

Dietrich, Julia et al.

Working Paper

Internalized gender stereotypes vary across socioeconomic indicators

SOEPpapers on Multidisciplinary Panel Data Research, No. 558

Provided in Cooperation with:

German Institute for Economic Research (DIW Berlin)

Suggested Citation: Dietrich, Julia et al. (2013) : Internalized gender stereotypes vary across socioeconomic indicators, SOEPpapers on Multidisciplinary Panel Data Research, No. 558, Deutsches Institut für Wirtschaftsforschung (DIW), Berlin

This Version is available at:

<https://hdl.handle.net/10419/74716>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

SOEPpapers

on Multidisciplinary Panel Data Research

SOEP – The German Socio-Economic Panel Study at DIW Berlin

558-2013

Internalized Gender Stereotypes Vary Across Socioeconomic Indicators

Julia Dietrich, Konrad Schnabel, Tuulia Ortner, Alice Eagly, Rocio Garcia-Retamero, Lea Kröger and Elke Holst

SOEPpapers on Multidisciplinary Panel Data Research at DIW Berlin

This series presents research findings based either directly on data from the German Socio-Economic Panel Study (SOEP) or using SOEP data as part of an internationally comparable data set (e.g. CNEF, ECHP, LIS, LWS, CHER/PACO). SOEP is a truly multidisciplinary household panel study covering a wide range of social and behavioral sciences: economics, sociology, psychology, survey methodology, econometrics and applied statistics, educational science, political science, public health, behavioral genetics, demography, geography, and sport science.

The decision to publish a submission in SOEPpapers is made by a board of editors chosen by the DIW Berlin to represent the wide range of disciplines covered by SOEP. There is no external referee process and papers are either accepted or rejected without revision. Papers appear in this series as works in progress and may also appear elsewhere. They often represent preliminary studies and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be requested from the author directly.

Any opinions expressed in this series are those of the author(s) and not those of DIW Berlin. Research disseminated by DIW Berlin may include views on public policy issues, but the institute itself takes no institutional policy positions.

The SOEPpapers are available at
<http://www.diw.de/soeppapers>

Editors:

Jürgen **Schupp** (Sociology, Vice Dean DIW Graduate Center)
Gert G. **Wagner** (Social Sciences)

Conchita **D'Ambrosio** (Public Economics)
Denis **Gerstorff** (Psychology, DIW Research Director)
Elke **Holst** (Gender Studies, DIW Research Director)
Frauke **Kreuter** (Survey Methodology, DIW Research Professor)
Martin **Kroh** (Political Science and Survey Methodology)
Frieder R. **Lang** (Psychology, DIW Research Professor)
Henning **Lohmann** (Sociology, DIW Research Professor)
Jörg-Peter **Schräpler** (Survey Methodology, DIW Research Professor)
Thomas **Siedler** (Empirical Economics)
C. Katharina **Spieß** (Empirical Economics and Educational Science)

ISSN: 1864-6689 (online)

German Socio-Economic Panel Study (SOEP)
DIW Berlin
Mohrenstrasse 58
10117 Berlin, Germany

Contact: Uta Rahmann | soeppapers@diw.de

Internalized Gender Stereotypes Vary Across Socioeconomic Indicators

Julia Dietrich^{*} Konrad Schnabel[†] Tuulia Ortner[‡] Alice Eagly[§]
Rocio Garcia-Retamero[¶] Lea Kröger^{**} Elke Holst^{**}

Abstract

In the following we aim to approach the question of why, in most domains of professional and economic life, women are more vulnerable than men to becoming targets of prejudice and discrimination by proposing that one important cause of this inequality is the presence of *gender stereotypes* in many domains of society. We describe two approaches employed to measure gender stereotypes: An explicit questionnaire based on rating scales and a newly developed Implicit Association Test assessing gender stereotypes representing instrumentality (i.e., agency) and expressivity (i.e., communion). We first present information on psychometric properties of each stereotype measure designed for this purpose. We then present preliminary data based on the SOEP Innovation Sample 2011 indicating differences in explicit stereotypes with reference to occupational position and income. Implicit stereotypic associations concerning expressivity increased with respondents' age and stereotypic associations concerning instrumentality increased with household income, particularly among male participants. Finally, stereotypic associations were related simultaneously to occupational position and participants' gender, such that differences between male and female participants were found in lower occupational positions for the Expressivity IAT and in higher occupational positions for the Instrumentality IAT. This finding indicates that individually held gender stereotypes are related to socioeconomic and social variables.

