. That is, because the office is a male-related context, is not so easy for women to derogate men in their specific domain than when they are in a neutral or in female-related context.

Intergroup bias effect and Type of traits

The main Intergroup Bias effect also interacted with Type and Valence of traits, $F(1, 65) = 7.1129$, $p = .0096$. The analysis of the interaction showed that Intergroup bias x Valence was only significant for the competence traits, $F(1, 65) = 19.8176$, $p < .0001$, but not for the warmth traits, $F < 1$. For the competence traits, there was an outgroup derogation effect ($M_{ingroup} = -6.68$; $M_{outgroup} = 9.66$, $F(1, 65) = 30.5623$, $p < .0001$), but no ingroup favouritism, $F < 1$. For the warmth traits, there was a marginally significant main effect of Intergroup bias, $M_{ingroup} = -0.93$; $M_{outgroup} = 2.98$, $F(1, 65) = 3.2841$, $p = .0746$.

Other effects

Finally, a main effect of Context was found $F(2, 130)=15.272, p<.0001$, indicating faster RT for the kitchen context ($M= -4.57$), followed by the office context ($M= 1.59$) ($F(1, 65)= 13.8094, p=.0004$), and the longest RT for the neutral context ($M= 6.19$) ($F(1, 65)= 5.5519, p=.0215$). An interaction between Group of training and Valence was found, $F(1, 65)=6.1262, p=.0159$, showing facilitation for positive traits ($M= 0.17$) vs. negative ($M= 2.30$) in Group 1, $F(1, 65)= 9.0357, p=.004$, but no valence differences in Group 2, ($M_{\text{positive}}= 1.05, M_{\text{negative}}= 0.76; F<1$).

GENERAL DISCUSSION OF EXPERIMENTAL SERIES 3

The main goal of our research was to study the effects of training associations in the activation of implicit intergroup bias of women towards men, that either emphasize the social changes that are currently taking place in our society towards a more equal distribution of roles between men and women, or on the contrary, that emphasize the traditional distribution of roles in society. Particularly, we wanted to study the effects of training stereotypical and counter-stereotypical associations between gender and two occupational contexts, one related to the traditional female associated domestic roles (kitchen), and the other related to the traditional male associated managerial positions (office). The main conclusions from our findings show that: a) Ingroup bias (i.e. in the relative accessibility of group-favouring attributes) is activated automatically at the implicit level, and it is mainly due to ingroup favouritism, when no particular association is enhanced; b) practice with particular gender-context associations improves the learning process of non-stereotypic associations, whereas it does

not affect the training in stereotypical ones; c) training counter-stereotypical associations reduces resistance towards the outgroup, however, this reduction depends on the content of the evaluated dimension: it disappears for the warmth but not for the competence dimension.

In sum, this research examines the contrast between putting the emphasis on a society based on traditional distribution of gender roles or, instead, emphasizing social change towards a more egalitarian society, and how this affects gender relations, particularly by influencing women's perceptions of men. The findings of our research have implications for both cognitive and social levels of analysis.

At a social level of analysis, a key finding is that women, as members of a disadvantaged group, show implicit resistance to training when it threatens their ingroup, whereas, they lower this resistance to some extent, when the threat is reduced. According to social identity theory (Tajfel & Turner, 1979), a situation in which the status differences are unstable and access to the roles typically associated with the high status group is evident appears to reduce intergroup conflict. On the other hand, when stereotypical associations are emphasized, we triggered intergroup conflict, and resistance towards the outgroup through intergroup bias. We argue that by emphasizing the traditional distribution of roles, we increased the competition with the outgroup (in our case, from the women towards the men), by threatening ingroup identity and through its attempts to achieve equal status with the outgroup.

According to the SCM, group status and competition will predict competence and warmth assessments, respectively (Fiske et al., 2002). Our results show that stereotypical training reinforces intergroup bias on both dimensions; however, counter-stereotypical training eliminated the manifestation of intergroup bias on warmth traits. In the stereotypical training, the perceived threat is higher and because women cannot easily challenge men in competence (which is a status defining dimension), they seem to compensate for their lack of status by employing a social creativity strategy and emphasising their relative warmth (Tajfel & Turner, 1979). Specifically, they emphasize that men are colder than women, arguably to protect the ingroup esteem. When the threat is reduced (counter-stereotypical training condition) women do not need to emphasize that they are warmer. Indeed it might even serve their status claim to competence better to distance themselves from the ingroup association with warmth, as it is related to the low status position from which they are trying to escape (Fiske et al., 2002).

