

Supplemental Material for

**Unstable, Indistinct, and Cohesive? How Group Cognitions Shape Attitudes Toward
Transgender and Nonbinary People as a Function of Gender Essentialism**

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All data and analytic scripts needed to reproduce our results can be accessed through the project's repository on the Open Science Framework (<https://osf.io/fc8dq/>).

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Table S1. Sample Characteristics in Study 1

<i>Participant sexual orientation</i>	<i>n</i>	<i>%</i>
Heterosexual	476	76.7
Lesbian or Gay	22	3.5
Bisexual, Pansexual, or Queer	99	15.9
Asexual	15	2.4
Prefer not to say	9	1.4

Table S2. Population and Sample Size, and Number of Anti-TGNB Policies by State in Study 1

State	State population (Census estimate 2022)	Final n	Number of anti-TGNB policies
California	39,142,991	192	0
Texas	29,558,864	144	4
Florida	21,828,069	116	6
Illinois	12,686,469	62	0
North Carolina	10,565,885	61	4
Michigan	10,037,504	46	0

Note: The column “Number of Anti-TGNB Policies” refers to the specific policies included in this study, not the total number of anti-TGNB policies in each state.

Table S3. Anti-TGNB Legislation in Each State in Study 1

Laws	Illinois	California	Michigan	Florida	Texas	North Carolina
Restroom access	no state ban	no state ban	no state ban	state ban	no state ban	no state ban
Medical care for transgender youth	“shield” law*	“shield” law*	no state ban	state ban	state ban	state ban
Use of public Funds for Medical Care for Transgender Individuals	Medicaid explicitly covers it	Medicaid explicitly covers it	Medicaid explicitly covers it	explicitly excludes for all ages	explicitly excludes for all ages	explicitly excludes minors
Participation in sports	no state ban	no state ban	no state ban	state ban	state ban	state ban
Misgendering in schools	does not force outing of transgender youth at schools	does not force outing of transgender youth at schools	does not force outing of transgender youth at schools	passed law allowing to disregard pronouns, promotes outing of transgender people	districts allow teachers to disregard pronouns	passed law allowing to disregard pronouns, forces outing of transgender kids
Identity documents	does not require provider certification, allows marking MFX on birth certificate	does not require provider certification; allows marking MFX on driver’s license and birth certificate	does not require provider certification; allows marking MFX on driver’s license and birth certificate	has no form	state requires proof of surgery	does not require surgery or court order to change gender marker

Note. *“Shield” law is legislation at the state level to protect access to transgender health care.

Table S4. Means, Standard Deviations, and T-Test Scores for Attitudes, Support for Anti-TGNB Legislation, and Gender Essentialist Beliefs, Comparing Across States

<i>Variable</i>	<i>States with Anti-TGNB Legislation</i>	<i>States without Anti-TGNB Legislation</i>	<i>t-test</i>
Gender essentialism	3.68 (1.06)	3.21 (1.09)	$t(619) = 3.15, p = .002$
Negative attitudes	41.24 (31.88)	34.82 (28.64)	$t(619) = 2.64, p = .009$
Anti-TGNB legislation	4.25 (1.97)	3.74 (1.80)	$t(619) = 3.36, p < .001$

Note. States with anti-TGNB legislation: Florida, Texas, North Carolina. States without anti-TGNB legislation: Illinois, California, Michigan.

Table S5. Factor Analysis for Cognitive Variables in Study 1

We performed a principal components analysis with varimax rotation on the 18 items measuring group cognitions to confirm that they loaded onto three separate components representing perceived group distinctiveness, stability, and cohesion. Factor loadings for each item are reported below.

		Factors		
		1	2	3
Distinctiveness	Transgender [women/men] constitute an actual social group.	0.29	-0.02	0.82
	Transgender [women/men] are a completely distinct social group in society.	-0.24	0.09	0.79
	Transgender [women/men] form a well-defined social group.	0.27	0.03	0.78
	Transgender [women/men] are separate from other social groups in society.	-0.48	0.17	0.57
	Transgender [women/men] do not overlap too much with other social groups in society.	-0.46	0.27	0.33
Stability	Transgender [women/men] are confused about their true gender identity.	0.86	-0.26	0.09
	Being a [transgender woman/transgender man] is a stable gender identity.	0.86	-0.21	0.16
	Transgender [women/men] are dishonest about their true gender identity.	0.84	-0.27	0.11
	Most transgender [women/men] are deceiving about their true gender identity.	0.84	-0.29	0.06
	Transgender [women/men] have a clear sense of their true gender identity.	0.82	-0.17	0.20
	Most people who identify as transgender [women/men] have not yet discovered their true gender identity.	0.76	-0.14	-0.10
	Transgender [women/men]'s sense of their true gender identity changes throughout their life.	0.52	-0.06	-0.21
Cohesion	Most transgender [women/men] have similar personalities.	-0.35	0.84	0.01
	Most transgender [women/men] resemble one another in terms of their behavior.	-0.33	0.83	0.05
	Despite some differences between transgender [women/men], in essence they are the same.	-0.18	0.80	0.04
	Transgender [women/men] are usually identical in many aspects.	-0.32	0.80	0.10
	Transgender [women/men] share common goals.	0.16	0.65	0.20
	Most transgender [women/men] are very different from each other.	-0.30	0.65	-0.11

Note. *This item was not retained in the scale of perceived group distinctiveness.

Table S6. Comparisons of the Strength of Association Between the Three Types of Group Cognitions and (a) Negative Attitudes and (b) Support for Anti-TGNB Legislation in Study 1

We computed difference scores between standardized versions of the three types of group perceptions (distinctiveness, stability, or cohesion) to compare which is the strongest predictor of negative attitudes and opposition to transgender rights separately (Wilcox & Tian, 2008). As can be seen in the table below, the results indicate that the correlation between negative evaluations and stability (vs. cohesion or distinctiveness) is stronger compared to the correlations of negative attitudes with cohesion or distinctiveness. The conclusion is the same for policy support.

<i>(a) DV: Negative attitudes</i>		
<i>Comparison (D score)</i>	<i>r between D score and outcome</i>	<i>Conclusion</i>
Stability vs. cohesion	-0.70*	Stability more strongly related to negative attitudes than cohesion
Stability vs. distinctiveness	-0.52*	Stability more strongly related to negative attitudes than distinctiveness
Cohesion vs. distinctiveness	0.36*	Distinctiveness more strongly related to negative attitudes than cohesion
<i>(b) DV: Support for anti-TGNB legislation</i>		
<i>Comparison (D score)</i>	<i>r between D score and outcome</i>	<i>Conclusion</i>
Stability vs. cohesion	-0.76*	Stability more strongly related to support for anti-TGNB legislation than cohesion
Stability vs. distinctiveness	-0.57*	Stability more strongly related to support for anti-TGNB legislation than distinctiveness
Cohesion vs. distinctiveness	0.38*	Distinctiveness more strongly related to support for anti-TGNB legislation than cohesion

* $p < .001$

Table S7. Indirect Effects of Gender Essentialism on (a) Negative Attitudes and (b) Support for Anti-TGNB Legislation Through Group Cognitions as Separate Mediators in Study 1

<i>(a) DV: Negative attitudes</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	95% CI
Distinctiveness	-0.01	0.01	-0.02, 0.003
Stability	0.45	0.03	0.40, 0.50
Cohesion	0.06	0.02	0.02, 0.10
<i>(b) DV: Support for anti-TGNB legislation</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	95% CI
Distinctiveness	-0.001	0.002	-0.01, 0.002
Stability	0.30	0.03	0.25, 0.35
Cohesion	0.08	0.01	0.05, 0.11

Note. In these models, the three mediators are tested separately.

Table S8. Indirect Effects of Gender Essentialism on (a) Negative Attitudes and (b) Support for Anti-TGNB Legislation Through Cognitions, with Participant Gender, Strength of Gender Identification, Political Orientation, and State Legislation as Covariates in Study 1

<i>(a) DV: Negative attitudes</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	95% CI
Distinctiveness	-0.004	0.004	-0.01, 0.003
Stability	0.30	0.03	0.24, 0.36
Cohesion	0.003	0.01	-0.02, 0.03
<i>(b) DV: Support for anti-TGNB legislation</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	95% CI
Distinctiveness	-0.002	0.002	-0.01, 0.002
Stability	0.16	0.03	0.11, 0.21
Cohesion	0.02	0.01	0.004, 0.04

Note. In these models, the three mediators are tested in parallel. Political orientation included items on social and economic issues averaged together. Participant gender was coded as -1 = woman and 1 = man ($n = 597$); state law was coded as -1 = anti-TGNB legislation and 1 = no anti-TGNB legislation.

Table S9. Indirect Effects of Gender Essentialism on (a) Negative Attitudes and (b) Support for Anti-TGNB Legislation Through Cognitions, with Target Birth Sex as Covariate in Study 1

<i>(a) DV: Negative attitudes</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.004	0.004	-0.01, 0.003
Stability	0.44	0.03	0.39, 0.50
Cohesion	0.01	0.02	-0.03, 0.04
<i>(b) DV: Support for anti-TGNB legislation</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.001	0.002	-0.01, 0.002
Stability	0.28	0.03	0.23, 0.33
Cohesion	0.04	0.01	0.02, 0.07

Note. In these models, the three mediators are tested in parallel. Target birth sex was coded as -1 = male and 1 = female.

Table S10. Indirect Effects of Gender Essentialism on (a) Negative Attitudes and (b) Support for Anti-TGNB Legislation Through Cognitions in Each Target Condition in Study 1

<i>(a) DV: Negative attitudes</i>			
<i>Target: Transgender Women (n = 312)</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.004	0.01	-0.02, 0.01
Stability	0.47	0.04	0.39, 0.56
Cohesion	-0.01	0.02	-0.06, 0.03
<i>Target: Transgender Men (n = 309)</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.004	0.01	-0.02, 0.004
Stability	0.42	0.04	0.34, 0.49
Cohesion	0.02	0.02	-0.03, 0.07
<i>(b) DV: Support for anti-TGNB legislation</i>			
<i>Target: Transgender Women (n = 312)</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.002	0.004	-0.01, 0.01
Stability	0.29	0.04	0.22, 0.37
Cohesion	0.04	0.02	0.00, 0.07
<i>Target: Transgender Men (n = 309)</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	0.001	0.003	-0.01, 0.01
Stability	0.27	0.04	0.20, 0.35
Cohesion	0.05	0.02	0.01, 0.09

Note. In these models, the three mediators are tested in parallel.

Table S11. Indirect Effects of Gender Essentialism on (a) Negative Attitudes and (b) Support for Anti-TGNB Legislation Through Cognitions Including Cisgender Participants Only ($n = 590$) in Study 1

<i>(a) DV: Negative attitudes</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.003	0.003	-0.01, 0.003
Stability	0.44	0.03	0.39, 0.50
Cohesion	0.01	0.02	-0.02, 0.04
<i>(b) DV: Support for anti-TGNB legislation</i>			
<i>Mediator</i>	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Distinctiveness	-0.002	0.002	-0.01, 0.002
Stability	0.27	0.03	0.22, 0.33
Cohesion	0.04	0.01	0.02, 0.07

Note. In these models, the three mediators are tested in parallel.