Keywords: Stereotypes, Gender, explicit, implicit, IAT, SOEP-IS

^{*} Friedrich-Schiller-Universität Jena

[†] Humboldt-Universität zu Berlin

[‡] Universität Salzburg

[§] Northwestern University

[¶] Universidad de Granada

^{**} DIW Berlin/SOEP

Introduction

Gender inequality in economic and political participation and in decision-making remains a hot topic in Germany and many other nations. The importance of this matter is demonstrated by efforts such as the ongoing “strategy for equality between women and men 2010-2015” of the European Commission (2010). The key question for policy-makers is why, in most domains of professional and economic life, women are more vulnerable than men to becoming targets of prejudice and discrimination. We propose that one important cause of this inequality is the presence of *gender stereotypes* in many domains of society. People hold gender stereotypes about personality traits and intellectual abilities. With regard to personality attributes, men are usually perceived as more independent, assertive, courageous, and competitive than women, and women as more sensitive, affectionate, expressive, and tender-minded than men (see Ashmore & Del Boca, 1979; Garcia-Retamero, Müller, & López-Zafra, 2010; Hamilton, 1981; Williams & Best, 1990; Williams, Satterwhite, & Best, 1999).

These stereotypical assumptions about the attributes of men and women are shared across cultures and both reflect and reproduce the traditional social roles of male breadwinners and female caregivers as well as the gender segregation of occupations (Bosak, Sczesny, & Eagly, 2012; Eagly 1987; Eagly & Wood, 2012; Eagly & Wood, 1999; Wood & Eagly, 2012): By the psychological process of inferring traits from observed behaviors (i.e., *correspondent inference*; Gilbert, 1998), men’s concentration in leadership and other high-power roles fosters the ascription of agentic characteristics to them (e.g., self-assertion, dominance), and women’s concentration in subordinate and care-taking roles fosters the ascription of communal characteristics to them (e.g., kindness, supportiveness). The male gender stereotype advantages men for most professional and leadership positions because such roles are regarded as demanding agentic qualities, although the perceived attributes of leadership roles appear to have changed somewhat in an androgynous direction in recent years (e.g., Koenig, Eagly, Mitchell, & Ristikari, 2011). Nevertheless, gender stereotypes provide convenient justifications for existing differences in the roles and status of women and men (Hoffman & Hurst, 1990) and influence people’s beliefs by favoring stereotype-consistent information (Hamilton & Trolier, 1986).

In the current paper, we present findings on the relationships between individuals’ stereotypes and socioeconomic indicators by assessing the strength of their *explicit* and *implicit* individual gender-stereotypic beliefs. We first present information on the properties of each stereotype measure designed for this purpose. We then present preliminary data based on the SOEP Innovation Sample 2011.

Assessment of Explicit and Implicit Gender Stereotypes

There is a relatively large research literature demonstrating the utility of measures assessing stereotypic perceptions of men and women in various nations. Diekmann and Eagly (2000), for instance, examined peoples’ beliefs about men and women in the United States, as assessed by attributes on the dimensions of masculine and feminine personality, cognitive, and physical characteristics. By asking participants about women and men of the past, present, and future, these researchers demonstrated that people perceived women as increasing over time in masculine attributes and men as having more stable attributes. This dynamic aspect of gender stereotypes has also been observed in several countries, including Brazil, Chile, Germany, and

Spain (Diekman, Eagly, Mladinic, & Ferreira, 2005; Garcia-Retamero, Müller, & López-Zafra, 2011; Wilde & Diekman, 2005), and in people living in smaller and larger cities.

In the last decades, social cognition researchers have made progress in developing new measurement methods that provide an alternative to traditional, self-report measures. These traditional measures have two important limitations. First, they are susceptible to self-presentational and social desirability biases because they allow participants to slant their descriptions in favorable directions. Second, traditional self-report measures are bound by the limits of introspection because they do not provide access to more implicit and unconscious thoughts, attitudes, and stereotypes.