Another relevant theoretical framework that emphasizes this interpretation of our results is the group image theory of intergroup perceptions (Alexander, Brewer, & Herrmann, 1999) which emphasizes the role of relative status and power as well as goal compatibility in explaining intergroup relations. According to this theory, outgroup stereotypes originate from the structure of intergroup relations and also the emotional (e.g., threat) and behavioural tendencies elicited by the ingroup's relative position to the outgroup. Based on the appraisals we made from these three dimensions (status, power and goal compatibility), we create an image of the outgroup that guides our intergroup

attitudes and behaviour. Interestingly, there is literature that shows that being insecure or anxious increases outgroup derogation (Wills, 1981). Following a motivational approach to prejudice, enhancing the perceived threat towards the ingroup (Pettigrew & Meertens, 1995) should increase the negative emotions towards the outgroup, and therefore, the levels of prejudice (Fiske, 1998; Grant, 1992). This literature suggests that emotions such as intergroup anger follows from appraisal of threats to the ingroup, and triggers an inclination to act against the outgroup (Mackie, Devos, & Smith, 2000) as a way of controlling the perceived threat (Fiske, 2005). Though we did not measure emotions in our research, it is an interesting possible explanation to some of our findings, and for future research it would be relevant to test the mediational influence of these processes in the activation of implicit prejudice.

Regarding the moderating role of context in the activation of intergroup bias, our results seem to be explained by reality constraints (see Spears, Jetten, & Doosje, 2001). That is, there seems to be a general tendency to derogate the outgroup, as it is shown in the context of the kitchen and in the neutral context. However, this is not the case in the context of the office; as a traditionally male-related context, it is not so easy to derogate men in their traditional domain. In the case of the kitchen, which represents the traditional occupational setting of women, results do indicate that women derogate men. Research shows how when men violate gender role norms, by displaying feminine behaviours, they are more likely to be associated with female stereotypical traits and evaluated more negatively (Deaux & Lewis, 1984). This can be one possible explanation for the outgroup derogation effect found in the

kitchen. Another possible explanation, is that women try to protect their group esteem by preserving their presumed expertise in that role, as a way to differentiate from the outgroup, based on social identity theory assumptions. It may also be that the image of men joining traditional female associated tasks is so uncommon that, though it might provoke a positive evaluation in the warmth dimension (in the counter-stereotypical training group), it remains negative on the competence dimension because they are perceived as ill-suited to perform those tasks successfully.

At a cognitive level of analysis, these results support the idea that prejudice and stereotypes are stored as distributed representations that associate different social categories with affective responses or evaluations, and personality traits or particular roles and activities, in a flexible and context-dependent way. Therefore, they are not fix representations of constructs (i.e., representations as *things*), but flexible activations of different sets of units (i.e., representations as *states*) (Smith, 1998). By training participants in some associations we made some of these links more salient, whereas others were inhibited. In the case of stereotypical training we were strengthening associations that were already well established, whereas in the case of counter-stereotypical training we were inhibiting some of those associations and activating others that were weaker in comparison with the stereotypical ones (Kunda & Thagard, 1996; Operario & Fiske, 2004). For example, associating women with a work related context is an association that, although it was traditionally weak, is becoming stronger reflecting the increasing incorporation of women into traditionally “male” occupational roles. On the other hand, the

association between men and a domestic context may still be quite unusual for many. One reason for this may be that for women to move into traditionally “male” roles represents a step up in status, for men to move into traditionally “female” roles represents a step down in status.

Finally, regarding the effects of training on the activation of implicit bias, the resulting attitude is constructed using the contextual information provided by the training as well as women’s current goals of defending their ingroup identity. Previous type of training would be then the factor that prioritises particular types of associations, facilitating some patterns of activation and inhibiting others. Our results indicate that the training procedure influenced at the same time the semantic (i.e., gender-role associations) and the evaluative aspect of implicit associations (i.e., associated valence). Furthermore, the evaluative judgments made on words belonging to different stereotype content dimensions were done under high cognitively demanding conditions, providing evidence for the automaticity of this process. At the theoretical level, this finding supports the idea of the close interaction of affective and conceptual processes in the early stages of intergroup cognition.

Summing up, our findings provide evidence for the efficacy of implicit methods to assess group’s resistance towards a sexist distribution of roles in the society, and how this resistance is lessened to some extent (i.e., on the warmth dimension) by emphasizing the current social changes. At a cognitive level of analysis, our research provides evidence for the malleability of intergroup bias by showing the effects of training on the activation of implicit

gender bias (of women towards men). These findings support the theoretical assumption about the malleable and dynamic character of stereotypes and prejudice. Part of this malleability lies in resisting the stereotypes and prejudice when they threaten the ingroup.

RESUMEN DE LOS RESULTADOS

En la serie experimental 1, hemos encontrado que los participantes activan de manera automática las dimensiones estereotípicas de género, independientemente de la valencia, cuando son expuestos a estímulos sociales (caras). Estos resultados apoyan la *hipótesis de la activación generalizada de los estereotipos*, sugiriendo que en un estadio muy temprano de la percepción social se activa un conocimiento estereotípico más abstracto con el fin de evaluar a la persona percibida en función de nuestras expectativas estereotípicas (Moskowitz, 2005). Parece que inicialmente activamos un esquema mental de categorización para contrastar la información acerca de la persona-objetivo de acuerdo con nuestras expectativas. Por tanto, cuando se nos presenta una imagen de hombre, activamos un esquema mental de competencia (dado que esta es la dimensión más saliente para categorizar a un hombre en función de los estereotipos de género), mientras que cuando se nos presenta una imagen de mujer, activamos un esquema mental de sociabilidad por el mismo motivo.

