

Feeling Understood Fosters Identity Fusion

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SELF-VERIFICATION FOSTERS IDENTITY FUSION

Abstract

If the consequences of identity fusion are well established, its psychological antecedents are not. To address this shortcoming, eight studies tested the hypothesis that self-verification (receiving evaluations that confirm one's self-views) increases fusion (a synergistic union with a group, individual or cause) which, in turn, increases behavioral support for the target of fusion. Correlational studies showed that perceived self-verification was positively associated with fusion, which was positively associated with willingness to fight and die for a group (Study 1a); a value (Study 1b); and a leader (Study 1c). Study 2 revealed that increasing perceived self-verification fostered greater willingness to fight and die for the group, but only indirectly through increases in fusion. Study 3 showed that four months after indicating the degree of fusion with a group, increasing perceived self-verification augmented endorsement of fighting and dying for the group indirectly through elevations in fusion. In Study 4, relational ties mediated the relationship between perceived self-verification and fusion. Finally, face-to-face interviews with incarcerated members of street gangs and organized crime gangs (Studies 5a-5b) showed that perceived self-verification was positively associated with fusion, which was positively associated with sacrifices for the gang (replicating Studies 1a-1c). No evidence emerged supporting a rival causal path in which fusion caused willingness to fight and die through perceived self-verification. Implications for related theoretical approaches and for conceptualizing the relationship between personal identities, social identities, and group processes are discussed.

Keywords: self-verification, identity fusion, pro-group behaviors, relational ties.

Feeling Understood Fosters Identity Fusion

Feeling understood can lay the groundwork for powerful connections to others. The roots of this hypothesis can be found in two independent psychological theories. Self-verification theory (Swann, 1983) emphasizes the importance of being seen as one sees oneself. So important is the desire for self-verification that people forgo opportunities to feel good about themselves if it means being misunderstood (Giesler et al., 1996; Swann, 2012; Swann et al., 1994). Identity fusion theory (Swann et al., 1983, 2012) focuses on the causes and consequences of feeling deeply connected or “fused” with a group, individual or ideology. Research shows that identity fusion predicts everything from fighting against the Gaddafi regime during the Libyan insurrection (Whitehouse et al., 2014) to costly sacrifices for a cherished group by jihadist prisoners (Gómez et al., 2021, 2022; Gómez, Vázquez, & Atran, 2023). To explain why and how self-verification may contribute to identity fusion, we begin by introducing both constructs and the conceptual links between them.

Self-Verification, Group Membership, and Identity Fusion

Self-verification theory (Swann, 1983, 2012) assumes that people base their identities on the treatment they receive from others (e.g., Cooley, 1902; Mead, 1934). Once formed, self-views (identities and self-views are used interchangeably here) enable people to understand their worlds, guide behavior, and maintain the perception that their lives are coherent and predictable (Swann, 1983; 2012; Swann & Bosson, 2010). Because self-views serve these important functions, people become motivated to maintain them. This motivation emerges whether the identities are positive or negative, for both types of identities are perceived as subjectively accurate and thus foster the perception that the world is knowable and coherent.

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Over four decades of research have provided evidence that people strive to verify their personal, collective, and group identities (for reviews, see Ashokkumar & Swann, 2020; Kwang & Swann, 2010; Swann, 2012). Studies focusing on personal identities have shown that people prefer and seek self-verifying evaluations regarding both their global characteristics (“I am a worthwhile person”) and their specific qualities (“I am stubborn”; Swann et al., 1989). In addition, there is evidence that people work to verify their collective identities (personal self-views that are linked to group membership; Chen et al., 2004, 2006), and group identities (qualities of their ingroups; Gómez et al., 2009). Moreover, researchers have not only found that people gravitate toward settings and interaction partners that support their identities, but that the desire for self-verification may override the desire for self-enhancement (Alicke & Sedikides, 2009). For example, when married people with negative identities find themselves with partners who see them more positively (or negatively) than they see themselves, they withdraw by becoming less intimate with them (e.g., Burke & Stets, 1999; De La Ronde & Swann, 1998; Murray et al., 2000; Ritts & Stein, 1995; Schafer et al., 1996; Swann et al., 1994) or even divorcing them (e.g., Cast & Burke, 2002). Similarly, members of work groups are more likely to be creative within (Ayduk et al., 2013; Swann et al., 2000) and committed to (Wiesenfeld et al., 2007) groups in which they receive verification of their positive or negative self-views. Furthermore, when people’s personal identities are challenged by feedback that is more positive (or negative) than they expect, they compensate by subsequently intensifying their efforts to obtain self-verifying evaluations (e.g., Swann & Hill, 1982; Swann & Read, 1981; Swann et al., 1992, 2009). Together, these self-verification strivings will stabilize people’s self-views--even if it means frustrating their desire for positive evaluations.