The most prominent measurement procedure for the assessment of these less accessible representations is the *Implicit Association Test* (IAT; Greenwald, McGhee, & Schwartz, 1998). The IAT assesses automatic associations between a bipolar target concept (e.g., gender, as represented by female and male names) and a bipolar attribute concept (e.g., warmth, as represented by appropriate warm and cold adjectives) through a series of sorting tasks that require quick responding. Faster responses are expected when highly associated concept poles of these concepts are mapped onto the identical response key instead of different keys.

Dual-process theorists of social cognition (e.g. Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004) have suggested that both explicit and implicit measures are useful for answering many psychological questions. They suggested that people have two related but distinct representations of beliefs and two types of information processing and behavioural control: automatic (impulsive, intuitive) processes and controlled (reflective, deliberate) processes. Moreover, dual-process theories assume that implicit beliefs are stored in memory as associations between concepts, whereas explicit beliefs are represented in propositional form. Consistent with these theories, empirical studies revealed substantial variability in the strength of correspondence between implicit and explicit attitude measures (see Nosek, 2007). Moreover, recent studies empirically confirmed the differential value of explicit and implicit measures for predicting behaviour and other criterion variables in many domains (e.g., Dislich, Zinkernagel, Ortner, & Schmitt, 2010; Nosek & Smyth, 2007; Peters & Gawronski, 2011).

Scientific Aims of the Present Study

For investigating how women and men differ in professional and economic life, we strongly recommend the use of both traditional explicit measures and implicit IAT measures for assessing gender stereotypes. Past research usually relied on the assessment of explicit gender stereotypes and revealed important findings relevant to the psychology of gender. With the current research, we aimed to go one step further by comparing for the first time findings of earlier research to those of a new study conducted with a large sample of participants that varies substantially in demographic characteristics including age, socioeconomic level, and size of home community.

Relevant to the inclusion of implicit data, a meta-analysis showed that IAT findings are especially valid in *socially sensitive domains* (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). For example, a cross-cultural study conducted by Nosek et al. (2009; see also www.projectimplicit.net) revealed very promising results by showing that national-level sex differences in science and math achievement were predicted by national-level implicit gender-science stereotypes, as assessed by IAT, but not by explicit gender-science stereotypes. In this

study, the IAT assessed stereotypical associations of gender with science versus arts. Countries in which respondents showed strong stereotypical associations of ‘male’ with ‘science’ and ‘female’ with ‘arts’ also had larger sex differences in math and science achievement scores on standardized tests administered in international testing programs. In other words, boys attained better math and science test scores than girls in countries with stronger gender-science stereotypes. We therefore expect that individual differences in relevant criteria (e.g., education, income, career level) are correlated with implicit gender stereotypes.

In the following section, we describe the explicit and implicit stereotype measures that we administered in our research. We then present preliminary results from this research.

A Scale for the Assessment of Positive and Negative Explicit Gender Stereotypes

Respondents were instructed to imagine an average woman or man and then estimate the target individual’s masculine and feminine attributes on 7-point scales ranging from *very unlikely* to *very likely*. Following Diekmann and Eagly (2000), attributes reflected the typical feminine and masculine personality. Factor-analytically derived by Cejka and Eagly (1999), these attributes have been tested in various cultural contexts including Germany (Diekmann et al., 2005; Wilde & Diekmann, 2005). Table 1 shows the attributes used in this study. Gender-stereotypic dimensions result from averaging participants’ responses across the attributes.

Table 1
Items in Gender-Stereotypic Dimensions

Masculine		Feminine	
English	German	English	German
Aggressive	Bestimmend	Affectionate	Liebevoll
Courageous	Mutig	Sympathetic	Sanftmütig
Daring	Wagemutig	Gentle	Pflegend
Competitive	Wetteifernd	Sensitive	Feinfühlig

Note. Items from Wilde and Diekmann (2005).

On the positive personality dimension, the masculine positive attributes focus on self-promotion and assertion and, therefore, are often associated with workers, especially those in agentically demanding occupations; the feminine positive attributes focus on relations with other people and tend to be associated with homemakers and persons in communally demanding occupations (Eagly & Steffen, 1984). On the negative personality dimension, the masculine negative attributes emphasize self-aggrandizement and abuse of power, whereas the feminine negative personality attributes emphasize self-subordination and passive-aggressive methods of influence.