Además, en relación con la hipótesis acerca de la *automaticidad de los estereotipos*, nuestros resultados muestran que la activación de las dimensiones estereotípicas en la serie experimental 1 se produce bajo condiciones de procesamiento altamente restrictivas (i.e., 98 ms SOA), sugiriendo que se trata de un efecto automático. Este resultado fue confirmado en la serie experimental 2, en la cual incluimos un grupo de comparación con condiciones de procesamiento menos restrictivas (i.e., 630 ms de SOA). La

falta de efecto en la condición menos restrictiva muestra que la activación de las dimensiones estereotípicas no se ve incrementada por el procesamiento controlado, por lo tanto, el efecto de congruencia estereotípica encontrado se debe principalmente a procesos automáticos. Por el contrario, nuestros resultados muestran que tener más tiempo para procesar el estímulo *prime* generalmente provoca una reducción o inhibición de la activación automática, consistentemente con la literatura sobre automaticidad de los procesos cognitivos básicos (Neely, 1977; Posner & Snyder, 1975; Shallice, 1972).

En relación con la *automaticidad del prejuicio*, la serie experimental 3 muestra que la activación del sesgo intergrupal es altamente automática, incluso bajo condiciones de respuesta aún más restrictivas (98 ms SOA y tiempo límite de respuesta, 1000 ms), que aceleraban las respuestas de los participantes potenciando el uso de los procesos automáticos.

Hasta ahora hemos mostrado los datos que avalan la automaticidad de la activación de los estereotipos cuando se presenta un estímulo social. Sin embargo, los resultados de la serie experimental 2 sugieren que este proceso depende del contexto donde se presente el estímulo social. Es decir, nuestros resultados apoyan la *hipótesis sobre la dependencia contextual*. Partiendo de la evidencia de que los estereotipos se aplican de manera específica a diferentes subtipos de personas dentro de una categoría social mayor (Deaux & La France; Devine & Baker, 1991; Fiske et al., 2002), y de la evidencia encontrada en nuestra propia investigación sobre la activación automática de las dimensiones estereotípicas (serie experimental 1), esperábamos encontrar que

la dimensión activada inicialmente para guiar nuestras evaluaciones cuando percibimos a un miembro de una categoría social dentro de un contexto específico, debería variar en función de los contextos.

En la serie experimental 1 (cuando se presentaba a las personas sin contexto de fondo) encontramos evidencia de la activación de las dimensiones estereotípicas de género (es decir, mujer-sociabilidad, hombre-competencia). Mientras que en la serie experimental 2, estudiamos la dependencia contextual de los estereotipos de género cuando la misma persona objetivo se presentaba en distintos contextos específicos asociados a roles tradicionales de género (profesional vs. doméstico). Nuestros resultados muestran que la *competencia* es la dimensión más saliente para evaluar tanto a hombres como a mujeres cuando aparecen en sus contextos tradicionales (esto es, hombre en oficina, y mujer en cocina), mientras que predomina la dimensión de *sociabilidad* en los contextos contra-estereotípicos. Es decir, la influencia del contexto en la activación de los estereotipos está fuertemente determinada por la distribución de los roles tradicionales de género (Eagly, 1987). Consecuentemente con estos resultados, cuando se les preguntaba explícitamente a los participantes acerca de las imágenes que habían visto durante la sesión de *priming*, éstos asociaban de manera clara las imágenes de roles congruentes (esto es, mujer en cocina, hombre en oficina) con la imagen social compartida por hombres y mujeres en nuestra sociedad. En general, la evidencia empírica obtenida en la serie experimental 2 apoya la especificidad de los estereotipos a nivel implícito, y la idea de que los sesgos implícitos son maleables, en la medida en que dependen del contexto situacional.

En la serie experimental 3 encontramos en primer lugar un efecto de sesgo intergrupar implícito cuando hombres y mujeres se presentaban en igual número de ocasiones en los distintos contextos. Por tanto, si la activación del prejuicio se debiese a que la presentación de imágenes asociadas a roles hace saliente las desigualdades sociales de género, deberíamos encontrar que al entrenar a las participantes en asociaciones que enfatizasen la distribución tradicional de roles (esto es, mujeres representadas mayoritariamente en roles domésticos, y hombres representados mayoritariamente en roles profesionales) debería provocar una mayor activación del prejuicio, o más específicamente, una mayor activación de las evaluaciones negativas ante el exogrupo (es decir, derogación exogrupal). Nuestros resultados confirmaron esta predicción, mostrando que cuando se entrenaban en la distribución tradicional de roles, las mujeres reaccionaban mostrando un claro patrón de derogación exogrupal, tanto en la dimensión de competencia como en la de sociabilidad. Por el contrario, cuando se entrenaban en asociaciones no tradicionales contexto-género, las mujeres dejaban de mostrar prejuicio en la dimensión estereotípica de sociabilidad.