Table S12. Sample Characteristics in Study 2

<i>Participant sexual orientation</i>	<i>n</i>	<i>%</i>
Heterosexual	686	82.4
Lesbian or Gay	31	3.7
Bisexual, Pansexual, or Queer	99	11.9
Asexual	9	1.1
“Other”	3	0.4
Prefer not to say	5	0.6

Table S13. Factor Analysis for Cognitive Variables in Study 2

We performed a principal components analysis with varimax rotation on the 18 items measuring perceived group cognitions to confirm that they loaded onto three separate components representing perceived group distinctiveness, stability, and cohesion. Depending on condition, [target group] was replaced by transgender [men/women], cisgender [men/women], or nonbinary people. Factor loadings for each item are reported below.

		Factors		
		1	2	3
Distinctiveness	[target group] are a completely distinct social group in society.	-0.03	0.10	0.83
	[target group] constitute an actual social group.	0.37	0.11	0.76
	[target group] form a well-defined social group.	0.40	0.18	0.73
	[target group] are separate from other social groups in society.	-0.37	0.10	0.65
	[target group] do not overlap too much with other social groups in society.*	-0.41	0.16	-0.14
Stability	[target group] are confused about their true gender identity.	0.92	-0.12	0.05
	[target group] are dishonest about their true gender identity.	0.86	-0.17	0.06
	Most [target group] are deceiving about their true gender identity.	0.85	-0.20	0.03
	Being a [target group] is a stable gender identity.	0.84	-0.03	0.21
	[target group] have a clear sense of their true gender identity.	0.82	-0.02	0.23
	Most people who identify as [target group] have not yet discovered their true gender identity.	0.73	-0.21	-0.08
	[target group]'s sense of their true gender identity changes throughout their life.	0.58	-0.08	-0.21
Cohesion	Most [target group] resemble one another in terms of their behavior.	-0.19	0.85	0.11
	[target group] are usually identical in many aspects.	-0.13	0.84	0.14
	Despite some differences between [target group], in essence they are the same.	-0.10	0.82	0.11
	Most [target group] have similar personalities.	-0.33	0.68	0.12
	[target group] share common goals.	0.08	0.63	0.32
	Most [target group] are very different from each other.	-0.15	0.58	-0.28

Note. *This item was not retained in the scale of perceived group distinctiveness.

Table S14. Indirect Effects of Target Group Condition on Negative Attitudes Through (a) Distinctiveness, (b) Stability, and (c) Cohesion as Separate Mediators in Study 2

(a) Mediator: Distinctiveness, moderated mediation index: 0.01, SE = 0.01 (0.01, 0.03)			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	-0.003	0.01	-0.02, 0.01
Indirect effect for high GE (+1 SD)	0.03	0.01	0.01, 0.05
(b) Mediator: Stability, moderated mediation index: 0.22, SE = 0.02 (0.19, 0.27)			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	0.04	0.02	0.003, 0.08
Indirect effect for high GE (+1 SD)	0.49	0.04	0.41, 0.57
(c) Mediator: Cohesion, moderated mediation index: 0.001, SE = 0.002 (-0.004, 0.01)			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	-0.002	0.003	-0.01, 0.003
Indirect effect for high GE (+1 SD)	-0.001	0.003	-0.01, 0.01

Note. GE = Gender essentialism. Target group is coded as -1 = Cisgender and 1 = Transgender/Nonbinary.

Table S15. Comparisons of the Strength of Association Between the Three Types of Group Cognition and Negative Attitudes in Study 2

We computed difference scores between standardized versions of the three types of group cognitions (perceived distinctiveness, stability, or cohesion) and compared them to examine which of them was the strongest correlate of negative attitudes (Wilcox & Tian, 2008). As can be seen in the table below, the results indicate that the correlation between negative attitudes and stability (vs. cohesion or distinctiveness) is stronger compared to the correlations of negative attitudes with cohesion or distinctiveness.

<i>DV: Negative attitudes</i>		
<i>Comparison (D score)</i>	<i>r between D score and outcome</i>	<i>Conclusion</i>
Stability vs. cohesion	-0.56*	Stability more strongly related to negative attitudes than cohesion
Stability vs. distinctiveness	-0.41*	Stability more strongly related to negative attitudes than distinctiveness
Cohesion vs. distinctiveness	0.31*	Distinctiveness more strongly related to negative attitudes than cohesion

* $p < .001$

Table S16. Means, Standard Deviations, and Bivariate Correlations Between All Variables for Each Target Group Condition Separately in Study 2

<i>Cisgender targets, n = 270</i>					
	<i>M (SD)</i>	1	2	3	4
1. Gender essentialism	3.60 (0.99)	-			
2. Negative attitudes	21.53 (20.51)	-0.30***	-		
3. Distinctiveness	4.45 (1.37)	0.14*	-0.18**	-	
4. Stability	5.82 (1.11)	0.18**	-0.36***	0.04	-
5. Cohesion	3.55 (1.35)	0.32***	-0.06	0.39***	-0.22***
<i>Transgender targets, n = 285</i>					
	<i>M (SD)</i>	1	2	3	4
1. Gender essentialism	3.61 (0.98)	-			
2. Negative attitudes	38.24 (29.70)	0.60***	-		
3. Distinctiveness	4.44 (1.23)	0.06	-0.03	-	
4. Stability	4.52 (1.60)	-0.66***	-0.73***	0.01	-
5. Cohesion	3.56 (1.26)	0.37***	0.25***	0.22***	-0.37***
<i>Nonbinary targets, n = 278</i>					
	<i>M (SD)</i>	1	2	3	4
1. Gender essentialism	3.82 (1.06)	-			
2. Negative attitudes	45.96 (30.85)	0.63***	-		
3. Distinctiveness	3.97 (1.38)	-0.21***	-0.28***	-	
4. Stability	3.99 (1.59)	-0.71***	-0.76***	0.28***	-
5. Cohesion	3.52 (1.17)	0.42***	0.34***	0.09	-0.47***

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

Table S17. Indirect Effect of Target Group Condition on Negative Attitudes Through Cognitions Including Cisgender Participants Only ($n = 814$) in Study 2

<i>Mediator: Distinctiveness (moderated mediation index: 0.01, SE = 0.004 (0.001, 0.02))</i>			
	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Indirect effect for low GE (-1 <i>SD</i>)	-0.002	0.004	-0.01, 0.01
Indirect effect for high GE (+1 <i>SD</i>)	0.02	0.01	0.003, 0.03
<i>Mediator: Stability (moderated mediation index: 0.23, SE = 0.02 (0.19, 0.27))</i>			
	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Indirect effect for low GE (-1 <i>SD</i>)	0.05	0.02	0.01, 0.08
Indirect effect for high GE (+1 <i>SD</i>)	0.50	0.04	0.43, 0.58
<i>Mediator: Cohesion (moderated mediation index: 0.00, SE = 0.002 (-0.004, 0.003))</i>			
	<i>ab</i>	<i>SE</i>	<i>95% CI</i>
Indirect effect for low GE (-1 <i>SD</i>)	0.001	0.002	-0.003, 0.01
Indirect effect for high GE (+1 <i>SD</i>)	0.00	0.003	-0.01, 0.01

Note. GE = Gender essentialism. Target group is coded as -1 = Cisgender and 1 = Transgender/Nonbinary. In this model, the three mediators are tested in parallel.

Table S18. Indirect Effect of Target Group Condition on Negative Attitudes Through Cognitions with Participant Gender and Strength of Gender Identification as Covariates in Study 2

<i>Mediator: Distinctiveness (moderated mediation index: 0.01, SE = 0.004 (0.001, 0.02))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	-0.001	0.004	-0.01, 0.01
Indirect effect for high GE (+1 SD)	0.01	0.01	0.003, 0.03
<i>Mediator: Stability (moderated mediation index: 0.23, SE = 0.02 (0.19, 0.27))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	0.05	0.02	0.01, 0.08
Indirect effect for high GE (+1 SD)	0.50	0.04	0.42, 0.58
<i>Mediator: Cohesion (moderated mediation index: 0.00, SE = 0.002 (-0.004, 0.003))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	0.001	0.002	-0.003, 0.01
Indirect effect for high GE (+1 SD)	0.00	0.002	-0.01, 0.01

Note. GE = Gender essentialism. Target group is coded as -1 = Cisgender and 1 = Transgender/Nonbinary. Participant gender is coded as -1 = woman and 1 = man. In this model, the three mediators are tested in parallel, and gender essentialism is entered as moderator of the indirect effects. This analysis includes only participants who identified their gender within the binary ($n = 817$).

Table S19. Effects of Target Group Condition (Transgender vs. Nonbinary) on (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, and (d) Cohesion as Moderated by Gender Essentialism in Study 2

<i>DV: Negative attitudes</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = transgender, 1 = nonbinary)	0.07	0.04	.059	-0.002, 0.13
Gender essentialism (GE)	0.63	0.03	< .001	0.56, 0.70
Condition $\times$ GE	0.01	0.03	.866	-0.06, 0.07
<i>DV: Distinctiveness</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = transgender, 1 = nonbinary)	-0.16	0.04	< .001	-0.24, -0.08
Gender essentialism (GE)	-0.08	0.04	.057	-0.16, 0.002
Condition $\times$ GE	-0.13	0.04	.001	-0.21, -0.05
<i>Follow up tests: Effect of condition for participants with high GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = transgender, 1 = nonbinary)	-0.30	0.06	< .001	-0.41, -0.18
<i>Follow up tests: Effect of condition for participants with low GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>P</i>	95% CI
Condition (-1 = transgender, 1 = nonbinary)	-0.04	0.06	.548	-0.15, 0.08
<i>DV: Stability</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = transgender, 1 = nonbinary)	-0.09	0.03	.002	-0.15, -0.03
Gender essentialism (GE)	-0.66	0.03	< .001	-0.72, -0.60
Condition $\times$ GE	0.001	0.03	.975	-0.06, 0.06
<i>DV: Cohesion</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = transgender, 1 = nonbinary)	-0.06	0.04	.132	-0.13, 0.02
Gender essentialism (GE)	0.40	0.04	< .001	0.31, 0.05
Condition $\times$ GE	0.00	0.04	.996	-0.07, 0.07