Two Implicit Association Tests for the Assessment of Implicit Gender Stereotypes

We adapted the IAT for the assessment of gender stereotypes representing instrumentality (i.e., agency or masculinity) and expressivity (i.e., communion or femininity). Participants were seated in front of a computer. The *Instrumentality IAT* included five trial blocks (see Table 2).

The first trial block trained participants to press the left response key when a female name appears on the screen and the right response key when a male name appears on the screen. In the second block, participants were trained to press left for ‘submissive’ words and right for ‘assertive’ words. The third block combined both discrimination tasks, and participants were instructed to respond left to ‘submissive’ or female names and right to ‘assertive’ or male names. The fourth block was again a single discrimination task and reversed the attribute discrimination (i.e., ‘assertive’ words were assigned to the left and ‘submissive’ words to the right response key). The final block combined again the target and the previously reversed attribute discrimination, and participants responded left to female names or ‘assertive’ words, and right to male names or ‘submissive’ words. Only the combined tasks were used for the calculation of IAT scores (IAT effects). Scores were calculated as the difference in mean response latencies of the second minus the first combined task. For instance, if participants were faster in combining ‘female’ + ‘submissive’ and ‘male’ + ‘assertive’ relative to ‘female’ + ‘assertive’ and ‘male’ + ‘submissive’, they showed small latencies in the first and long latencies in the second combined task. Overall, this pattern resulted in a positive IAT score. According to the IAT logic (Greenwald et al., 1998), positive scores in this example reflect stronger associations for ‘female’ + ‘submissive’ and ‘male’ + ‘assertive’ relative to the reversed pairings, that is, larger positive scores reflect stronger gender stereotypes.

The procedure of the *Expressivity IAT* was equivalent to the Instrumentality IAT except for the attribute concept that contrasts ‘warm’ and ‘cold’ words (see Table 2, block 6 to 9). To control for possible order effects, we counterbalanced across participants the sequence of the Instrumentality and Expressivity IATs and the sequence of the combined blocks within the IATs. In addition, we used positive stereotypically female attributes (i.e., ‘warm’ in the Expressivity IAT) and positive stereotypically male attributes (i.e., ‘assertive’ in the Instrumentality IAT) because participants typically have tended to associate their own gender with more positive attributes (Rudman, Greenwald, & McGhee, 2001). Names for the IAT stimuli were taken from official names statistics and represent the most common given names of men and women within 25-, 35-, 45- and 55-year-old Germans in 2011.

Due to time constraints and the assessment window of five minutes, we reduced the number of trials in the combined blocks from 60 to 32 trials. The current results revealed that the two IATs nevertheless showed acceptable internal consistency (split-half reliabilities) and excellent discriminant validity (the correlation between the instrumentality and expressiveness IATS was below .10).

Table 2

Task sequence and stimuli of two Implicit Association Tests for the assessment of the two implicit gender stereotypes of instrumentality and expressivity¹

Block	Trials	Task	Response key assignment	
			Left key	Right key
1	16	Target discrimination	Female	Male
2	16	Attribute discrimination	Submissive	Assertive
3	32	First combined task	Female, submissive	Male, assertive
4	32	Reversed attribute discrimination	Assertive	Submissive
5	32	Second combined task	Female, assertive	Male, submissive
6	16	Attribute discrimination	Warm	Cold
7	32	First combined task	Female, warm	Male, cold
8	16	Reversed attribute discrimination	Cold	Warm
9	32	Second combined task	Female, cold	Male, warm

Attribute categories	Instrumentality (IAT1)		Expressivity (IAT2)	
	Assertive	Submissive	Warm	Cold
Stimuli	Assertive	Submissive	Warmhearted	Coldhearted
	Confident	Adaptive	Understanding	Ruthless
	Firm	Accommodating	Benevolent	Unfeeling
	Persistent	Compliant	Empathetic	Hard
Target categories	Female		Male	
Stimuli	Julia	Lisa	Sebastian	Jan
	Stefanie	Katrin	Christian	Stefan
	Sabine	Nicole	Thomas	Andreas
	Angelika	Susanne	Michael	Frank

Note. Instrumentality IAT = mean response latencies Block 5-3; Expressivity IAT = mean response latencies Block 9-7.

¹ Original German stimuli have been translated for this paper.