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The self-verification motive will be influential when people join groups, causing them to welcome self-verifying evaluations and feel more connected to group members who supply such evaluations. When these feelings of connection or “relational ties” to other group members are stronger, the borders between their representations of their personal self and the group will become increasingly porous. These porous borders will facilitate the synergistic union of the personal and group identities that defines the state of identity fusion (Swann et al., in press).

In part, the identity fusion construct is based on the distinction made by social identity theorists (Tajfel & Turner, 1979; Turner et al., 1994) between the social self (referring to the groups to which one is aligned, such as “Democrat” or “Catholic”) and the personal self (referring to unique qualities of the individual, such as dominant or conscientious). Nevertheless, the goals of social identity and identity fusion theorists are distinct.¹ For example, whereas social identity theory focuses on intergroup processes with an emphasis on phenomena such as intergroup prejudice and discrimination, identity fusion theory focuses on how the personal self joins with various targets of fusion to motivate extreme behavior. Critically, fusion theory features a distinctive understanding of the nature of personal identity and its relationship to social identity (“self” and “identity” are used interchangeably here). Classic social identity theory highlighted the notion that when people align themselves with a group, a sovereign social self eclipses a feckless personal self (the “depersonalization” hypothesis) and the related idea that the activation of social identities competes with the activation of the personal self (the “functional antagonism” hypothesis). In contrast, fusion theory contends that when strongly fused persons join groups, their personal identities remain activated and work together with social identities to synergistically motivate behavior.

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Of course, fusion theory's refutation of the depersonalization and functional antagonism constructs is reminiscent of earlier concerns voiced by revisionist social identity researchers (e.g., Abrams, 1994; Baray et al., 2009; Greenway et al., 2015; Pickett et al., 2002; Postmes & Jetten, 2006; Reid & Deaux, 1996; Simon, 2004; Spears, 2001; Stephenson, 1981). Nevertheless, fusion theory transcended these earlier concerns by contending that among strongly fused persons, significant representations of the personal self are relatively stable, chronically activated, and highly motivating. As such, the personal self is well positioned to synergistically interact with social self-views to motivate extreme pro-group behaviors.

The synergistic union of the personal and social selves of strongly fused individuals influences the way they construe the boundaries between themselves and other group members. Although they continue to recognize these boundaries, they perceive them as porous and permeable.² This perception engenders powerful relational ties to fellow group members, ties that are marked by a desire to strengthen the group. In fact, although relational ties have not been linked to endorsement of violence to protect one's group, they have been shown to mediate the effect of fusion on pro-group behavior (Buhrmester et al., 2015). Nevertheless, our paper is the first to show the mediational role of relational ties in the relation between self-verification and fusion and, in turn, pro-group behavioral intentions.

The notion that strongly fused individuals are motivated to strengthen the group contrasts sharply with social identity theory's assumption that group members enter groups in an effort "to maintain or enhance their self-esteem: They strive for a positive self-concept" (Tajfel & Turner, 1979, p. 40; see also Abrams & Hogg, 1988; Martiny & Rubin, 2016). Rather than perceiving group membership simply as a means of obtaining self-enhancement, strongly fused persons perceive their relationship to the group as reciprocal, with the individual actively supporting the

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group as well as drawing strength from the group. Consistent with this proposition, fusion is not only associated with perceptions of group agency (Gómez et al., 2011), it is also related to the tendency to regard both themselves and their group as physically and spiritually formidable (Gómez et al., 2017, Gómez, Vázquez, & Atran, 2023; Tossell et al., 2022; Vázquez et al., 2020, Vázquez et al., 2023).³ Perceptions of formidability, in turn, are associated with trust of the ingroup, which fosters the will to fight for the group. This empirical evidence thus supports the assumption that reciprocal strength is a key expression of identity synergy that uniquely motivates strongly fused individuals.

The reciprocal strength assumption was particularly influential in developing a verbal measure of identity fusion (Gómez et al., 2011). Most important, it led to the incorporation of items that emphasized the person's contributions to the group ("I make my group strong") as well as the group's contributions to the self ("I am strong because of my group"). In fact, for strongly fused persons, the welfare of the group becomes as important as their own personal welfare. These feelings compel strongly fused individuals to enact behaviors that exemplify the group's goals and values (Swann et al., 2009, 2012), including even violence, self-sacrifice, and retribution against outgroup members (Fredman et al., 2017; Gómez et al., 2020; Swann et al., 2014). Consistent with this reasoning, a growing body of research (for recent reviews, see Gómez et al., 2020; Martel et al., 2021; Varmann et al., 2023; Wolfowicz et al., 2021) shows that identity fusion is an exceptionally strong predictor of violent pro-group behavior, consistently out-predicting dozens of rival measures of alignment with groups including group identification (sense of belonging to a particular social, cultural, or subcultural group), sacred values (values that involve absolute and inviolable commitment, Tetlock, 2003), and moral convictions

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(attitudes that people perceive as grounded in a fundamental distinction between right and wrong, Skitka et al., 2021).