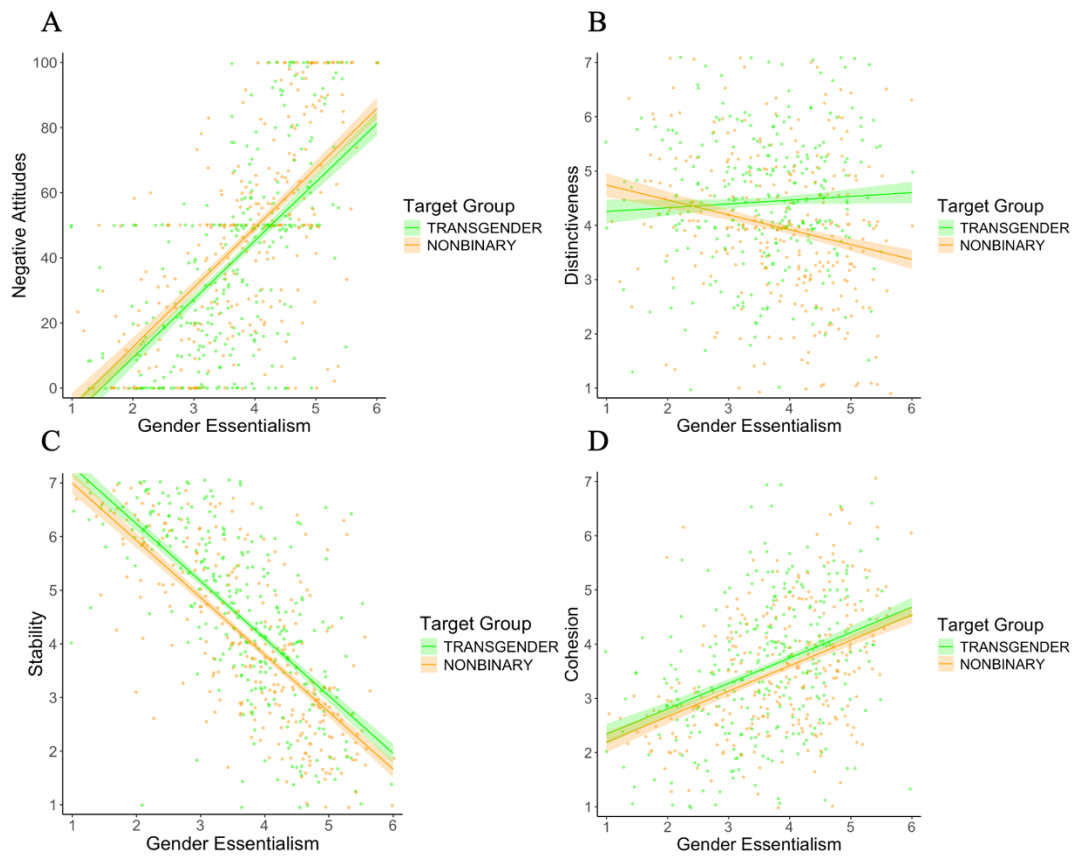
Note. These models only include participants in the transgender target group condition ($n = 285$) and the nonbinary target group condition ($n = 278$).

Table S20. Indirect Effects of Target Group Condition (Transgender vs. Nonbinary) on Negative Attitudes Through Cognitions as Moderated by Gender Essentialism in Study 2

<i>Mediator: Distinctiveness (moderated mediation index: 0.01, SE = 0.01 (-0.001, 0.02))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 <i>SD</i>)	0.002	0.004	-0.005, 0.01
Indirect effect for high GE (+1 <i>SD</i>)	0.02	0.01	-0.004, 0.04
<i>Mediator: Stability (moderated mediation index: -0.001, SE = 0.02 (-0.04, 0.04))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 <i>SD</i>)	0.06	0.03	0.01, 0.12
Indirect effect for high GE (+1 <i>SD</i>)	0.06	0.03	0.002, 0.12
<i>Mediator: Cohesion (moderated mediation index: 0.00, SE = 0.002 (-0.004, 0.004))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 <i>SD</i>)	0.002	0.003	-0.003, 0.01
Indirect effect for high GE (+1 <i>SD</i>)	0.002	0.004	-0.003, 0.01

Note. GE = Gender essentialism. In this model, the three mediators are tested in parallel and gender essentialism is entered as moderator of the indirect effects. This analysis only includes participants in the transgender target group condition ($n = 285$) and the nonbinary target group condition ($n = 278$).

Figure S1. Relationship between Gender Essentialism and (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, (d) Cohesion by Target Group Condition (Transgender vs. Nonbinary) in Study 2



Note. The lines indicate the best-fitting regressions and the error bands represent ± 1 SE.

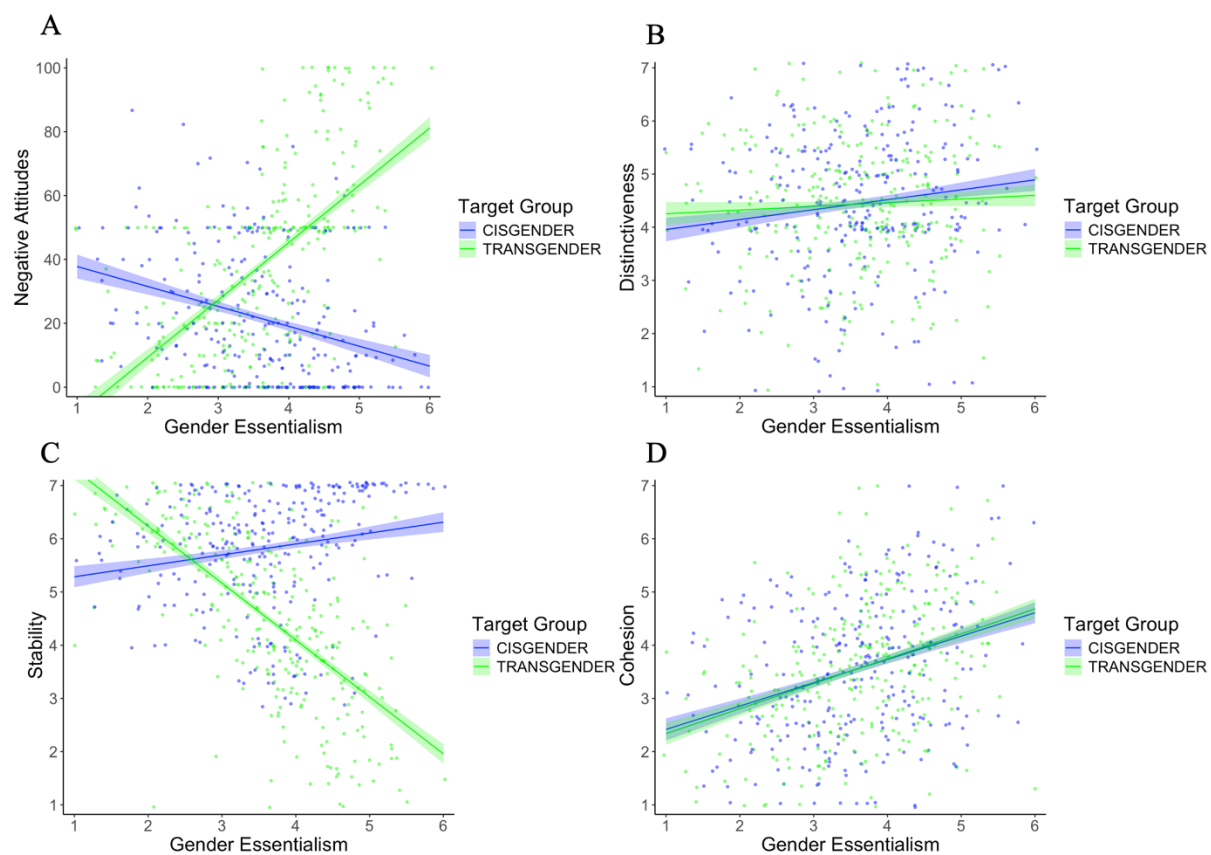
Table S21. Effects of Target Group Condition (Transgender vs. Cisgender) on (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, and (d) Cohesion as Moderated by Gender Essentialism in Study 2

(a) DV: Negative attitudes				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	.32	.03	< .001	0.25, 0.38
Gender essentialism (GE)	.20	.03	< .001	0.14, 0.27
Condition $\times$ GE	.42	.03	< .001	0.36, 0.49
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	.69	.05	< .001	0.61, 0.78
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	-.12	0.04	.006	-0.21, -0.04
(b) DV: Distinctiveness				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	-0.01	0.04	.848	-0.09, 0.07
Gender essentialism (GE)	0.10	0.04	.021	0.02, 0.18
Condition $\times$ GE	-0.05	0.04	.283	-0.13, 0.04
(c) DV: Stability				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	-0.42	0.03	< .001	-0.48, -0.36
Gender essentialism (GE)	-0.27	0.03	< .001	-0.33, -0.21
Condition $\times$ GE	-0.39	0.03	< .001	-0.45, -0.33
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	-0.78	0.04	< .001	-0.86, -0.69
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>P</i>	95% CI
Condition (-1 = cisgender, 1 = transgender)	-0.01	0.04	.775	-0.10, 0.07
(d) DV: Cohesion				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI

Condition (-1 = cisgender, 1 = transgender)	0.003	0.04	.940	-0.08, 0.09
Gender essentialism (GE)	0.37	0.04	< .001	0.28, 0.45
Condition $\times$ GE	0.01	0.04	.745	-0.07, 0.10

Note. These models only include participants in the transgender target group condition ($n = 285$) and the cisgender target group condition ($n = 270$).

Figure S2. Relationship between Gender Essentialism and (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, (d) Cohesion by Target Group Condition (Transgender vs. Cisgender) in Study 2



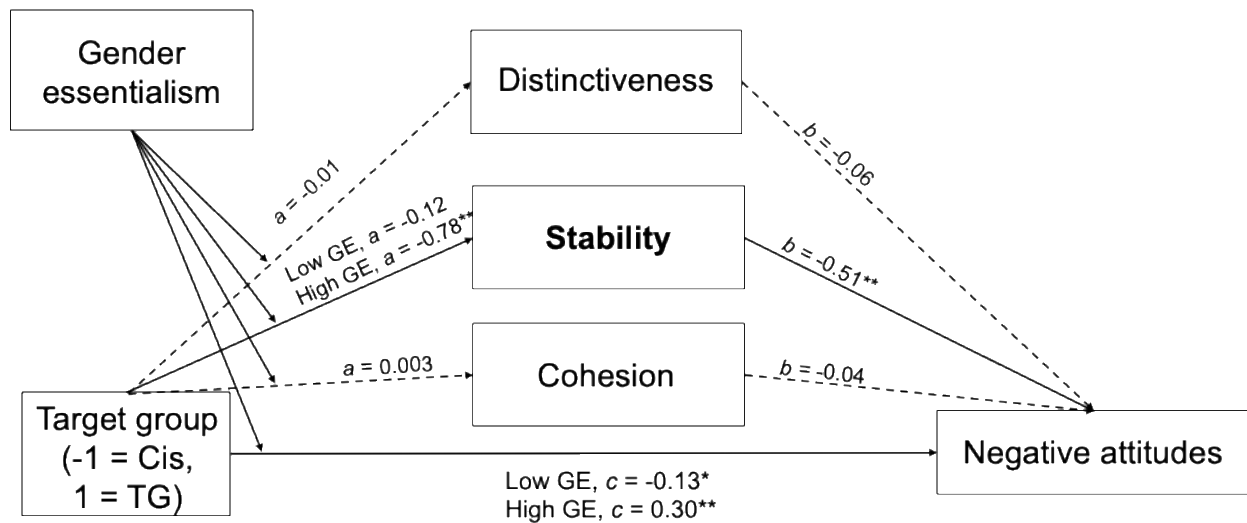
Note. The lines indicate the best-fitting regressions and the error bands represent $\pm 1 SE$.