Gender Stereotypes and Socioeconomic Indicators

Stereotype measures were included in the representative SOEP Innovation Sample 2011. The SOEP Innovation Sample 2011 provides information on 1,040 households with 1,701 persons aged 17 to 92 years ($M = 52$ years), of whom 883 were women and 818 were men (for more information on SOEP Innovation Sample see Richter & Schupp, 2012). Data provided estimates of the extent to which implicit and explicit gender stereotypes were associated with socioeconomic indicators.

We conducted analyses of variance (ANOVAs) to examine differences in the mean levels of stereotype measures between different groups (i.e., age groups, household income groups, and higher vs. lower occupational positions). Each ANOVA was based on all available data for the variables involved. Missing data was about 35 participants for explicit gender stereotype measures, and about 700 for implicit gender stereotype measures.

Moreover, household income was distributed as follows: 87 participants had an income of below €750/month, 313 participants €750-1,500/month, 540 participants €1,500-2,500/month, 373 participants €2,500-3,500/month, 206 participants €3,500-5,000/month, 140 participants above €5,000/month. Household income information was missing for 42 participants. 139 participants were in higher occupational positions (leading and/or highly qualified employees) while 677 were in lower positions (other occupational positions). Occupational position data was missing or not applicable for 885 participants.

Results on Explicit Gender Stereotypes

How strongly participants endorsed explicit gender stereotypes varied across socioeconomic indicators, such as participants' age, occupational position, and household income. For example, gender stereotypes were related to participants' age in that young participants held stronger stereotypic beliefs about their own gender than older participants. That is, young males in particular described the typical man with masculine attributes, whereas young females described the typical woman with feminine attributes.

Traditional gender stereotypes were also associated with household income. Data indicate that people with lower incomes showed stronger traditional stereotypes: People from households with an income of more than €5,000 ascribed lower levels of masculine personality to women than people with lower income levels. Moreover, men from households with an income of more than €5,000 ascribed lower levels of feminine personality to men than did people with lower income levels.

Finally, holding stereotypic beliefs about men and women was especially prevalent among participants in higher occupational positions. Both male and female participants in higher occupational positions described women as less feminine but also as less masculine than did participants in lower occupational positions. Men were described as less feminine by participants in higher positions.

This indicates that the description of typical men and typical women differs in relation to income and the occupational position held. Whereas for the ascription of typical women respondents' higher occupational positions seem to be related to less pronounced gender typical ascriptions to women in general, results indicate that higher household income is related to more

feminine ascriptions of typical women. For the description of typical men, higher incomes as well as higher occupational positions are related to lower ascription of femininity.

Results on Implicit Gender Stereotypes

Implicit gender stereotypes as measured with the Expressivity IAT (warm versus cold gender stereotype) and the Instrumentality IAT (assertive versus submissive gender stereotype) also related to various socioeconomic indicators.

While implicit stereotypic associations concerning expressivity increased with age, stereotypic associations concerning instrumentality increased with household income, particularly among male participants. Finally, stereotypic associations were related simultaneously to occupational position and participants' gender, such that differences between male and female participants were found in lower occupational positions for the Expressivity IAT and in higher occupational positions for the Instrumentality IAT. The effects are illustrated in Figure 1.