As the identity synergy and reciprocal strength constructs have assumed center stage in identity fusion theory (Swann et al., in press), the scope of the phenomena under fusion theory's purview has broadened to include any entity that has distinctive and readily identifiable qualities (here "identity" is defined quite broadly as "the fact of being who or what a person or thing is"). Within this more expansive framework, fusion is no longer confined to the union of the personal self with the social self; instead, any abstraction can be the target of fusion. For example, people who are strongly fused with the value "democracy" perceive it to be core to their self-definition. As a result, they will be highly motivated to sacrifice in the service of democracy. This expansion of identity fusion theory to non-group abstractions moves it further from the shadow of the social identity perspective and its insistence on the sovereignty of the social self. Researchers have responded by studying fusion targets that do not directly involve groups or relational ties between group members, including causes such as religion, freedom, or democracy (e.g., Gómez et al., 2022; Gómez, Vázquez, & Atran, 2023), values such as gun rights (Martel et al., 2021), and brands (Krishna & Kim, 2021, 2022; Lin & Sung, 2014). Because such alignments only indirectly involve other individuals, the essential component of fusion appears to be the synergistic relationship between the personal self and the target of fusion. From this vantage point, relational ties are contributory rather than essential components of fusion.

Despite these developments in identity fusion theory and research, the empirical links between self-verification, identity fusion and pro-group behavior have received relatively little attention. In fact, only two papers (Rousis et al., 2023; Swann et al., 2009) have assessed the relationship between these variables. Swann et al. (2009) examined the effects of activating the

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personal and social self-views of participants through the provision of non-verifying evaluations from either an ingroup member (Experiment 1) or outgroup member (Experiment 2). In experiment 3, the researcher activated the self by asking participants to indicate their willingness to defend themselves or their group. In all three studies, activating either the personal or social self-views of fused participants increased willingness to fight or die for the group.

A second series of investigations by Rousis et al. (2023) examined Incels (*involuntary celibates*), a group that has advocated violence against women whom they believe have rejected them for superficial reasons. The researchers discovered that feeling self-verified by other incels was positively associated with fusion with the incel group. Fusion, in turn, was positively associated with endorsement of past and future violence toward women (Study 2) and online harassment of women (Study 3).

The results of Swann et al.'s (2009) and Rousis et al.'s (2023) studies establish clear links between verification of the personal self, identity fusion, and self-sacrifice for the group. Even so, several key questions remain unanswered. For example, although Swann et al.'s (2009) findings demonstrated the independent roles of the personal and social self in pro-group behaviors, they provided no direct evidence that a desire for self-verification underlay the results. The Rousis et al.'s (2023) study suffered from different limitations. Most important, because the studies were correlational, it was not clear whether feeling self-verified *caused* increases in identity fusion. This leaves open the possibility that self-verification was merely a correlate of unmeasured group processes that were the actual causal agent. Moreover, even if one could conclude that self-verification caused pro-group behavior in the Rousis et al.'s (2023) studies, the findings offered little insight into whether this influence occurred *indirectly* (i.e., through fusion) or *directly*. Furthermore, the exclusive focus on the endorsement of past and future

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violence against women by self-identified incels leaves unanswered whether their findings would generalize to non-incels and, more importantly, to individuals who were known to have actually committed violence.

Both the Swann et al.'s (2009) and Rousis et al.'s (2023) investigations share two additional limitations. Both focused on a single target of fusion (i.e., groups) and both failed to determine if relational ties mediated the effects of self-verification on fusion with groups. We address all of the foregoing limitations in eight studies. First, to extend recent evidence that identity fusion predicts an inclination to fight no matter the target of fusion (Gómez, Vázquez, & Atran, 2023), we examined fusion with three distinct targets: a group, a value, and a leader. Second, to determine causality, we conducted two experiments (one cross-sectional and one longitudinal) to test the hypothesis that perceived self-verification of personal self-views causes fusion which, in turn, mediates the relationship between perceived self-verification and endorsement of pro-group actions. Third, to illuminate the mechanism underlying the link between two of our key variables, we tested the notion that perceived self-verification strengthened relational ties to the group which, in turn, increased fusion to the group. Fourth, to extend our findings to a population that had actually committed violence for their group, in two studies we examined members of two violent groups (street gangs and organized-crime gangs) who were incarcerated after being convicted of extreme pro-group behaviors such as murder.