En resumen, los resultados de la serie experimental 3, al mostrar los efectos del entrenamiento asociativo en la activación del sesgo intergrupar, demuestran la maleabilidad de la activación del prejuicio medido de forma implícita, como una estrategia para resistir a los estereotipos cuando amenazan la identidad endogrupal. Las mujeres no aceptan de manera pasiva ser entrenadas en asociaciones que enfatizan su estatus desfavorecido. Este

resultado es de gran importancia, ya que hasta ahora no existía ninguna evidencia empírica de que un miembro de un grupo desfavorecido reaccionara de forma tan automática a una amenaza para la identidad de su grupo.

GENERAL DISCUSSION

At the beginning of our research we framed our interests in terms of one main research question referring to the *malleability of automatic* stereotype and prejudice activation. We were mainly interested in showing that although implicit biases are activated partly automatically, they are context dependent. To verify these assumptions, we needed first to find evidence for the automaticity of these activations and to clarify *what* was automatically activated (i.e., specific or abstract knowledge). Secondly, we tested whether the automatically activated stereotype and prejudice content was moderated by situational variables providing support for the malleability hypothesis by emphasizing the contextual specificity. And last, we investigated the effect of manipulating aspects of the context in a way that would have a motivational impact on the perceivers (by suggesting either a perpetuation of the status difference or a change in the social structure), and therefore on the activation of implicit intergroup bias.

I. SUMMARY OF FINDINGS AND DISCUSSION

1.1 Do we initially activate abstract or rather specific stereotypical knowledge?

The pattern of data observed in experimental series 1 showed that perceivers activated automatically a whole stereotypical dimension, independently of the valence, when presented with social stimuli (faces). Therefore, our findings supported the *generalized stereotyping hypothesis*, suggesting that in an early stage of social perception rather abstract

stereotypical knowledge is activated, in order to evaluate the perceived person according to our stereotypical expectancies (Moskowitz, 2005). It seems as if we activated initially a category-based mental framework to contrast the information about the target person according to our expectations. Therefore, when we are presented with a man, we activate a mental set of competence, as the most distinctive dimension to categorize that person according to gender stereotypes, whereas when we are presented with a woman, we activate a mental set of warmth for the same reasons. A possible interpretation of these results is that when encountered with a category member, the first stages of social judgement are driven by our expectations of what is the most relevant information we need to examine. In other words, we search for the information that is most diagnostic to ensure our stereotypes are a useful tool for understanding reality (Macrae, Milne, & Bodenhausen, 1994). Because the strongest stereotypical assumption is that “men are competent, and women are warm”, this is the information we try to validate in the first place. In our opinion, this result is not contradictory with the proposal of the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002), but rather increases the understanding of how social judgment processes occur at the implicit level, and how people use the background knowledge they have about different social categories.

1.2 Do stereotypes and prejudice activate automatically?

The activation of the stereotypical dimensions in experimental series 1 occurred under highly restrictive processing conditions (i.e., 98 ms SOA), suggesting that it is an automatic effect. This inference was confirmed by

experimental series 2, in which a comparison condition with less restrictive processing conditions (i.e., 630 ms SOA) was used. The lack of effect in the less restrictive condition shows that the activation of stereotypical dimensions is not enhanced by control processing, therefore, the reported effect is mainly due to automatic processes. On the contrary, our results show that having more time to process the prime stimulus generally causes a reduction or inhibition of the automatic activation, consistently with the literature on the automaticity of basic cognitive processes (Neely, 1977; Posner & Snyder, 1975; Shallice, 1972).

Regarding to the automaticity of prejudice activation, experimental series 3 shows that the activation of intergroup bias is highly automatic, even under more restricted response conditions (98 ms SOA and a response time limit of 1000 ms), that sped up participants' responses enhancing the use of automatic processes.

Taken together, our findings consistently support the hypothesis about the *automaticity of implicit biases* (Bargh, 1999).

1.3 Is automatic stereotype activation context-dependent?

We have argued so far argued that gender stereotypical dimensions activate automatically when presented with a social stimulus. However, the findings of experimental series 2 suggest that this process is nevertheless

contingent on the context where the social stimuli are presented. That is, our results support the *contextual contingency hypothesis* (Blair, 2002).

Considering the evidence of how stereotypes apply specifically to different subtypes of people within a larger social category at the explicit level (Deaux & La France; Devine & Baker, 1991; Fiske et al., 2002), and the evidence from our own research on the automatic activation of stereotypical dimensions according to our expectancies (experimental series 1), we expected that the dimension that initially activates to frame our evaluations, when encountered with a member of a social category within an specific context, should vary across contexts. Going back to the example we were using in the introduction taken from Barden, Maddux, Petty, and Brewer (2004), when a Black person appeared in the context of a classroom, negativity was facilitated, whereas when the same Black person appeared in a sports context, positivity was enhanced. Their findings supported the contextual contingency of prejudice activation, but, would something similar occur if instead of measuring the affective reactions we measured the activation of stereotypes? One could argue that if the reason why a Black person elicited positivity in the sports context is because Blacks are considered as “good” athletes, it means they are considered as “competent” in that domain. Therefore the dimension of competence becomes the most diagnostic one to evaluate them in that specific context, despite the fact that the racial stereotype does not generally associate Black people with competence.