Table S22. Indirect Effects of Target Group Condition (Transgender vs. Cisgender) on Negative Attitudes Through Cognitions as Moderated by Gender Essentialism in Study 2

<i>Mediator: Distinctiveness (moderated mediation index: 0.003, SE = 0.003 (-0.003, 0.01))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	-0.002	0.004	-0.01, 0.01
Indirect effect for high GE (+1 SD)	0.003	0.004	-0.01, 0.01
<i>Mediator: Stability (moderated mediation index: 0.20, SE = 0.03 (0.15, 0.25))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	0.01	0.02	-0.03, 0.05
Indirect effect for high GE (+1 SD)	0.39	0.04	0.31, 0.49
<i>Mediator: Cohesion (moderated mediation index: -0.001, SE = 0.002 (-0.01, 0.004))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 SD)	0.00	0.03	-0.01, 0.01
Indirect effect for high GE (+1 SD)	-0.001	0.03	-0.01, 0.01

Note. GE = Gender essentialism. In this model, the three mediators are tested in parallel and gender essentialism is entered as moderator of the indirect effects. This analysis only includes participants in the transgender target group condition ($n = 285$) and the cisgender target group condition ($n = 270$).

Figure S3. Effect of Transgender vs. Cisgender Target Gender Group Condition on Negative Attitudes Through Perceived Group Distinctiveness, Stability, and Cohesion as Moderated by Gender Essentialism in Study 2



Note. TG stands for Transgender. Path values are standardized coefficients. Solid lines indicate significant relationships; dashed lines indicate non-significant relationships. $^*p < .01$, $^{**}p < .001$

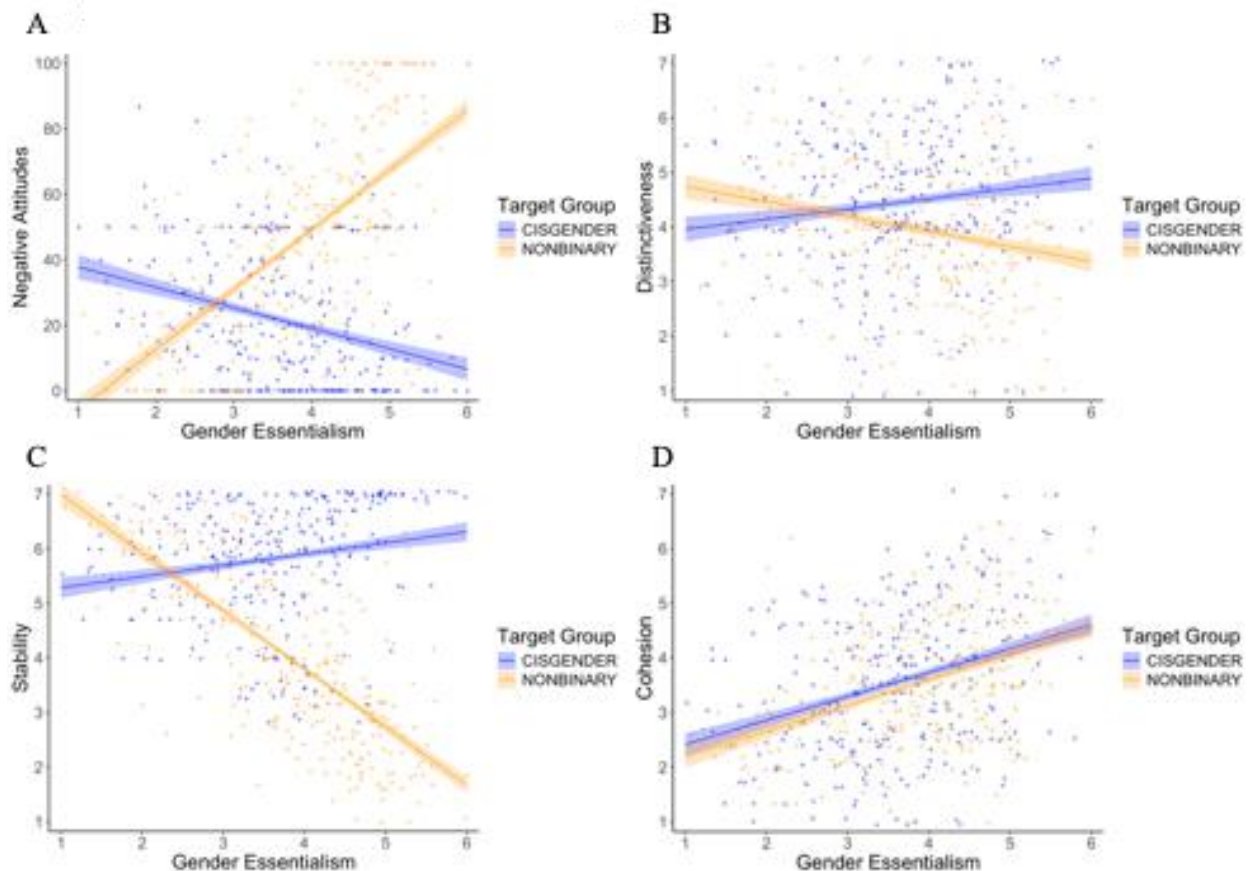
Table S23. Effects of Target Group Condition (Nonbinary vs. Cisgender) on (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, and (d) Cohesion as Moderated by Gender Essentialism in Study 2

<i>(a) DV: Negative attitudes</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	.38	0.03	< .001	0.32, 0.44
Gender essentialism (GE)	.21	0.03	< .001	0.15, 0.27
Condition $\times$ GE	.43	0.03	< .001	0.36, 0.49
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	0.83	0.05	< .001	0.74, 0.92
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	-0.04	0.05	.405	-0.13, 0.05
<i>(b) DV: Distinctiveness</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	-0.17	0.04	< .001	-0.25, -0.08
Gender essentialism (GE)	-0.03	0.04	.455	-0.12, 0.05
Condition $\times$ GE	-0.18	0.04	< .001	-0.26, -0.09
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	-0.35	0.06	< .001	-0.47, -0.23
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	0.003	0.06	.962	-0.12, 0.12
<i>(c) DV: Stability</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	-0.52	0.03	< .001	-0.57, -0.46
Gender essentialism (GE)	-0.27	0.03	< .001	-0.32, -0.21
Condition $\times$ GE	-0.39	0.03	< .001	-0.45, -0.34
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI

Condition (-1 = cisgender, 1 = nonbinary)	-0.93	0.04	< .001	-1.01, -0.85
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	-0.13	0.04	.002	-0.21, -0.05
(d) DV: Cohesion				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = cisgender, 1 = nonbinary)	-0.05	0.04	.180	-0.13, 0.03
Gender essentialism (GE)	0.37	0.04	< .001	0.29, 0.44
Condition $\times$ GE	0.01	0.04	.723	-0.06, 0.09

Note. These models only include participants in the nonbinary target group condition ($n = 278$) and the cisgender target group condition ($n = 270$).

Figure S4. Relationship between Gender Essentialism and (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, (d) Cohesion by Target Group Condition (Nonbinary vs. Cisgender) in Study 2



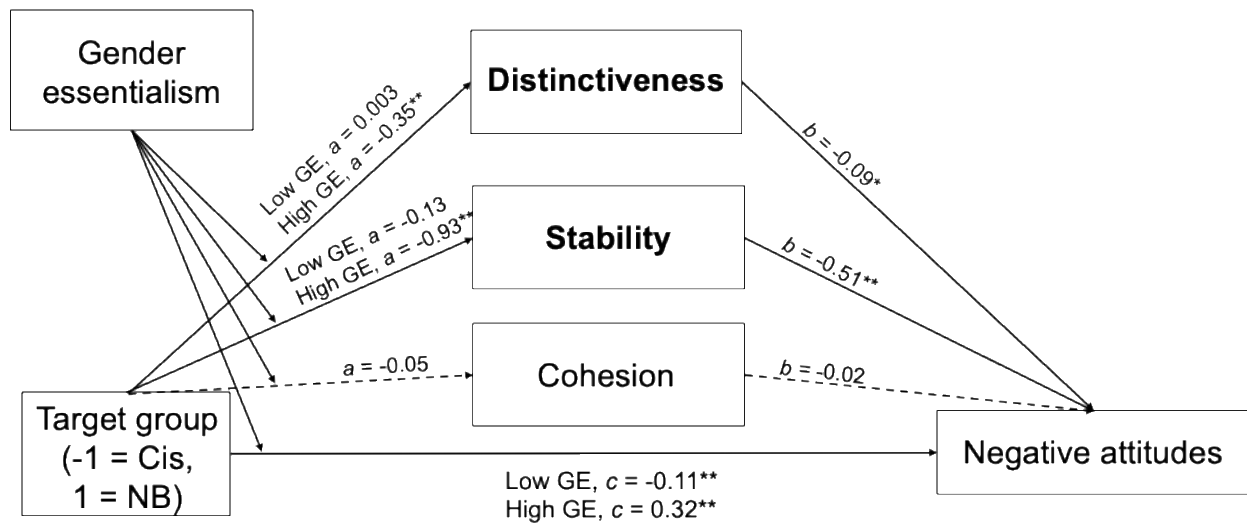
Note. The lines indicate the best-fitting regressions and the error bands represent ± 1 SE.

Table S24. Indirect Effects of Target Group Condition (Nonbinary vs. Cisgender) on Negative Attitudes Through Cognitions as Moderated by Gender Essentialism in Study 2

<i>Mediator: Distinctiveness (moderated mediation index: 0.02, SE = 0.01 (0.004, 0.03))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 <i>SD</i>)	0.00	0.01	-0.01, 0.01
Indirect effect for high GE (+1 <i>SD</i>)	0.03	0.01	0.01, 0.06
<i>Mediator: Stability (moderated mediation index: 0.20, SE = 0.02 (0.16, 0.25))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 <i>SD</i>)	0.07	0.02	0.03, 0.11
Indirect effect for high GE (+1 <i>SD</i>)	0.48	0.05	0.38, 0.58
<i>Mediator: Cohesion (moderated mediation index: 0.00, SE = 0.002 (-0.004, 0.003))</i>			
	<i>ab</i>	<i>SE</i>	95% CI
Indirect effect for low GE (-1 <i>SD</i>)	0.001	0.003	-0.01, 0.01
Indirect effect for high GE (+1 <i>SD</i>)	0.001	0.003	-0.004, 0.01

Note. GE = Gender essentialism. In this model, the three mediators are tested in parallel and gender essentialism is entered as moderator of the indirect effects. This analysis only includes participants in the nonbinary target group condition ($n = 278$) and the cisgender target group condition ($n = 270$).