Overview

We conducted eight studies using two distinct methodological approaches: cross-sectional (Studies 1a-1c, 4, 5a-5b), and experimental (Studies 2-3). Studies 1a to 4 were run online using the snowball technique, wherein undergraduate students in a distance learning university asked their acquaintances to participate in research about intergroup relations. We

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provided students with an email and asked them to send it to their acquaintances. The email stated that we were seeking volunteers to respond anonymously to an online questionnaire. The email conveyed that participation was confidential, assuring participants that their data would be stored securely, with access limited to the research team. If they agreed, participants were invited to click on the link to the study and told that at the beginning they would find detailed information about the study and the informed consent. Studies 5a-5b utilized face-to-face interviews with inmates incarcerated in Spanish prisons.⁴

We expected that perceived self-verification would be positively associated with identity fusion and willingness to fight and die, and that the association between perceived self-verification and willingness to fight and die would be mediated by fusion (Studies 1a-1c, 5a-5b). We also anticipated that the predicted association between perceived self-verification, identity fusion, and willingness to fight and die would emerge regardless of the target of fusion [i.e., a group, a value (freedom), or a leader]. In addition, we expected that experimentally increasing perceived self-verification would increase willingness to fight and die, but only indirectly, through elevations in fusion (Studies 2-3). Finally, we predicted that relational ties would mediate the positive association between perceived self-verification and fusion (Study 4).

Studies 1a-1b-1c. Self-Verification Is Linked to Fusion to a Group, a Value, and Leaders

Three cross-sectional studies tested whether perceived self-verification was positively associated with identity fusion and willingness to fight and die independently of the target of fusion. In addition, these studies asked whether perceived self-verification was associated with willingness to fight and die directly or indirectly (through identity fusion). Each study featured a different target of fusion. Country was the target of fusion for Study 1a; a value (freedom) for Study 1b; and a leader of the participant's choosing for Study 1c.

Method

Transparency and Openness

Although the studies' design and its analyses were not pre-registered, for each study we report all data exclusions (if any), all manipulations, and all measures (except for Studies 5a and 5b, which are field studies conducted in prisons that were part of a broader investigation). Data were analyzed using SPSS, version 27.0. All data, materials and analysis code have been made publicly available at the OSF repository and can be accessed at Gómez et al. (2024)

osf.io/mk4jv.

Participants

All participants in these studies were Spaniards, 181 women and 102 men, mean age = 35.45, $SD = 13.22$ for Study 1a; 425 women and 219 men, mean age = 38.21, $SD = 13.72$ for Study 1b; and 70 women and 75 men, mean age = 40.92, $SD = 14.33$ for Study 1c. No participants were excluded from the analyses (see supplementary materials for more details). We performed a sensitivity analysis in each study using G*Power (Erdfelder et al., 1996) to determine which would be the minimum effect size to reject the null hypothesis for a correlation (point biserial model, two tails) considering our sample sizes and assuming an alpha level of .05 and 80% power. The minimum effect sizes (ρ) to reject the null hypothesis were .147, .098, and .203 for Studies 1a, 1b and 1c, respectively.

Procedure

After learning that the study focused on their opinions about either their country, the value of freedom, or a leader, participants responded to a questionnaire including measures of perceived self-verification, identity fusion and willingness to fight and die (adapted to the target of fusion, a group – country -, a value – freedom -, or a leader). In Study 1b we choose freedom

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as a value because the data were collected soon after Russia's invasion of Ukraine and subsequent declarations by President Zelensky and Western leaders that freedom was imperiled. In Study 1c, participants had to write the name of the first woman or man who came to mind when thinking of a leader. There was considerable variability in the responses, with the president of Spain (Pedro Sánchez) or their boss at work being among the most popular choices.

In Studies 1a and 1c, we measured *perceived self-verification* with a 3-item scale adapted from Gómez et al. (2009): “Members of my country/this leader treat(s) me in a way that makes me feel understood,” “Members of my country/this leader make(s) me feel that I can be myself,” and “Members of my country/this leader understand(s) me,” alphas = .91 and .94 respectively. In Study 1b, we measured perceived self-verification by adapting two of the items as follows: “Thinking about freedom makes me feel understood,” and “Thinking about freedom makes me feel that I can be myself,” $r(642) = .75, p < .001$.

Identity fusion was measured with the 7-item scale from Gómez et al. (2011), (e.g., “My country/Freedom/This leader is me”), alphas = .86, .85, and .89 respectively.

Willingness to fight and die for the fusion target was tapped with the 7-item scale from Swann et al. (2009), (e.g., “I would do anything to protect my country/Freedom/This leader”), alphas = .84, .82, and .83 respectively.

All items in the measures of perceived self-verification, fusion, and willingness to fight and die were rated on scales ranging from 0 (= totally disagree) to 6 (= totally agree),

Results

Means, standard deviations and correlations are displayed in Table 1.

Table 1

Means, Standard Deviations and Correlations for Studies 1a-1b-1c.