In experimental series 1 (when target persons were presented independently of context) we found evidence for the activation of the traditional gender stereotypical dimensions (i.e., women-warmth, men-competence). Whereas in experimental series 2, we explored the contextual contingency of gender stereotypes when the same target persons appeared embedded in specific contexts associated with traditional gender roles (i.e., occupational vs. domestic). Our findings show that *competence* becomes the most important dimension to evaluate both men and women targets when they are presented in their respective traditional domains (i.e., men in an office, women in a kitchen); whereas *warmth* judgements predominate in the counter-stereotypical contexts. That is, the influence of the context in the activation of stereotypes is strongly determined by gender traditional distribution of roles (Eagly, 1987). Consequently with these findings, when participants were asked explicitly about the pictures that they had been exposed to in the priming session, they consistently associated the role congruent pictures (i.e., women presented in a kitchen, and men in an office) with the socially shared image of men and women in our society. In all, the evidence found in experimental series 2 supports the specificity of stereotypes at the implicit level, and the assumption that implicit biases are malleable, to the extent that they are contingent to the situational context.

To find evidence for the malleability of implicit biases is a positive result in terms of framing stereotypes and prejudice as not rigid mental structures, but flexible, adaptive representations of knowledge (these are the “good news”...); however, those contextual influences are strongly driven by social factors,

suggesting for example that the competence domain of women is heavily gender stereotypic (... and these are the “bad news”). Nevertheless, the fact that at the cognitive level, the processing strategies are giving priority to some stereotypically congruent dimensions is only half of the story. What occurs at the affective level when a stereotypical distribution of roles is being emphasized? When participants were asked explicitly to evaluate the pictures they had been exposed to during the priming task, they consistently rated more positively those pictures showing a change in the distribution of roles, particularly when women were presented in a counter-stereotypical occupational role. Therefore, it seems that at least at the explicit level, participants were supporting the current attempts of women to change their social status. But how did they react implicitly to this role-based categorization of men and women? Particularly, how did women, as the victims of the role-associated social disadvantage, react to the perception of those role congruent situations?

1.4 Do women use implicit prejudice strategically to resist social disadvantage?

As noted in the second study of experimental series 2, the results also showed that valence modulated the observed pattern of data (see footnote 6) in a way that could be indicating the existence of gender bias effects. However, because the purpose of that research was the stereotype content activation, the gender of the participants was not controlled, assuming the shared nature of stereotypical knowledge (Auster & Ohm, 2000; Bem, 1974; Devine, 1989;

Hamilton, 1981; Harris, 1994; Tajfel, 1981). Therefore, no clear conclusions on the role of intergroup bias could be made. In order to clarify the interacting role of Valence in study 2, we decided to reanalyze these data, but now excluding the male participants.

To analyze the data from an evaluative perspective (instead of the semantic one used in our previous research) we created an Intergroup Bias factor as a composite of the prime gender (male or female) and the valence of the target-words (positive vs. negative). This way, trials pairing a female prime with a positive target, or a male prime with a negative target, are considered as measuring “ingroup bias”; whereas trials pairing a female prime with a negative target, or a male prime with a positive target, are considered as “outgroup bias”. The repeated measures analysis performed on the data with this recodification of variables provided evidence for a general intergroup bias effect, $F(1, 79)=14.411$, $p=.0003$, indicating that responses were 5 ms faster for ingroup bias trials than for outgroup bias ones. Therefore, though there is a clear tendency to prioritize the assessment on stereotypical dimensions (depending on context) in a way that might reinforce a context-specific gender stereotype, women, as victims of the status disadvantage, showed some resistance in the form of prejudice towards the outgroup at the implicit level.

In these studies the proportion of men and women presented in traditional or counter-stereotypical contexts was held equal. However, we argued that by activating gender associated roles we made salient the intergroup status difference, which caused the activation of implicit intergroup

bias on women. Interestingly, if we analyze the outcomes of experimental series 1 (when male and female pictures appeared without a context, so that no gender roles were directly activated), but now excluding the male participants and using the same Intergroup Bias index explained above, we find no effect of prejudice of women towards men, $F < 1$. So, it seems like intergroup bias is not a “default option”. In our opinion, this effect is really interesting, as it shows how prejudice can be used by a lower status group (women) in order to resist the social structure. In this sense, it reveals an instrumental function of prejudice as a way of challenging the hierarchies, according to the literature on social identity that has found similar effects at the explicit level (Scheepers, et al., 2006). For these reasons, the role of prejudice as resistance was thoroughly analysed in experimental series 3.