Figure S5. Effect of Nonbinary vs. Cisgender Target Gender Group Condition on Negative Attitudes Through Perceived Group Distinctiveness, Stability, and Cohesion as Moderated by Gender Essentialism in Study 2



Note. NB stands for Nonbinary. Path values are standardized coefficients. Solid lines indicate significant relationships; dashed lines indicate non-significant relationships. $^*p < .01$, $^{**}p < .001$

Table S25. Effects of Target Group Condition by Target Birth Sex on (a) Negative Attitudes, (b) Distinctiveness, (c) Stability, and (d) Cohesion in Study 2

<i>(a) DV: Negative attitudes</i>			
Predictor	<i>F</i>	<i>p</i>	η_p^2
Target (cisgender, transgender, nonbinary)	57.86	< .001	0.12
Birth sex (female, male)	1.78	.182	0.002
Target $\times$ birth sex	6.80	.001	0.02
<i>Follow up tests: Effect of birth sex for cisgender target group</i>			
Predictor	<i>M_{diff} (SE)</i>	<i>p</i>	η_p^2
Birth sex (female, male)	-0.42 (0.11)	< .001	0.02
<i>Follow up tests: Effect of birth sex for transgender target group</i>			
Predictor	<i>M_{diff} (SE)</i>	<i>p</i>	η_p^2
Birth sex (female, male)	0.14 (0.11)	.221	0.002
<i>Follow up tests: Effect of birth sex for nonbinary target group</i>			
Predictor	<i>M_{diff} (SE)</i>	<i>p</i>	η_p^2
Birth sex (female, male)	0.03 (0.11)	.824	0.00
<i>(b) DV: Distinctiveness</i>			
Predictor	<i>F</i>	<i>p</i>	η_p^2
Target (cisgender, transgender, nonbinary)	11.92	< .001	0.03
Birth sex (female, male)	0.78	.379	0.001
Target $\times$ birth sex	2.34	.097	0.01
<i>(c) DV: Stability</i>			
Predictor	<i>F</i>	<i>p</i>	η_p^2
Target (cisgender, transgender, nonbinary)	113.86	< .001	0.22
Birth sex (female, male)	0.69	.407	0.001
Target $\times$ birth sex	0.04	.964	0.00
<i>(d) DV: Cohesion</i>			
Predictor	<i>F</i>	<i>p</i>	η_p^2
Target (cisgender, transgender, nonbinary)	0.09	.912	0.00
Birth sex (female, male)	0.01	.944	0.00
Target $\times$ birth sex	0.45	.636	0.001

Pretest: Testing the Validity of the Stability Manipulation in Study 3

We conducted a pretest prior to Study 3 to examine whether an article about the stability of gender identity in transgender youth (vs. control) could successfully increase the perceived stability of the transgender social identity relative to two control conditions that did not focus on gender identity. We also examined which of these two control conditions maximized the effect of the manipulation.

Pretest Participants

We recruited 163 U.S. participants through Connect (www.connect.com) in exchange for \$1.50. The pre-test was conducted in two parts, which were administered three days apart. Only participants who completed both parts ($n = 161$) were included in the pre-test. Of these 161 participants, we excluded 5 participants who either (a) had duplicate IP addresses, (b) indicated that some of their responses were jokes or random, or (c) provided nonsense responses to open-ended questions at the end of Part 1 or Part 2. The final sample ($n = 156$, mean age = 40.06, $SD = 11.22$) included 82 (52.6%) cisgender men, 69 (44.2 %) cisgender women, 1 (0.6%) nonbinary people, 2 (1.3%) transgender men; 2 (1.2%) declined to answer or selected “Other”. Participants self-identified as White (63.5%), Asian (9.0%), Black (10.3%), Hispanic (5.1%); Multiracial (10.3%); 1.9% declined to answer, selected “Other”, or did not answer. Participants self-identified as heterosexual (87.2%), Lesbian or Gay (2.6%), Bisexual, Pansexual, or Queer (9.0%); 1.3% declined to answer.

A sensitivity power analysis (Faul et al., 2007) indicated that the final sample ($n = 156$) was sufficient to detect a small mean difference of $d = 0.48$ in a two-tailed t-test, assuming $\alpha = .50$ and power = 0.80.

Pretest Procedure and Measures

Similar to Studies 1-3, we minimized spillover or contamination across measures by splitting the pretest in two parts. In Part 1, we measured participants' gender essentialist beliefs and we included a distractor measure of race essentialism (which will not be discussed further). Three days later, the same participants were invited to complete Part 2. Participants read an article excerpt and were randomly assigned to one of three conditions (experimental: gender identity; control 1: vocational interests; control 2: bird migration), described below. After the manipulation, in order to familiarize participants in all conditions with the term "transgender," they read the description of a transgender individual ("*J. Leavitt*"). As in Studies 1-3, we counterbalanced whether this transgender individual had been assigned female sex or male sex at birth (i.e., whether this person was a transgender man or a transgender woman, respectively). After this description, we assessed perceptions of (a) group distinctiveness, (b) group stability, and (c) within-group cohesion (in counterbalanced order) with reference to a transgender target group. Finally, participants were asked an attention check question and demographic questions regarding gender identity (e.g., gender, whether they identify as transgender, gender identification). At the end of the Pretest, participants were informed that the article they had read was fictitious. They also learned the scientific consensus on the topic; namely, that current research suggests that gender identity remains stable over time (e.g., Olson et al., 2022), that bird migration patterns are shifting due to climate change (e.g., Visser et al., 2009), or that vocational interests can remain stable over time but change due to individual differences (e.g., Etzel et al., 2021), depending on condition, and were provided with links to scientific articles on the topic.

Experimental Manipulation of Perceived Stability of Gender Identity. Participants were randomly assigned between subjects to read a news article excerpt about (1) gender identity

($n = 50$), (2) vocational interests ($n = 54$), or (3) bird migration patterns ($n = 52$) remaining stable across time.

Figure S6. Experimental Manipulation of Perceived Stability (Gender Identity Condition)



The image is a screenshot of a news article. At the top, there is a navigation bar with a home icon and a search bar. The article title is "New 10-Year Study Confirms Decades of Research: Gender Identity Remains Stable for Young Transgender People". Below the title, there are two bullet points in orange text: "• Decades of research show that gender identity remains stable for young transgender people over time." and "• Research shows that children can identify their gender and are unlikely to change it over time." The author is "By M.C. Bender and J. Leffler" and the date is "Apr 23, 2024 5:00 PM". There are social media sharing icons (Facebook, Twitter, Instagram, YouTube, Email) below the author information. The main text of the article discusses the stability of gender identity for young transgender people, citing a study from Princeton University. A definition box on the right side of the article defines "Transgender" and "Cisgender". The article concludes by stating that the study reaffirmed that once a transgender child reaches puberty, it's rare for them to later identify as cisgender.

New 10-Year Study Confirms Decades of Research: Gender Identity Remains Stable for Young Transgender People

- Decades of research show that gender identity remains stable for young transgender people over time.
- Research shows that children can identify their gender and are unlikely to change it over time.

By M.C. Bender and J. Leffler
Apr 23, 2024 5:00 PM

Decades of research consistently show that gender identity is stable for young transgender people. Scientists agree that of all psychological traits, one of the most unwavering is gender identity. One expert explained, "Data suggest that most transgender youth who socially transition in childhood (that is, who take on pronouns that match their gender identity) maintain these identities over time." Another researcher explained that, "For the majority of transgender youth, this is a long-term identity."

Experts emphasize that research is important in painting a nuanced picture of the complex realities of young people's gender identities. Understanding how gender identity develops is critical, scientists say, because the repercussions of many life experiences depend on the long-term stability of one's gender identity.

A team of researchers at Princeton University recently published a study that shows these patterns quite well. The landmark study examined the gender identity trajectories of over 300 young transgender people who had socially transitioned. Participants were in their childhood at the start of the study, and the researchers followed up with them every two years for an average of 10.4 years. They found that over 97% of the participants continued to identify as transgender throughout this period. For example, a 23-year-old transgender man who joined the study at 11 years of age said, "I discovered my true gender identity when I was 10 and it hasn't changed since."

Dr. Susan Lowely, the leading researcher of this study, has recently been conferred with the highly prestigious Lifetime Career Award from the Academy of Sciences for her research on gender identity. Dr. Lowely comments: "The study reaffirmed that once a transgender child reaches puberty, it's rare for them to later identify as cisgender." Transgender men and women are not confused about who they are.

The dozens of transgender people that we interviewed for this article revealed highly diverse life experiences, goals, and motivations. We strongly concluded based on these conversations that transgender people are unique individuals who share one critical thing in common—an overwhelming majority agreed that being transgender is not a "phase" for them. For example, one of the young transgender women who spoke to us explained that her true gender identity has not changed since she socially transitioned 12 years ago and she continues to use feminine pronouns. She says that she is always honest and upfront about her identity to others.

Definition
Transgender: A term used to describe individuals whose gender identity is different from the sex they were assigned at birth (e.g., transgender woman: assigned male sex at birth and identifies as a woman; transgender man: assigned female sex at birth and identifies as a man).
Cisgender: A term used to describe individuals whose gender identity aligns with the sex they were assigned at birth (e.g., cisgender woman: assigned female sex at birth and identifies as a woman; cisgender man: assigned male sex at birth and identifies as a man).

Figure S7. Control Manipulation of Perceived Stability (Bird Migration Condition)

DISCOVER

NEW MULTI-YEAR STUDY CONFIRMS DECADES OF RESEARCH: MIGRATION PATTERNS REMAIN STABLE FOR MOST BIRD SPECIES

• Decades of research show that bird migration patterns remain stable for different species of birds over time.

• Research shows that bird migration patterns ingrain early on and are unlikely to change over time.

By M.C. Bender and J. Leffler

Apr 23, 2024 5:00 PM

Decades of research consistently show that migration patterns are stable for most bird species. Scientists agree that of all patterns occurring naturally, one of the most unwavering is migration patterns. One expert explained, "Data suggest that most young birds across different species maintain these migration routes over time." Another researcher explained that, "For the majority of birds, these are long-term movement patterns."

Definition

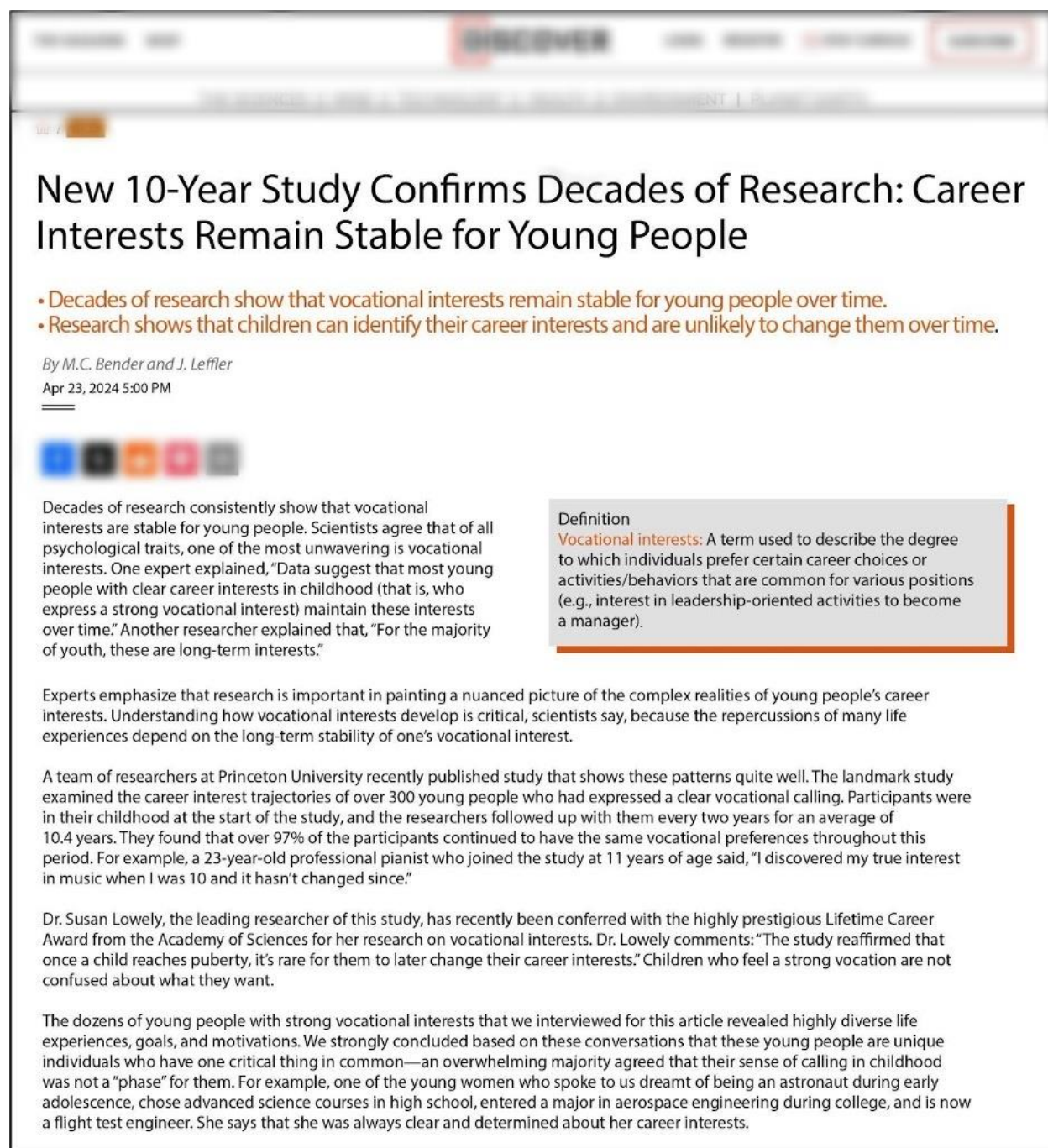
Migration patterns: A term used to describe the regular seasonal movement of birds, often north and south, between breeding and wintering grounds. Many species of birds migrate.