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	Study 1 ^a (Country)			Study 1b (Freedom)			Study 1c (Leader)		
	<i>M</i>	Fusion	F&D	<i>M</i>	Fusion	F&D	<i>M</i>	Fusion	F&D
	<i>(SD)</i>			<i>(SD)</i>			<i>(SD)</i>		
SV	2.90	.39***	.17**	2.22	.54***	.15***	2.14	.51***	.36**
	(1.39)			(1.20)			(2.00)		
Fusion	2.17		.38***	3.18		.18***	1.24		.61***
	(1.29)			(1.26)			(1.29)		
F&D	1.56			3.55			0.83		
	(1.25)			(1.30)			(0.94)		

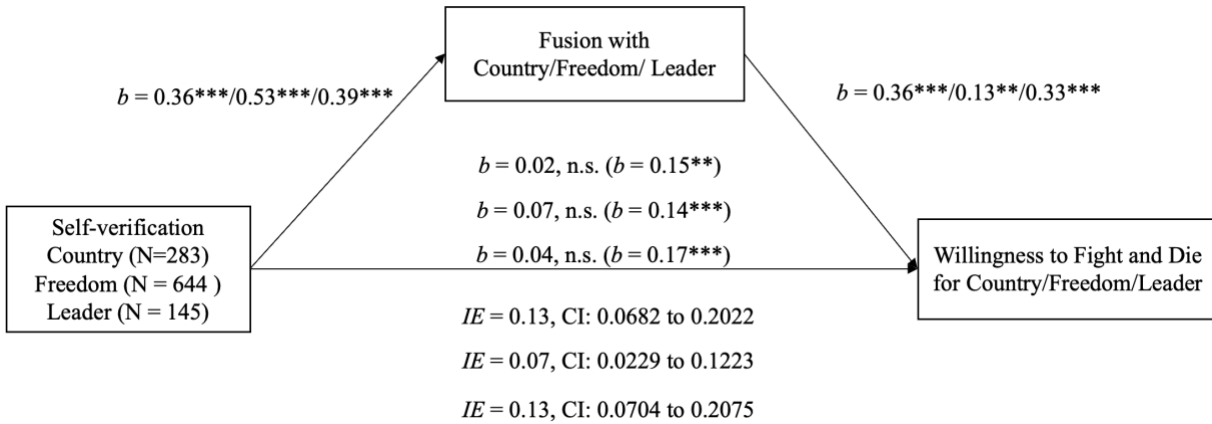
Notes. SV (Self-Verification), F&D (Fight and Die). *** $p < .001$, ** $p < .01$

As shown in Table 1, perceived self-verification, identity fusion and willingness to fight and die for the target of fusion were positively and significantly correlated. To test the hypothesis that perceived self-verification was associated with willingness to fight and die for the group through identity fusion, we conducted a series of mediation analyses using the PROCESS macro (Model 4) from Hayes (2022). We included perceived self-verification as the predictor, identity fusion as mediator, and willingness to fight and die as the outcome. As can be seen in Figure 1, the indirect effects for all the studies were significant. Also, in all cases, when fusion was included in the model, the direct path between perceived self-verification and willingness to fight and die was not significant.

Figure 1

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Self-Verification Predicts Willingness to Fight and Die for the Country (1a), Freedom (1b), and a Leader (1c) Through Identity Fusion



Notes. IE (Indirect effect), CI (95% confidence interval), n.s. (non-significant). *** $p < .001$, ** $p < .01$.

To test the rival hypothesis that fusion could be positively associated with willingness to fight and die for the group through perceived self-verification, we conducted three alternative mediations in which fusion was the predictor, perceived self-verification was mediator, and willingness to fight and die was the outcome. The rival hypothesis was not supported in that the indirect effect was not significant in any of the studies, $IE = 0.01$, 95% $CI = -0.0370$ to 0.0525 for Study 1a; $IE = 0.04$, 95% $CI = -0.0145$ to 0.0852 for Study 1b, and $IE = 0.03$, 95% $CI = -0.0488$ to 0.1085 for Study 1c. Finally, in all studies we found that the residuals were not normally distributed and that there was heteroskedasticity (please, see the regression diagnostics in Supplementary Materials). To minimize the impact of violations of the normality assumption on indirect effect estimates, we used nonparametric bootstrapping procedures to calculate the confidence intervals of the indirect effects. In addition, in the supplementary materials we provide the results of the mediation analyses using a heteroskedasticity-consistent standard error

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estimator (HC3, Davidson-MacKinnon estimator). The results are virtually the same as those presented above.

Discussion

As expected, we found a positive association between perceived self-verification, identity fusion, and willingness to fight and die for the target of fusion. Also as predicted, identity fusion mediated the relationship between perceived self-verification and willingness to fight and die. In contrast, perceived self-verification did not mediate the link between identity fusion and willingness to fight and die. Extending the findings of Rousis et al. (2023), this pattern of results replicated for each of three targets of fusion: a country, value, and leader.