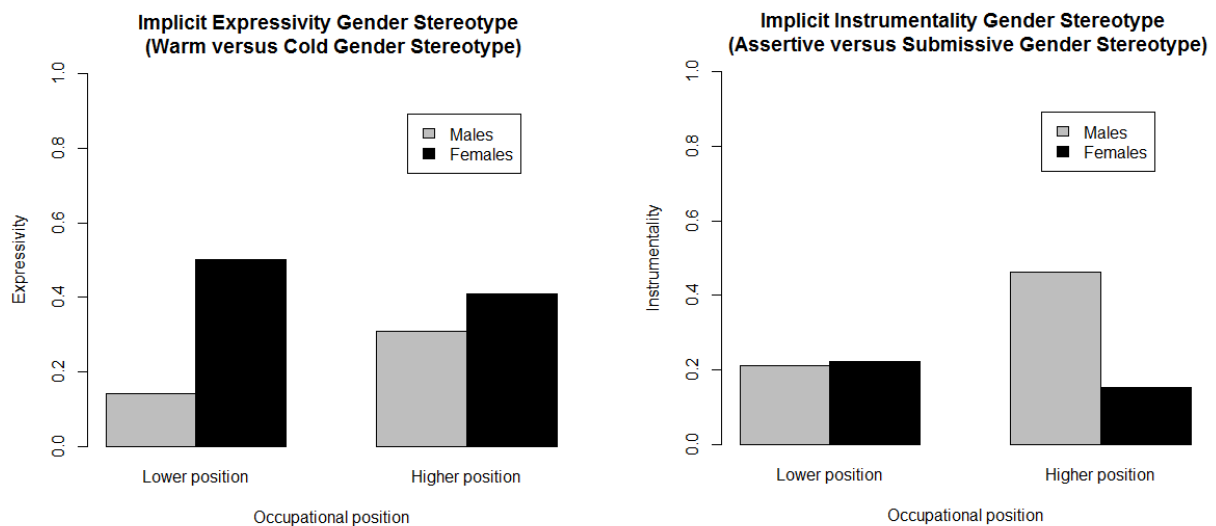


Figure 1
IAT implicit gender stereotypes as a function of occupational position in men and women (i.e., dark bars are women whereas light bars are men)

Conclusion and Outlook

The current results indicate that implicit and explicit gender stereotypes vary differently across socioeconomic indicators. Whereas implicit stereotypes increased with respondents' age, the opposite was found for explicit stereotypes. However, both implicit and explicit gender-instrumentality stereotypes were found to be stronger in participants with higher income levels and higher occupational positions, and these effects were mainly attributable to male participants. Different correlational patterns of implicit and explicit gender stereotypes with participants' age may be explained by different social desirability concerns for different age

groups. Whereas older participants may be more motivated to underestimate gender differences on the explicit measure, an opposite motivation may hold for younger participants. In contrast, the implicit gender stereotypes may be a more valid indicator for the automatic gender stereotypic biases that are endorsed by participants, and these automatic biases may be more pronounced in older than in younger participants. The different effects that were found for the instrumentality and the expressivity stereotype measures and the low correlation between the measures provide further evidence of their discriminant validity. Together, these preliminary results indicate that implicit and explicit stereotypes show different as well as similar relationships across socioeconomic indicators. Further data analyses are in progress and planned.

For example, the finding that stronger gender stereotypes were found particularly in male participants with higher income and higher occupational positions merits further thought and exploration. Because gender stereotypes reflect the traditional female-male division labor, this finding is consistent with the traditional social role of men as breadwinners (Eagly & Wood, 2012). Future research is needed to examine the extent to which such stereotypic beliefs, if held by people in leadership positions, disadvantage women in obtaining these kinds of positions. Moreover, strongly held gender stereotypes could also influence people's career development through the decisions they make. That is, women who strongly endorse gender stereotypes might want to emphasize the traditional caregiving role and thus decrease their occupational aspirations. Using the longitudinal panel of the SOEP offers the possibility to investigate these kinds of research questions.