Experts emphasize that research is important in painting a nuanced picture of the complex reality of bird migration patterns. Understanding how these patterns develop is critical, scientists say, because the repercussions of a bird's behavior depend on the long-term stability of its migration patterns.

A team of researchers at Princeton University recently published a study that shows these patterns quite well. The landmark study examined the migratory trajectories of over 300 flocks of birds of different species. The flocks were young at the start of the study, and the researchers followed up with their movement patterns every two years for an average of 10.4 years. They found that over 97% of the birds had stable migration patterns throughout this period.

Dr. Susan Lowely, the leading researcher of this study, has recently been conferred with the highly prestigious Lifetime Career Award from the Academy of Sciences for her research on trajectories of migratory bird movements. Dr. Lowely comments: "The study reaffirmed that once a pattern has been established, it's rare for birds to completely change their migration movements."

The dozens of experts that we interviewed for this article agreed on the very strong conclusion that young birds are highly diverse and that different species are unique in their motivations for migrating. Some birds take their cue to migrate from the amount of sunlight, the temperature of the air, and the amount and type of natural food sources available. These seasonal factors trigger the migration instinct most often in winter conditions, though seasonal migration can occur at any time of year. Despite these differences, birds have one critical thing in common—an overwhelming majority of species maintain their migration patterns. A famous example of seasonal migration, Canadian Geese winter in the more temperate southern US, then fly north come spring.

Figure S8. Control Manipulation of Perceived Stability (Vocational Interest Condition)

Measures. We measured demographic information, gender essentialism ($\alpha = .93$), stability ($\alpha = .94$), and cohesion ($\alpha = .90$) in the same way as in Studies 1-3, and distinctiveness ($\alpha = .82$) in the same way as in Study 2.

Pretest Results and Discussion

As can be seen in Table S25, which reports means, standard deviations, and bivariate correlations between all study variables, participants with higher gender essentialist thinking reported less perceived group stability ($d = -2.41$) and more perceived group cohesion ($d = 1.25$). Participants in the experimental (versus control) condition reported less credibility ($d = -0.56$).

To test whether the experimental (versus control) manipulation primarily increases perceived group stability, but not necessarily group distinctiveness and cohesion, we conducted separate regression models with condition (control = -1, experimental = 1), gender essentialism (standardized), and their interaction as predictors of each dependent variable. Significant interactions were examined using simple slopes analysis (Aiken & West, 1991). In these models, given that people with stronger gender essentialist views also found the gender identity article to be less credible, we included the perceived credibility of the article as a covariate. We conducted separate models examining the effects of the gender identity condition to the bird migration control condition, and the effects of the gender identity condition to the vocational interest condition.

Table S26. Means, Standard Deviations, and Bivariate Correlations Between All Variables in Pretest

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Gender essentialism	3.52	1.20	-				
2. Stability	4.76	1.42	-.77**	-			
3. Distinctiveness	4.51	1.73	-.09	.06	-		
4. Cohesion	3.45	1.40	.53**	-.47**	.13	-	
5. Condition (-1 = control, 1 = experimental)	-0.36	0.94	.18*	-.04	-.03	.16	-
6. Credibility	5.19	1.62	-.30**	.31**	.18*	-.11	-.27**

Note. Condition is coded as -1 = Control (vocation and bird migration combined) and 1 = Experimental (gender identity). * $p < .05$, ** $p < .001$

Increasing Stability Through Gender Identity (Vs. Bird Migration) Condition

As can be seen in Table S26, participants in the experimental (vs. bird migration control) condition reported significantly more perceived stability of transgender identities, $\beta = 0.24$, $SE = 0.07$, $p < .001$, 95% CI [0.10, 0.37]. We did not find an interaction between condition and gender essentialism ($p = .457$), suggesting that the effect of the manipulation on stability was similar across different levels of gender essentialism. Further, as can be seen in Table S26, we did not find that the experimental (vs. bird migration control) condition changed perceived distinctiveness ($p = .932$) or cohesion ($p = .253$).

This pattern of results held in models that did not control for perceived credibility and the main effect of condition remained significant for stability, $\beta = 0.15$, $SE = 0.07$, $p < .037$, 95% CI [0.01, 0.28] (see Table S27).

Increasing Stability Through Gender Identity (Vs. Vocational Interests) Condition

As can be seen in Table S28, the effect of condition was not significant on perceived stability of transgender identities, $\beta = 0.10$, $SE = 0.06$, $p = .103$, 95% CI [-0.02, 0.21]. We did not

find an interaction between condition and gender essentialism ($p = .071$), suggesting that the effect of the manipulation on stability was similar across different levels of gender essentialism. Further, as can be seen in Table S28, we did not find that the experimental (vs. vocational interest control) condition changed perceived distinctiveness ($p = .622$) or cohesion ($p = .725$).

This pattern of results held in models that did not control for perceived credibility and the main effect of condition remained not significant for stability, $\beta = 0.08$, $SE = 0.06$, $p = .233$, 95% CI [-0.05, 0.20] (see Table S28).

The results of the Pretest provided experimental evidence of successfully manipulating the stability of gender identity. We found that reading about stability in gender identity of transgender youth (vs. bird migration), when controlling for perceived credibility, significantly increased perceived stability of transgender identities. However, we did not find that the gender identity condition significantly increased perceived stability of transgender identities compared to the vocational interest condition. Thus, we decided to use the gender identity and bird migration conditions in subsequent experiments.

Table S27. Effects of Experimental Condition (Gender Identity vs. Bird Migration) and Gender Essentialism on (a) Stability, (b) Distinctiveness, and (c) Cohesion, with Credibility as a Covariate in Pretest

<i>(a) DV: Stability</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.24	0.07	<.001	0.10, 0.37
Gender essentialism (GE)	-0.63	0.08	<.001	-0.78, -0.47
Condition $\times$ GE	0.06	0.08	.457	-0.09, 0.20
Credibility	0.27	0.08	<.001	0.11, 0.42
<i>(b) DV: Distinctiveness</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.01	0.10	.932	-0.20, 0.22
Gender essentialism (GE)	-0.20	0.12	.095	-0.43, 0.04
Condition $\times$ GE	0.03	0.11	.780	-0.19, 0.26
Credibility	0.10	0.12	.423	-0.14, 0.33
<i>(c) DV: Cohesion</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.10	0.09	.253	-0.08, 0.28
Gender essentialism (GE)	0.46	0.10	<.001	0.26, 0.66
Condition $\times$ GE	0.19	0.10	.050	0.00, 0.39
Credibility	0.03	0.10	.754	-0.17, 0.23

Note. These analyses include only participants in the “gender identity” experimental condition ($n = 50$) and the “bird migration” control condition ($n = 52$).

Table S28. Effects of Experimental Condition (Gender Identity vs. Bird Migration) and Gender Essentialism on (a) Stability, (b) Distinctiveness, and (c) Cohesion, without Credibility as a Covariate in Pretest

<i>(a) DV: Stability</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.15	0.07	.037	0.01, 0.28
Gender essentialism (GE)	-0.77	0.07	<.001	-0.91, -0.63
Condition $\times$ GE	-0.07	0.07	.340	-0.21, 0.07
<i>(b) DV: Distinctiveness</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.02	0.10	.831	-0.22, 0.17
Gender essentialism (GE)	-0.24	0.10	.021	-0.45, -0.04
Condition $\times$ GE	-0.01	0.10	.950	-0.21, 0.20
<i>(c) DV: Cohesion</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.10	0.08	.233	-0.07, 0.27
Gender essentialism (GE)	0.46	0.09	<.001	0.28, 0.63
Condition $\times$ GE	0.19	0.09	.030	0.02, 0.37
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.29	0.12	.014	0.06, 0.52
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.08	0.12	.501	-0.33, 0.16

Note. These analyses include only participants in the “gender identity” experimental condition ($n = 50$) and the “bird migration” control condition ($n = 52$).

Table S29. Effects of Experimental Condition (Gender Identity vs. Vocational Interest) and Gender Essentialism on (a) Stability, (b) Distinctiveness, and (c) Cohesion, with Credibility as a Covariate in Pretest

<i>(a) DV: Stability</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.10	0.06	.103	-0.02, 0.21
Gender essentialism (GE)	-0.73	0.07	< .001	-0.86, -0.59
Condition $\times$ GE	0.12	0.07	.071	-0.01, 0.26
Credibility	0.23	0.06	< .001	0.10, 0.36
<i>(b) DV: Distinctiveness</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.05	0.10	.622	-0.15, 0.25
Gender essentialism (GE)	0.01	0.12	.945	-0.23, 0.24
Condition $\times$ GE	-0.16	0.12	.188	-0.39, 0.08
Credibility	0.12	0.11	.299	-0.11, 0.34
<i>(c) DV: Cohesion</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.03	0.09	.725	-0.14, 0.20
Gender essentialism (GE)	0.70	0.10	< .001	0.50, 0.89
Condition $\times$ GE	0.04	0.10	.718	-0.16, 0.23
Credibility	0.12	0.10	.194	-0.06, 0.31

Note. These analyses include only participants in the “gender identity” experimental condition ($n = 50$) and the “vocational interests” control condition ($n = 54$).