Study 2. Self-Verifying Feedback Increases Fusion and Willingness to Fight and Die for the Group

The results of Studies 1a-1c provide initial support for our hypothesis that self-verification would foster willingness to fight and die through identity fusion. Nevertheless, the cross-sectional nature of these studies limits one's ability to infer a causal relationship between the variables. To address this limitation, in Study 2 we examined whether experimentally increasing the perception of being self-verified by a group of evaluators would increase feelings of fusion to the group (relative to a control group) which would, in turn, increase willingness to fight and die for the group. In addition, whereas participants in Study 1 learned that feedback came from the group as a whole, in Studies 2 and 3 they learned that the feedback came from individual members of the group (the two sources should impact strongly fused persons similarly due to the porous borders between their representations of the group, its members, and the self). Finally, following previous research (Gómez et al., 2009; Vázquez, Gómez, & Swann, 2017;

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Vázquez et al., 2020) we assessed the perceived competence of the evaluators to confirm that the experimental manipulation did not influence this perception.

Method

Participants

Three hundred participants learned via email that we were contacting them because they had participated in a related study 10-12 months before. They learned that if they would like to learn more about themselves, they could participate in a new study. A total of 120 respondents accepted our invitation. We dropped 11 participants because they completed the questionnaire in less than 5 minutes or more than 30 minutes. The final sample included 35 women and 74 men, mean age = 42.76, $SD = 13.76$ (see supplementary materials for more details). We performed a sensitivity analysis using G*Power (Erdfelder et al., 1996) to determine the minimum effect size to reject the null hypothesis for an ANOVA (fixed effects, omnibus, one-way) assuming an alpha level of .05 and 80% power. The minimum effect size to reject the null hypothesis with a sample size of 109 participants was $f = .271$, $\eta^2_p = .068$.

Procedure

We reminded participants that the original study focused on how they viewed themselves as well as their actual personality. They learned that a group of psychology professors from different Spanish universities analyzed their responses to determine the relation between their personalities and their self-views. We then invited them to enter their email to enable them to access their results.

We randomly assigned participants to the experimental or control condition. Participants in the *self-verified condition* learned that several evaluators from different Spanish universities found that there was a high correspondence between your responses to the self-perception

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questions and your personality: “That is, the image that the evaluators have formed of you coincides to a great extent with the image that you have of yourself.” Participants in the *control condition* learned that: “The system is taking longer than expected. Please continue with the rest of the questionnaire while the computer continues.”

Finally, participants responded to a questionnaire including the measures of perceived self-verification, identity fusion, willingness to fight and die, and a scale assessing the competence of the evaluator.

Perceived verification was measured with the same 3-item scale from Studies 1a-1c but adapted to the evaluators: “The Spanish psychologists who have evaluated my answers treat me in a way that makes me feel understood,” on scales ranging from 0 (= totally disagree) to 6 (= totally agree), $\alpha = .90$.

Identity fusion with and willingness to fight for the country, were measured with the same scales that in previous studies on scales ranging from 0 (= totally disagree) to 6 (= totally agree) alphas = .79 and .88 respectively.

Perceived competence of the evaluators was assessed with a 7-item scale adapted from Gómez et al. (2009) asking participants to what extent they thought that the psychologists who evaluated their answers were competent on scales ranging from 0 (= not at all) to 6 (= totally). Examples of items are “Intelligent,” “Credible,” and “Trustful.”

Means, standard deviations and correlations are displayed in Table 2.

Table 2

Means, Standard Deviations and Correlations for Study 2

<i>M (SD)</i>	<i>M (SD)</i>	SV	Fusion	F&D	CE
Control	Verification				

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SV	2.75 (1.34)	3.60 (1.00)		.12	-.02	.49***
Fusion	2.06 (0.85)	2.65 (1.17)	.30*		.28*	.20
F&D	0.60 (0.65)	1.15 (1.21)	.09	.70***		.20
CE	3.85 (1.07)	4.20 (1.04)	.58***	.11	.01	

Notes: SV (Self-Verification), F&D (Fight and Die), CE (Competence of the Evaluators).

Correlations above the diagonal correspond to the control condition. Correlations below the diagonal correspond to the experimental condition. *** $p < .001$, * $p < .05$.

Results

A series of ANOVAs⁵ examined the effects of the manipulation on the measures of perceived self-verification, fusion, willingness to fight and die and competence of the evaluators. The analyses indicated that, relative to the control condition, participants in the self-verified condition displayed higher levels of perceived self-verification, $F(1, 107) = 14.27, p < .001, \eta^2_p = .12$, identity fusion, $F(1, 107) = 9.05, p = .003, \eta^2_p = .08$, and fight and die for the group, $F(1, 107) = 8.54, p = .004, \eta^2_p = .07$. The condition effect was not significant for perceived competence of the evaluators, $F(1, 107) = 2.91, p = .091, \eta^2_p = .03$. Furthermore, in both conditions the competence ratings of the evaluators exceeded the mid-point of the scale (3), $t_s > 5.84, ps < .011$.