References

- Ashmore, R. D., & Del Boca, F. K. (1979). Sex stereotypes and implicit personality theory: Toward a cognitive-social psychological conceptualization. *Sex Roles*, 5, 219–248.
- Bosak, J., Sczesny, S., & Eagly, A. H. (2012). The impact of social roles on trait judgments: A critical re-examination. *Personality and Social Psychology Bulletin*, 36, 429–440.
- Cejka, M. A., & Eagly, A. H. (1999). Gender-stereotypic images occupations correspond to the sex segregation of employment. *Personality and Social Psychology Bulletin*, 25, 413–423.
- Diekmann, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality and Social Psychology Bulletin*, 26, 1171–1188.
- Diekmann, A. B., Eagly, A. H., Mladinic, A., & Ferreira, M. C. (2005). Dynamic stereotypes about women and men in Latin America and the United States. *Journal of Cross-Cultural Psychology*, 36, 209–226.
- Dislich, F. X. R., Zinkernagel, A., Ortner, T. M., & Schmitt, M. (2010). Convergence of direct, indirect, and objective risk taking measures in the domain of gambling: The moderating role of impulsiveness and self-control. *Journal of Psychology*, 218, 20–27.
- Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Hillsdale, NJ: Lawrence Erlbaum.
- Eagly, A. H., & Steffen, V. J. (1984). Gender stereotypes stem from the distribution of women and men into social roles. *Journal of Personality and Social Psychology*, 46, 735–754.
- Eagly, A. H., & Wood, W. (1999). The origins of sex differences in human behavior: Evolved dispositions versus social roles. *American Psychologist*, 54, 408–423.
- Eagly, A. H., & Wood, W. (2012). Social role theory. In P. van Lange, A. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories in social psychology* (pp. 458–476) Thousand Oaks, CA: Sage Publications.
- European Commission (2010). *Strategy for equality between women and men 2010-2015*. Retrieved May 6th, 2013, from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0491:FIN:EN:PDF>
- Garcia-Retamero, R., Müller, S. M., & Lopez-Zafra, E. (2011). The malleability of gender stereotypes: Influence of population size and passage of time on perceptions of men and women. *Journal of Social Psychology*, 151, 635–656.
- Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, 132, 692–731.
- Gilbert, D.T. (1998). Ordinary personology. In D. T. Gilbert, S.T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology*, Vol. 2 (4th ed. pp. 89–150). Boston, MA: McGraw-Hill.
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, 97, 17–41.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. K. L. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, 74, 1464–1480.
- Hamilton, D. L. (1981). *Cognitive processes in stereotyping and intergroup behavior*. Hillsdale, NJ: Erlbaum.
- Hamilton, D. L., & Trier, T. K. (1986). Stereotypes and stereotyping: An overview of the cognitive approach. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 127–163). New York: Academic Press.
- Hoffman, C., & Hurst, N. (1990). Gender stereotypes: perception or rationalization. *Journal of Personality and Social Psychology*, 58, 197–208.
- Koenig, A. M., Eagly, A. H., Mitchell, A. A., & Ristikari, T. (2011). Are leader stereotypes masculine? A meta-analysis of three research paradigms. *Psychological Bulletin*, 137, 616–642.
- Nosek, B. A. (2007). Implicit-explicit relations. *Current Directions in Psychological Science*, 16, 65–69.
- Nosek, B.A., & Smyth, F.L. (2007). A multitrait-multimethod validation of the implicit association test - Implicit and explicit attitudes are related but distinct constructs. *Experimental Psychology*, 54, 14–29.

- Nosek, B. A., Smyth, F. L., Sriram, N., Lindner, N. M., Devos, T., Ayala, A., Bar-Anan, Y., Bergh, R., Cai, H., Gonsalkorale, K., Kesebir, S., Maliszewski, N., Neto, F., Olli, E., Park, J., Schnabel, K., Shiomura, K., Tulbure, B., Wiers, R. W., Somogyi, M., Akrami, N., Ekehammar, B., Vianello, M., Banaji, M. R., & Greenwald, A. G. (2009). National differences in gender-science stereotypes predict national sex differences in science and math achievement. *Proceedings of the National Academy of Sciences*, 106, 10593–10597.
- Peters, K.R. & Gawronski, B. (2011). Are we puppets on a string? Comparing the impact of contingency and validity on implicit and explicit evaluations. *Personality and Social Psychology Bulletin*, 37, 557–569.
- Richter, D. & Schupp, J. (2012): (2012) SOEP Innovation Sample (SOEP-IS) — Description, Structure and Documentation. SOEPpapers on Multidisciplinary Panel Data Research No. 463. Berlin.
- Rudman, L. A., Greenwald, A. G., & McGhee, D. E. (2001). Implicit self-concept and evaluative implicit gender stereotypes: Self and ingroup share desirable traits. *Personality and Social Psychology Bulletin*, 27, 1164–1178.
- Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and Social Psychology Review*, 8, 220-247.
- Wilde, A., & Diekmann, A. B. (2005). Cross-cultural similarities and differences in dynamic stereotypes: A comparison between Germany and the United States. *Psychology of Women Quarterly*, 29, 188–196.
- Williams, J. E., & Best, D. L. (1990). *Measuring sex stereotypes: A multinational study*. Beverly Hills, CA: Sage.
- Williams, J. E., Satterwhite, R. C., & Best, D. L. (1999). Pancultural gender stereotypes revisited: The five factor model. *Sex Roles*, 40, 513–525.
- Wood, W., & Eagly, A. H. (2012). Biosocial construction of sex differences and similarities in behavior. In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 46, pp. 55-123). London, UK: Elsevier.