Firstly, in experimental series 3 we replicated the effect of implicit intergroup bias when men and women were equally distributed across roles. Then, if the activation of prejudice was due to perceiving as salient the inequality of social structure, we should find that when training female participants in associations that emphasized the traditional distribution of roles (i.e., women represented mostly in domestic roles, and men represented mostly in occupational roles) should provoke a stronger activation of prejudice, or more specifically, a stronger activation of negativity towards the outgroup (i.e., outgroup derogation). Our results confirmed this prediction, showing that when trained in the traditional distribution of roles, women reacted by showing a clear pattern of outgroup derogation, both in the competence and in the warmth dimension.

This evidence is consistent with the argument that a situation emphasizing the stability of the social status is perceived by low status groups as the highest threat to their identity, and therefore promotes the most extreme forms of ingroup bias (Scheepers et al., 2006). Furthermore, if this assumption is correct, then in the counter-stereotypical condition when social change was emphasized suggesting an improvement in women's status, the activation of prejudice should be reduced. Our results partly confirmed this prediction by showing that the intergroup bias disappeared on the warmth related traits, although not on the competence related ones. Arguably, we discuss that this moderation of the type of traits is due to the fact that warmth is traditionally associated to women and low status, and might be even used sometimes by women as a social creativity strategy to compensate their low competence stereotype. Therefore, when they perceive an improvement in their status, they do not need anymore to resist on the warmth dimension, and it might be even positive for them not to do so. However, because competence is a status related dimension (Fiske et al, 2002; Rigdeway, 2001), traditionally associated to men, they still need to resist on that dimension. As we know from a large body of gender and stereotyping literature, women in occupational roles (traditionally considered as male domains) are frequently perceived as less competent and evaluated more negatively than other men in their same position (Rudman & Glick, 1999; 2001; Rudman & Kilianski, 2000); moreover, even when they are "subjectively" evaluated as competent, they are "objectively" rated as less competent than a man in the same position (Biernat & Kobrynowicz, 1997). According to this evidence, it seems reasonable that

women still show implicit resistance on the competence dimension, even when they are exposed with counter-stereotypical distributions of roles.

In all, these results reflecting the effects of training in the activation of intergroup bias are important because they prove the malleability of implicitly measured prejudice as a strategy to resist stereotypes when they threaten the ingroup identity. Women do not passively accept being trained in associations that emphasize their status disadvantage. This result is important because, to our knowledge, no evidence so far had shown how a member of a prejudiced low-status group reacts implicitly to a threat to their ingroup identity.

II. THEORETICAL IMPLICATIONS

As we said in the introduction, to acknowledge the malleability of social biases has important theoretical implications both at the cognitive and social level of analysis.

2.1 Implications for the cognitive representation of stereotypes and prejudice

Our findings have important implications for the theoretical models that try to explain the underlying mechanism of social information processing in early stages, and how social knowledge is represented in our minds.

According to the social cognition literature, stereotypes are interconnected mental representations stored in our long term memory (Stangor & Lange, 1994). However, the current debate is whether these representations are static and stable (i.e., representations as “*things*”), or rather they are more flexible and dynamic (i.e., representations as “*states*”) (Smith, 1998). We consider that our findings emphasize this last dynamic approach to knowledge representation, suggesting that when perceiving a social stimulus we activate in parallel different types of information (e.g., category-based, context-based, motivational) and integrate it, building a “working representation” of the perceived reality (Bukowski, Moya, & de Lemus, 2007; Thagard, & Kunda, 1998). Connectionist models of knowledge representation are the ones that better explain the flexibility of stereotypical knowledge found in our results, as they assume that the meaning of the formed impression emerges from the pattern of associations between different constructs that becomes activated.

For instance, we have previously argued how “competence” might be automatically interpreted differently and associated to different categories depending on the context (e.g., a Black person in a sports context, or a woman in a domestic context might be perceived in terms of competence). This result could not be easily explained by models of knowledge representations that emphasize the static associations between constructs (e.g., competence associated with White people, or men) such as associative networks. At least, this type of models could not explain the *automaticity* of such effects. Instead, connectionist models, which propose that only the joint parallel processing of the information available provides with meaning the activated knowledge, can

account for our findings. Furthermore, our findings could be considered as another example of contextual specificity of the meaning of traits, although we did not directly measure this effect. An interpretation of personality traits in a larger context was proposed by Kunda, Sinclair, & Griffin (1997), who found for example that a trait of aggressiveness indicated physical violence when it was applied to a construction worker but verbal abuse when applied to a lawyer. Similarly, different interpretations of competence might be salient in the context of an office compared to a kitchen (or compared to a sports context). Particularly this can be the case when the traits used to measure the activation of competence refer to very general skills related to an active and determined attitude to achieve positive goals or outcomes, such as “constancy” (constancia), “motivation” (motivación), “efficacy” (eficacia), “intelligence” (inteligencia). A person can be very motivated to cook a nice dinner for his/her family, and be very efficient in doing so, as well as constant and intelligent in combining different ingredients to make every day different attractive dishes. And if we follow our shared stereotypes, that person would be most probably a woman. More specifically, to test whether a woman in a kitchen adjusts to our background knowledge about her stereotypical roles, we need to evaluate her first in terms of her *competence*.