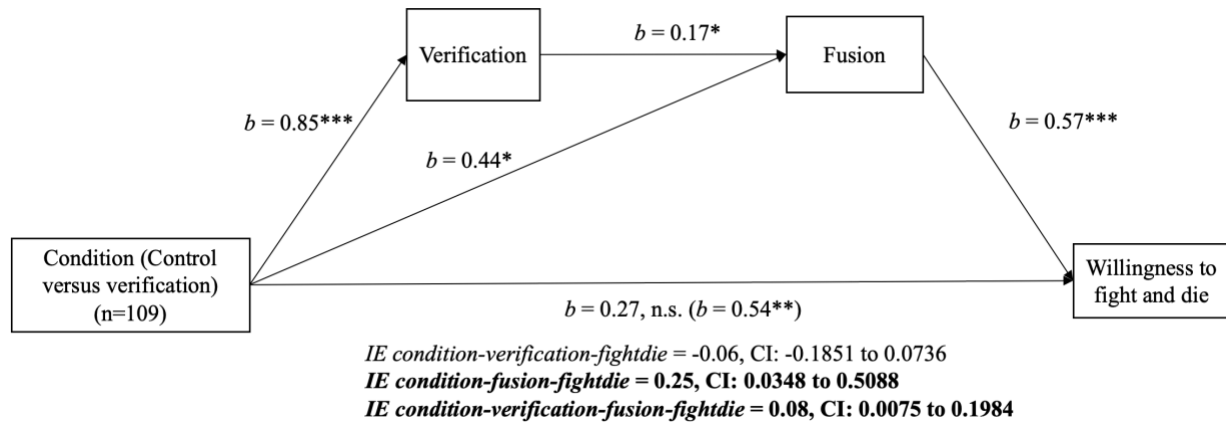
To test the hypothesis that the experimental manipulation would increase willingness to fight and die for the group mediated by augmenting perceived self-verification first and identity fusion second, we conducted a mediation analysis using the PROCESS macro (Model 6) from Hayes (2022). We included the experimental manipulation as predictor, perceived self-verification as the first mediator, identity fusion as the second mediator, and willingness to fight and die as outcome. As can be seen in Figure 2, the indirect effects through fusion were

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significant. Importantly, the direct path from perceived self-verification to willingness to fight and die was not significant.

Figure 2

The Experimental Condition Increases Willingness to Fight and Die for the Group Through Increasing Self-Verification First, and Fusion with the Group Second



Notes. IE (Indirect effect), CI (95% confidence interval), n.s. (non-significant). $^{***} p < .001$, $^{**} p < .01$, $^* p < .05$.

The alternative model including fusion as first mediator and perceived self-verification as second mediator indicated that the indirect effects involving a direct path from perceived self-verification to fight and die were not significant, $IE = -0.05$, 95% $CI = -0.1564$ to 0.0650 for manipulation > verification > willingness to fight and die; and $IE = -0.01$, 95% $CI = -0.0417$ to 0.0109 , for manipulation > fusion > verification > willingness to fight and die.

Discussion

Our findings offer causal evidence that our manipulation increased perceived self-verification, fusion, and willingness to fight and die. Also, the manipulation was associated with willingness to fight and die for the group by increasing perceived self-verification first, and fusion second. In contrast, identity fusion did not predict willingness to fight and die by

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increasing perceived self-verification. More generally, in none of our first four studies was the direct path from perceived self-verification to willingness to fight and die for the group significant.

Despite the converging support for our hypotheses reported above, a skeptic could raise two issues. First, could manipulating identity fusion increase willingness to fight and die by augmenting perceived self-verification. To test this possibility, we conducted an additional investigation and report it in the Supplementary Materials section. We discovered that increasing identity fusion increased willingness to fight and die and perceived self-verification, but perceived self-verification did not mediate the effect of fusion on willingness to fight and die for the group.

Second, although Study 2 provided evidence that experimentally increasing perceived self-verification increased willingness to fight and die for the group by increasing fusion, cross-sectional designs lack the capacity to provide evidence for intra-individual changes in fusion over time. To establish that our manipulation did produce such changes, in the next study we shifted to a longitudinal-experimental design which enabled us to observe the impact of the experimental intervention on changes in fusion over time. Study 3 used a longitudinal design to address this possibility.

Study 3. Self-Verifying Feedback Increases Fusion and Willingness to Fight and Die for the Group Prospectively

Study 3 was designed to determine if providing self-verifying feedback increases fusion over two time periods (wave 1 vs wave 2) and if such increases augment willingness to fight and die for the group.