Table S30. Effects of Experimental Condition (Gender Identity vs. Vocational Interest) and Gender Essentialism on (a) Stability, (b) Distinctiveness, and (c) Cohesion, without Credibility as a Covariate in Pretest

<i>(a) DV: Stability</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.08	0.06	.233	-0.05, 0.20
Gender essentialism (GE)	-0.85	0.07	< .001	-0.98, -0.72
Condition $\times$ GE	0.01	0.07	.896	-0.12, 0.14
<i>(b) DV: Distinctiveness</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.05	0.10	.663	-0.16, 0.25
Gender essentialism (GE)	-0.04	0.11	.679	-0.26, 0.17
Condition $\times$ GE	-0.20	0.11	.060	-0.42, 0.01
<i>(c) DV: Cohesion</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.03	0.09	.718	-0.14, 0.20
Gender essentialism (GE)	0.65	0.09	< .001	0.48, 0.83
Condition $\times$ GE	-0.003	0.09	.973	-0.18, 0.17

Note. These analyses include only participants in the “gender identity” experimental condition ($n = 50$) and the “vocational interests” control condition ($n = 54$).

Pilot Study: Conceptual Replication of Study 3

We conducted a Pilot Study that was identical to Study 3, with one key difference: we only included a single dependent variable: Negative attitudes toward transgender people. We preregistered this study design, analysis plan, and sample size (https://osf.io/fc8dq/?view_only=50950941d77147a29b1c80d548c1b60f).

Pilot Study Participants

We recruited U.S. participants through Connect (www.connect.com) in exchange for \$1.50. The Pilot Study was conducted in two parts administered three days apart. Only participants ($n = 651$) who completed both parts were included. As preregistered, of these 651 participants, we excluded 22 participants who either (a) had duplicate IP addresses, (b) indicated that some of their responses were jokes or random, or (c) provided nonsense responses to open-ended questions at the end of Part 1 or Part 2. The final sample ($n = 629$, mean age = 40.25, $SD = 12.38$) included 307 (48.8%) cisgender men, 303 (48.2%) cisgender women, 7 (1.1%) nonbinary people, 5 (0.8%) transgender women; 7 (1.2%) declined to answer or selected “Other”. Participants self-identified as White (68.4%), Asian (7.9%), Black (10.5%), Hispanic (4.5%), Native American (0.5%), Multiracial (6.2%); 2.0% declined to answer, selected “Other”, or did not answer. Participants self-identified as heterosexual (83.0%), Lesbian or Gay (3.2%), Bisexual, Pansexual, or Queer (9.5%), Asexual (1.6%); 2.7% declined to answer, selected “Other”, or did not answer.

A sensitivity power analysis indicated that the $n = 629$ was sufficient to detect a medium effect ($f = .14$) in a linear regression with four predictors, assuming power = .80 and $\alpha = .05$.

Pilot Study Procedure and Measures

The study procedures mirrored those from Study 3. Gender essentialism ($\alpha = .91$) and need for closure ($\alpha = .89$) were assessed in Part 1 with the same measures as in Study 3. In Part 2 (three days later), participants were randomly assigned between subjects to read a news article excerpt about (1) gender identity remaining stable across time ($n = 309$) or (2) bird migration patterns remaining stable across time ($n = 320$; see Pretest on pp. 24 of this Supplement). After the manipulation, we measured negative attitudes toward transgender people ($\alpha = .98$) and prior contact with transgender people ($\alpha = .91$) in the same way as in Study 3 and included the same attention check as in the Pretest. We measured demographic information in Parts 1 and 2 in the same way as in Study 3. At the end of the Pilot Study, participants were informed that the article they had read was fictitious. They also learned the scientific consensus on the topic, namely, that current research suggests that gender identity remains stable over time (e.g., Olson et al., 2022), or that bird migration patterns are shifting due to climate change (e.g., Visser et al., 2009), depending on condition, and were provided with links to scientific articles on the topic.

Pilot Study Results and Discussion

As can be seen in Table S30, which reports means, standard deviations, and bivariate correlations between all study variables, participants with more extensive prior contact to transgender people also reported less negative attitudes toward them ($d = -0.87$) and more perceived group cohesion ($d = 1.25$). Participants with higher need for closure reported more gender essentialist thinking ($d = 0.20$) and more negative attitudes toward transgender people ($d = 0.26$).

To test our central hypothesis that experimentally increasing perceptions of stability of gender identity would improve attitudes toward transgender people, we conducted linear regression model with condition (control = -1, gender identity = 1), gender essentialism

(standardized), and their interaction as predictors. A significant interaction was examined using simple slopes analysis (Aiken & West, 1991). In this model, given that people may potentially discount information contrary to their beliefs (Klayman 1995; Kunda, 1990), we included the perceived credibility of the article as a covariate. As pre-registered, to examine the robustness of our conclusions, we conducted additional analyses, including target birth sex, transgender contact, need for closure, and participant characteristics (e.g., gender, political orientation) as covariates. This model is reported in full below (Table S34). None of the conclusions changed when including these covariates, suggesting that the effects of the manipulation hold above and beyond any relationship between these variables and the dependent variables.

Dampening Negative Attitudes Toward Transgender People

As predicted and as can be seen in Table S31, participants in the experimental (vs. control) condition evaluated transgender people less negatively, $\beta = -0.10$, $SE = 0.03$, $p < .001$, 95% CI [-0.16, -0.04]. This effect was significantly moderated by gender essentialism, $\beta = -0.18$, $SE = 0.03$, $p < .001$, 95% CI [-0.24, -0.13]. As predicted, participants with strong gender essentialist thinking (+1SD) reported significantly less negative attitudes in the gender identity (vs. control) condition, $\beta = -0.28$, $SE = 0.04$, $p < .001$, 95% CI [-0.37, -0.20]. Participants with weak gender essentialist thinking (-1SD) reported more negative attitudes in the gender identity (vs. control) condition, $\beta = 0.09$, $SE = 0.04$, $p = .029$, 95% CI [0.01, 0.16].

As robustness check, we also conducted the same model for participants with credibility scores above the midpoint of the scale (Table S32). Participants in the experimental (vs. control) condition evaluated transgender people less negatively, $\beta = -0.15$, $SE = 0.03$, $p < .001$, 95% CI [-0.22, -0.09]. This effect was significantly moderated by gender essentialism, $\beta = -0.20$, $SE = 0.03$, $p < .001$, 95% CI [-0.26, -0.13]. Participants with strong gender essentialist thinking

(+1SD) reported significantly less negative attitudes in the gender identity (vs. control) condition, $\beta = -0.31$, $SE = 0.05$, $p < .001$, 95% CI [-0.45, -0.22]. The effect of condition was not significant for participants with weak gender essentialist thinking (-1SD), $\beta = 0.07$, $SE = 0.04$, $p = .106$, 95% CI [-0.02, 0.16].

In a model without credibility as covariate (see Table S33), the main effect of condition was not significant ($p = .973$), but the interaction between gender essentialism and condition was significant, $\beta = -0.08$, $SE = 0.03$, $p = .008$, 95% CI [-0.14, -0.02]. The effect of condition was not significant for participants with strong gender essentialist thinking (+1SD), $\beta = -0.08$, $SE = 0.04$, $p = .055$, 95% CI [-0.16, 0.002], or for participants with weak gender essentialist thinking (-1SD), $\beta = 0.08$, $SE = 0.04$, $p = .062$, 95% CI [-0.004, 0.16].

Discussion

The Pilot Study results provided experimental evidence that perceptions of gender group stability underlie negative attitudes toward transgender people. In line with our hypothesis and in line with results reported in the main text (Study 3), strengthening beliefs that gender identity is stable reduced negative feelings toward transgender people, and the effect was stronger among people who view gender in highly essentialist terms. In addition, we found that strengthening beliefs in the stability of gender identity increased negative feelings toward transgender people among those low in gender essentialism. This result was unexpected and did not hold under further robustness checks. The predicted effects among those high in gender essentialism emerged above and beyond any variation explained by participant characteristics (e.g., gender) and were robust when we factored in alternative theoretically-related constructs, including need for closure, political orientation, and previous contact with transgender people.

Table S31. Means, Standard Deviations, and Bivariate Correlations Between All Variables in Pilot Study

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Gender essentialism	3.53	1.13	-						
2. Condition (-1 = control, 1 = experimental)	-0.02	1.00	-.05	-					
3. Negative attitudes	41.05	30.76	.68***	-.03	-				
4. Need for closure	4.05	0.81	.10*	.02	.13**	-			
5. Transgender contact	0.00	0.92	-.35***	-.01	-.40***	-.14**	-		
6. Political orientation (social issues)	3.14	1.81	.66***	-.01	.65***	.13**	-.30**	-	
7. Political orientation (economic issues)	3.57	1.83	.56***	-.01	.56***	.09*	.31**	.81**	-
8. Credibility	5.39	1.62	-.40***	-.28***	-.46***	.004	.20**	-.39**	-.33**

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

Table S32. Effects of Experimental Condition and Gender Essentialism on Negative Attitudes with Credibility as a Covariate in Pilot Study

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.10	0.03	< .001	-0.16, -0.04
Gender essentialism (GE)	0.57	0.03	< .001	0.51, 0.63
Condition $\times$ GE	-0.18	0.03	< .001	-0.24, -0.13
Credibility	-0.33	0.03	< .001	-0.39, -0.26
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.28	0.04	< .001	-0.37, -0.20
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.09	0.04	.029	0.01, 0.16

Table S33. Effects of Experimental Condition and Gender Essentialism on Negative Attitudes for Participants with High Credibility Scores in Pilot Study

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.15	0.03	< .001	-0.22, -0.09
Gender essentialism (GE)	0.55	0.03	< .001	0.49, 0.62
Condition $\times$ GE	-0.20	0.03	< .001	-0.26, -0.13
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.31	0.05	< .001	-0.45, -0.22
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.07	0.04	.106	-0.02, 0.16

Note. This analysis includes only participants with credibility scores above the midpoint of the scale ($n = 491$).

Table S34. Effects of Experimental Condition and Gender Essentialism on Negative Attitudes without Credibility as a Covariate in Pilot Study

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.001	0.03	.973	-0.06, 0.06
Gender essentialism (GE)	0.69	0.03	< .001	0.63, 0.75
Condition $\times$ GE	-0.08	0.03	.008	-0.14, -0.02
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.08	0.04	.055	-0.16, 0.002
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.08	0.04	.062	-0.004, 0.16

Table S35. Effects of Experimental Condition and Gender Essentialism on Negative Attitudes with Credibility, Political Orientation (Social, Economic), Need for Closure, Contact with Transgender People, Target Birth Sex, Participant Gender, and Strength of Gender Identification as Covariates in Pilot Study

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.14	0.03	< .001	-0.20, -0.02
Gender essentialism (GE)	0.31	0.04	< .001	0.23, 0.45
Condition $\times$ GE	-0.17	0.03	< .001	-0.24, -0.08
Credibility	-0.17	0.06	.005	-0.29, -0.19
Political orientation (social)	0.27	0.06	< .001	0.16, 0.33
Political orientation (economic)	0.02	0.05	.728	-0.08, 0.14
Need for closure	0.04	0.03	.166	0.02, 0.11
Transgender contact	-0.13	0.03	< .001	-0.20, -0.06
Birth sex (-1 = female, 1 = male)	-0.01	0.03	.621	-0.07, 0.04
Participant gender (-1 = woman, 1 = man)	0.14	0.03	< .001	0.08, 0.20
Gender ingroup identification	-0.05	0.03	.110	-0.11, 0.01
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.28	0.05	< .001	-0.38, -0.19
<i>Follow up tests: effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.05	0.04	.219	-0.03, 0.13

Note. This analysis included cisgender participants only ($n = 467$).