The malleability of the prejudice activation in experimental series 3 also supports this type of distributed representation of knowledge. We have previously argued that women, when presented with gender related roles, are motivated to resist the stereotypical distribution of roles that promotes a social disadvantage for their ingroup, whereas they show ingroup bias to a lesser

extent when they are presented with counter-stereotypical distributions of roles, or no activation of prejudice at all when they are presented with faces of men and women without a context (experimental series 1). That is, depending on the situation presented and the different motivational states elicited, they build and activate different specific representations, that instigate more positive or negative evaluations of the ingroup and the outgroup.

These arguments are also in line with a current general theoretical approach, which emphasizes the socially situated nature of cognition. That is, cognition is defined as causally interdependent with the current physical and social environment, instead of considering it as isolated in inner representations and processes (Smith & Semin, 2004). In this sense, our findings suggest that the cognitive representation of a target person is a result of the joint impact of physical context, motivational factors (e.g., threat to ingroup identity) and perceiver's knowledge and expectations (stereotypes).

2.2 Social implications

The effects of role distribution on women's prejudice towards men are particularly interesting because they support the literature that emphasizes the motivational character of prejudice in intergroup relations. That is, as exposed in the introduction, intergroup bias or prejudice might serve different social functions. Specifically, it has been proposed that it can have either an *identity-expressive* function or an *instrumental* function (Scheepers, Spears, Doosje, & Manstead, 2002; 2003). The one that explains in each case the use of prejudice

will depend on socio-structural as well as contextual factors (Scheepers et al., 2006). We consider that our findings provide empirical support for the instrumental use of prejudice at the implicit level. Specifically, women show the strongest resistance when they are trained in gender-role contingencies that emphasize the stability of their social position. In other words, our results show an implicit resistance of women towards the perpetuation of the status quo.

This conclusion contradicts to some extent other theoretical approaches that advocate a passive support by the low status groups of their own subordination (Jost & Banaji, 1994; Sidanius & Pratto, 1999), or at least, it clarifies that *this is not always the case*. For instance, Jost and Kay (2005) argue that the mere activation of complementary gender stereotypes (i.e., perceiving women as communal but not agentic, and viceversa, for men) as well as benevolent sexism increases the perception of social inequality as fair and legitimate. Whereas a large body of research has emphasized the relevance of the personal endorsement of sexist beliefs and stereotypes as a key notion for understanding the role of this views in rationalizing social gender inequality (Glick & Fiske, 2001; Jackman, 1994; Moya, Glick, Expósito, de Lemus, & Hart, 2007; Sidanius & Pratto, 1999), Jost and Kay argue from a social-cognitive approach that cognitive accessibility of stereotypes (i.e., stereotypes exposure) and sexism, rather than personal endorsement, explains the enhanced support for the status quo. To formulate their hypotheses Jost and Kay rely on previous research that provides evidence for the impact of stereotypes activation on subsequent judgements and behaviours, sometimes when they are not personally endorsed at the explicit level (e.g., Bargh, Chen, &

Burrows 1996; Devine, 1989; Greenwald & Banaji, 1995; Wheeler & Petty, 2001, etc.).

“We propose that merely *reminding* people (and thereby activating and increasing the accessibility) of culturally prevalent, complementary gender stereotypes serves to increase the degree to which they will endorse a system of inequality that may not necessarily be in their best interest” (Jost & Kay, 2005).

However, our results show that activating gender stereotypes does not increase the tolerance to gender inequalities (*system justification*); rather we find negative affective reactions at the implicit level (*social resistance*). Specifically, we found that being gender stereotypes activated, female participants show higher accessibility for negative traits when primed with male pictures (i.e., outgroup derogation). Not questioning the relevance of Jost and Kay’s research, we consider that our findings suggest that a deeper analysis of the conditions under which subordinated groups resist or justify socio-structural differences is needed.

Maybe, the differences between Jost and Kay’s findings and ours could be explained by procedural aspects that might account for different motivational states of the perceivers. In Jost and Kay’s studies, they find the effect of stereotypes and sexism accessibility on system justification, mainly when the salient stereotypes are *positive* for women or emphasize *benevolent* beliefs about women. For example, in their first study, system justification is enhanced when women are exposed to positive communal traits –*considerate, honest, happy, warm, and moral*–, in the context of a sentence that underlies the advantage of women on those traits over men (e.g., “women are more honest

than men”), whereas when they are exposed to the same type of sentences referring to men’s advantage over women on positive competence traits, there were no such effects. Presumably, the pattern of results in the competence condition is similar to the no exposure condition, in which women reported a quite low endorsement of system justifying beliefs ($M=3.73$ on a 9 points scale), however the specific results for the competence condition are not reported in the paper. It would be interesting to see whether the pattern of results in the competence condition indicates a non-significant trend in the same direction as the warmth condition (congruent with Jost and Kay’s predictions), or rather in the opposite direction (congruent with a motivational approach to intergroup relations). Either way, it seems that the enhancement of system justification beliefs is due to priming *positive* female stereotypes.

Similarly, in their second study, the increased system justification effect was found when female participants were presented with benevolent sexism examples (ASI; Glick & Fiske, 1996) such as “men are incomplete without women”, or “women, compared to men, tend to have a more refined sense of culture and good taste”. In both studies, one could argue that the effects are due to an enhancement of women’s positive ingroup identity, by means of activating positive gender stereotypes or benevolent sexism. Therefore, it seems reasonable to some extent that female participants were not so much motivated to challenge the gender differences, when they had been just rewarded by them. In contrast to this line of research, in our study gender stereotypes were emphasized by a simple exposure to stereotypical or counter-

stereotypical situations, and measured by positive and negative traits accessibility.

Therefore, a particularly interesting question is why stereotypes and beliefs sometimes promote that members of low status groups support their own subordination, whereas some others they promote social resistance. As we have previously mentioned, the role of stereotypes and beliefs (benevolent sexism) as legitimizing factors has been largely documented. Cross-cultural evidence supports the relation between benevolent ideologies and positive stereotypes of women (Glick et al., 2000; 2004); and the role of benevolent sexism as a positive reward that helps to legitimize a patriarchal system has been emphasized by the ambivalent sexism theory (Glick & Fiske, 1996; 2001). Also, empirical evidence has shown that positive behaviours such as “praise” help to keep women in a lower status position (Vescio, Gervais, Snyder, & Hoover, 2005). Arguably, the reason why these factors are effective in sustaining the system is because they have a positive motivational effect on women who endorse them and behave accordingly, by providing them with a strong positive reward (e.g., enhanced self- and group-esteem, care, protection, etc.).

However, when instead of reminding women about the rewards they get because of adjusting to their gender prescriptions they are exposed to mere gender differences in social reality, then, a quite different motivational state is elicited, more directed towards the achievement of a more egalitarian society and distribution of roles (i.e., social change). Notably, this occurs independently

of the fact that complementary gender stereotypes (i.e., women-warmth, men-competence) are activated at the same time.

FUTURE DIRECTIONS

The debate established in the discussion about whether women, as a subordinate group, react to stereotypes and gender differences in a way that motivates the perpetuation of status quo or rather promotes resistance to it, leads us to some interesting future research questions.

Particularly, we are interested in the impact of *perceived threat* and negative intergroup emotions as possible mediators of the implicit resistance effect found in experimental series 3. Literature on intergroup emotions suggest that some negative emotions such as anger, follow from appraisals of an ingroup threat (Mackie, Devos, & Smith, 2000), and as a consequence prejudice levels might be enhanced (Fiske, 1998; 2005; Grant, 1992). For example, DeSteno, Dasgupta, Bartlett, and Cajdric (2004), using a minimal group paradigm, found evidence for induced anger as a predictor of intergroup bias. Recently, in a real group setting, Gill and Matheson (2006) have shown that induced anger provoked the strongest reaction to discrimination and intentions of joining collective action to change the status quo in women, when they were allowed to express their feelings.

Testing the role of anger as a consequence of perceived threat, by exposing women to stereotypical distribution of roles would be a step forward in

the study of the connections between (intergroup) emotions and social cognition, and the analysis of the dynamics of prejudice in the context of gender relations. We would hypothesize that the enhancement of the stability of gender disadvantages would be perceived as threatening to women's group identity, provoking negative emotions in them such as anger, which consequently would lead to an activation of more negative attitudes towards the outgroup, and a stronger motivation to adopt behaviours that challenge or change the status quo.

Also, we are interested in finding variables that might inhibit the appraisals of threat by activating instead a positive motivation towards the outgroup. As previously stated, forms of prejudice and discrimination that are subtle, such as patronizing and paternalistic behaviour, make them more difficult to recognize and resist (Glick & Fiske, 1996; 2001; Jackman, 1994; Kilianski & Rudman, 1998; Moya et al., 2007). An important aspect of this process is whether the target actually perceives other's patronizing behaviour as discriminatory or, on the contrary, whether they consider it as friendly rather than hostile (Barreto & Ellemers, 2005; Kilianski & Rudman, 1998), affecting their ability to challenge it (Ellemers, 2001; Wright, 2001). Specifically, we are interested in the moderating role of positive behaviours (e.g., affiliative motives) on women's attitudinal and behavioural reactions to sexism. Following previous literature on complementarity effects on automatic behaviour (Tiedens and Fragale, 2003), in a current project we are exploring when the non-verbal behaviour of the target may enforce power relations (thus legitimizing the bias) between groups by complementing the behaviour of a sexist confederate. So

far, we have found evidence showing that intergroup, as opposed to interpersonal, behaviour that is coupled with a smile can lead to unconscious complementary and submissive conduct in low status targets, whereas when the sexism is portrayed without the friendly connotations, women show behavioural resistance, by not complementing the confederate's dominant posture (de Lemus, Spears, & Moya, 2007).

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