Table S36. Sample Characteristics in Study 3

<i>Participant sexual orientation</i>	<i>n</i>	<i>%</i>
Heterosexual	666	87.2
Lesbian or Gay	18	2.4
Bisexual, Pansexual, or Queer	57	7.5
Asexual	9	1.2
Prefer not to say	11	1.4
“Other”	3	0.4

Table S37. Effects of Condition on (a) Behavioral Intentions, (b) Positive Intergroup Expectancies, and (c) Negative Attitudes as Moderated by Gender Essentialism, with Credibility as a Covariate, Including Cisgender Participants Only ($n = 748$) in Study 3

<i>(a) DV: Behavioral intentions</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.16	0.03	< .001	0.10, 0.21
Gender essentialism (GE)	-0.54	0.03	< .001	-0.60, -0.48
Condition $\times$ GE	0.18	0.03	< .001	0.12, 0.24
Credibility	0.27	0.03	< .001	0.21, 0.34
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.33	0.05	< .001	0.25, 0.42
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.02	0.04	.709	-0.09, 0.06
<i>(b) DV: Positive intergroup expectancies</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.17	0.03	< .001	0.12, 0.23
Gender essentialism (GE)	-0.56	0.03	< .001	-0.62, -0.51
Condition $\times$ GE	0.14	0.03	< .001	0.09, 0.20
Credibility	0.30	0.03	< .001	0.24, 0.37
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.32	0.04	< .001	0.24, 0.40
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.03	0.04	.367	-0.04, 0.11
<i>(c) DV: Negative attitudes</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.19	0.03	< .001	-0.24, -0.14
Gender essentialism (GE)	0.59	0.03	< .001	0.54, 0.64
Condition $\times$ GE	-0.15	0.03	< .001	-0.20, -0.09

Credibility	-0.29	0.03	< .001	-0.35, -0.23
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.34	0.04	< .001	-0.42, -0.26
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.05	0.04	.179	-0.12, 0.02

Table S38. Effects of Experimental Condition and Gender Essentialism on Behavioral Intentions with Credibility, Political Orientation (Social, Economic), Need for Closure, Contact with Transgender People, Target Birth Sex, Participant Gender, and Strength of Gender Identification as Covariates in Study 3

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.12	0.03	< .001	0.07, 0.18
Gender essentialism (GE)	-0.23	0.04	< .001	-0.31, -0.16
Condition $\times$ GE	0.15	0.03	< .001	0.09, 0.20
Credibility	0.22	0.03	< .001	0.16, 0.28
Political orientation (social)	-0.38	0.05	< .001	-0.47, -0.28
Political orientation (economic)	0.03	0.05	.479	-0.06, 0.12
Need for closure	-0.07	0.03	.005	-0.13, -0.02
Transgender contact	0.14	0.03	< .001	0.09, 0.20
Birth sex (-1 = female, 1 = male)	-0.02	0.03	.509	-0.07, 0.03
Participant gender (-1 = woman, 1 = man)	-0.12	0.03	< .001	-0.17, -0.07
Gender ingroup identification	-0.02	0.03	.578	-0.07, 0.04
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.27	0.04	< .001	0.19, 0.35
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.02	0.04	.633	-0.09, 0.05

Note. This analysis includes cisgender participants only ($n = 748$).

Table S39. Effects of Experimental Condition and Gender Essentialism on Positive Intergroup Expectancies with Credibility, Political Orientation (Social, Economic), Need for Closure, Contact with Transgender People, Target Birth Sex, Participant Gender, and Strength of Gender Identification as Covariates in Study 3

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.14	0.03	< .001	0.09, 0.19
Gender essentialism (GE)	-0.30	0.04	< .001	-0.37, -0.23
Condition $\times$ GE	0.12	0.03	< .001	0.07, 0.17
Credibility	0.26	0.03	< .001	0.20, 0.32
Political orientation (social)	-0.28	0.05	< .001	-0.37, -0.19
Political orientation (economic)	-0.004	0.04	.918	-0.09, 0.08
Need for closure	-0.07	0.03	.010	-0.12, -0.02
Transgender contact	0.19	0.03	< .001	0.14, 0.24
Birth sex (-1 = female, 1 = male)	0.04	0.02	.069	-0.003, 0.09
Participant gender (-1 = woman, 1 = man)	-0.08	0.03	.002	-0.13, -0.03
Gender ingroup identification	0.04	0.03	.155	-0.01, 0.09
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.26	0.04	< .001	0.19, 0.34
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.03	0.04	.409	-0.04, 0.10

Note. This analysis includes cisgender participants only ($n = 748$).

Table S40. Effects of Experimental Condition and Gender Essentialism on Negative Attitudes with Credibility, Political Orientation (Social, Economic), Need for Closure, Contact with Transgender People, Target Birth Sex, Participant Gender, and Strength of Gender Identification as Covariates in Study 3

Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.16	0.03	< .001	-0.21, -0.11
Gender essentialism (GE)	0.32	0.04	< .001	0.25, 0.38
Condition $\times$ GE	-0.12	0.03	< .001	-0.17, -0.07
Credibility	-0.23	0.03	< .001	-0.29, -0.18
Political orientation (social)	0.29	0.05	< .001	0.20, 0.38
Political orientation (economic)	0.05	0.04	.227	-0.03, 0.13
Need for closure	0.05	0.02	.065	-0.003, 0.09
Transgender contact	-0.16	0.03	< .001	-0.21, -0.11
Birth sex (-1 = female, 1 = male)	-0.02	0.02	.392	-0.07, 0.03
Participant gender (-1 = woman, 1 = man)	0.05	0.03	.064	-0.003, 0.09
Gender ingroup identification	-0.03	0.03	.280	-0.08, 0.02
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.28	0.04	< .001	-0.36, -0.20
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.04	0.03	.195	-0.11, 0.02

Note. This analysis includes cisgender participants only ($n = 748$).

Table S41. Effects of Experimental Condition and Gender Essentialism on (a) Behavioral Intentions, (b) Positive Intergroup Expectancies, and (c) Negative Attitudes for Participants with High Credibility Scores in Study 3

<i>(a) DV: Behavioral intentions</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.15	0.03	< .001	0.09, 0.21
Gender essentialism (GE)	-0.54	0.03	< .001	-0.60, -0.47
Condition $\times$ GE	0.17	0.03	< .001	0.11, 0.24
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.30	0.05	< .001	0.21, 0.39
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.05	0.04	.292	-0.13, 0.04
<i>(b) DV: Positive intergroup expectancies</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.19	0.03	< .001	0.13, 0.26
Gender essentialism (GE)	-0.55	0.03	< .001	-0.61, -0.49
Condition $\times$ GE	0.16	0.03	< .001	0.10, 0.23
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.33	0.05	< .001	0.24, 0.42
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.01	0.04	.859	-0.08, 0.09
<i>(c) DV: Negative attitudes</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.21	0.03	< .001	-0.27, -0.15
Gender essentialism (GE)	0.58	0.03	< .001	0.52, 0.64
Condition $\times$ GE	-0.16	0.03	< .001	-0.22, -0.10
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI

Condition (-1 = control, 1 = gender identity)	-0.34	0.04	< .001	-0.43, -0.26
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.03	0.04	.457	-0.11, 0.05

Note. These models include only participants with credibility scores above the midpoint of the scale ($n = 581$).

Table S42. Effects of Experimental Condition and Gender Essentialism on (a) Behavioral Intentions, (b) Positive Intergroup Expectancies, and (c) Negative Attitudes without Credibility as a Covariate in Study 3

<i>(a) DV: Behavioral intentions</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.07	0.03	.016	0.01, 0.12
Gender essentialism (GE)	-0.62	0.03	< .001	-0.68, -0.57
Condition $\times$ GE	0.08	0.03	.004	0.03, 0.14
<i>Follow up tests: Effect of condition for participants high in GE (+1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.15	0.04	< .001	0.07, 0.23
<i>Follow up tests: Effect of condition for participants low in GE (-1SD)</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.01	0.04	.740	-0.09, 0.07
<i>(b) DV: Positive intergroup expectancies</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.08	0.03	.005	0.02, 0.13
Gender essentialism (GE)	-0.66	0.03	< .001	-0.71, -0.60
Condition $\times$ GE	0.04	0.03	.148	-0.01, 0.09
<i>(c) DV: Negative attitudes</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.10	0.03	< .001	-0.15, -0.05
Gender essentialism (GE)	0.68	0.03	< .001	0.62, 0.73
Condition $\times$ GE	-0.05	0.03	.091	-0.10, 0.01

Table S43. Effects of Experimental Condition, Gender Essentialism, and Target Birth Sex on (a) Behavioral Intentions, (b) Positive Intergroup Expectancies, and (c) Negative Attitudes in Study 3

<i>(a) DV: Behavioral intentions</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.15	0.03	< .001	0.10, 0.21
Gender essentialism (GE)	-0.54	0.03	< .001	-0.60, -0.48
Condition $\times$ GE	0.18	0.03	< .001	0.12, 0.23
Credibility	0.27	0.03	< .001	0.20, 0.33
Birth sex (-1 = female, 1 = male)	-0.03	0.03	.324	-0.08, 0.03
Condition $\times$ Birth sex	-0.02	0.03	.432	-0.08, 0.03
GE $\times$ Birth sex	0.02	0.03	.552	-0.04, 0.07
Condition $\times$ GE $\times$ Birth sex	-0.02	0.03	.478	-0.07, 0.03
<i>(b) DV: Positive intergroup expectancies</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	0.17	0.03	< .001	0.12, 0.22
Gender essentialism (GE)	-0.56	0.03	< .001	-0.62, -0.51
Condition $\times$ GE	0.14	0.03	< .001	0.09, 0.20
Credibility	0.30	0.03	< .001	0.24, 0.36
Birth sex (-1 = female, 1 = male)	0.04	0.03	.159	-0.01, 0.09
Condition $\times$ Birth sex	-0.02	0.03	.493	-0.07, 0.03
GE $\times$ Birth sex	0.01	0.03	.667	-0.04, 0.06
Condition $\times$ GE $\times$ Birth sex	0.003	0.03	.918	-0.05, 0.05
<i>(c) DV: Negative attitudes</i>				
Predictor	β	<i>SE</i>	<i>p</i>	95% CI
Condition (-1 = control, 1 = gender identity)	-0.19	0.03	< .001	-0.24, -0.14
Gender essentialism (GE)	0.59	0.03	< .001	0.53, 0.64
Condition $\times$ GE	-0.15	0.03	< .001	-0.20, -0.09
Credibility	-0.29	0.03	< .001	-0.35, -0.23
Birth sex (-1 = female, 1 = male)	-0.02	0.03	.525	-0.07, 0.03
Condition $\times$ Birth sex	-0.01	0.03	.844	-0.05, 0.04
GE $\times$ Birth sex	-0.01	0.03	.640	-0.06, 0.04
Condition $\times$ GE $\times$ Birth sex	0.02	0.03	.341	-0.03, 0.07