Method

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Participants

Spanish volunteers ($n = 310$) participated in the first wave of the study online. Sixty-three did not respond when invited to the second wave of the study. Thirty-eight additional participants were dropped from the analyses because they took less than 5 minutes or more than 30 minutes to respond to the questionnaire (see supplementary materials for more details). The final sample included 153 women and 56 men, mean age = 40.27, $SD = 13.10$. We conducted a sensitivity analysis using G*Power (Erdfelder et al., 1996) to determine which would be the minimum effect size to reject the null hypothesis for a repeated measures ANOVA (within-between interaction) assuming an alpha level of .05 and 80% power. The minimum effect size to reject the null hypothesis with a sample size of 209 participants, two groups and a correlation of .46 among the repeated measure was $f = .101$, $\eta^2_p = .010$.

Procedure

During wave 1, participants responded to questions about their perceptions of themselves, their groups, and their country. They then responded to the verbal measure of fusion with the country ($\alpha = .90$) and to other scales unrelated to this study.

Participants were contacted four months after wave 1. During wave 2, as in Study 2, they learned that their responses were analyzed by a group of Spanish psychologists who would evaluate the relations between their views of themselves and their personality. In the *self-verified condition*, they received self-verifying evaluations that had ostensibly been prepared by the Spanish psychologists. In the *control condition*, they learned that the evaluations were not ready. Participants then responded to a questionnaire including the same measures as in Study 2: perceived self-verification, identity fusion, willingness to fight and die, and a scale assessing

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perceived competence of the evaluators, alphas: .90, .90, .89, and .96, respectively. See Table 3 for means and standard deviations.

Table 3

Means, Standard Deviations and Correlations for Study 3

	<i>M (SD)</i>	<i>M (SD)</i>	SV	FT1	FT2	F&D	CE
	Control	Verification					
SV	3.26 (1.20)	3.76 (1.20)		.16	.26**	.15	.35***
FT1	2.20 (1.29)	2.29 (1.31)	.17		.39***	.43**	.27**
FT2	1.92 (1.23)	2.84 (1.38)	.39***	.43***		.51***	.10
F&D	0.72 (0.82)	1.10 (1.20)	.10	.29**	.51***		.16
CE	4.18 (1.18)	4.37 (1.01)	.38***	.11	.12	.25**	

Notes: SV (Self-Verification), FT1 (Fusion wave 1), FT2 (Fusion wave 2), F&D (Fight and Die), CE (Competence of the Evaluators). Correlations above the diagonal correspond to the control condition. Correlations below the diagonal correspond to the experimental condition. *** $p < .001$, ** $p < .01$.

Results

There were three sets of analyses for the current study. First, a series of ANOVAs determined whether the experimental manipulation influenced perceived self-verification, fusion, willingness to fight and die and perceived competence of the evaluators. Second, a repeated-measures analysis examined whether the experimental manipulation increased fusion with the group from wave 1 to wave 2. Finally, mediation analyses determined whether the experimental manipulation increased fight and die for the group through increasing perceived self-verification first, and fusion with the group at wave 2 second, controlling for fusion with the group at wave 1.

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The ANOVAs with the experimental manipulation as predictor (control vs. verification) on the measures of fusion at wave 1, and on perceived self-verification, fusion, willingness to fight and die, and competence of the evaluators at wave 2, indicated that the difference in fusion at wave 1 between the two conditions was not significant, $F(1, 207) = 0.23, p = .635, \eta^2_p = .001$. In contrast, at wave 2, perceived self-verification, fusion, and fight and die were higher in the experimental as compared to the control condition, $F(1, 207) = 8.95, p = .003, \eta^2_p = .04$, for perceived self-verification, $F(1, 207) = 25.81, p < .001, \eta^2_p = .11$, for identity fusion, and $F(1, 207) = 7.05, p = .009, \eta^2_p = .03$ for fight and die. The effect of the verification manipulation was not significant for the competence of the evaluators, $F(1, 207) = 1.56, p = .212, \eta^2_p = .01$, and in both conditions the ratings of the evaluators exceeded the mid-point of the scale (3), $t's > 9.94, p < .001, ps < .001$.

The repeated measures analysis yielded a significant effect of the fusion x manipulation interaction, $F(1, 207) = 18.15, p < .001, \eta^2_p = .08$. Whereas there was a significant reduction in fusion with the country between waves 1 and 2 in the control condition, $M = 2.20, SD = 1.29$ vs. $M = 1.92, SD = 1.23$, respectively, $F(1, 207) = 4.05, p = .045, \eta^2_p = .02$, we found an elevation of fusion with the country over time in the verification condition, $M = 2.29, SD = 1.31$ vs. $M = 2.84, SD = 1.38$, for time 1 and 2 respectively, $F(1, 207) = 16.47, p < .001, \eta^2_p = .07$. The main effect of condition was also significant indicating that fusion in the verification condition was higher than in the control condition, $M = 2.20, SD = 1.29$ vs. $M = 1.92, SD = 1.23, F(1, 207) = 10.97, p = .001, \eta^2_p = .05$. The main effect of wave 1 vs. wave 2 was not significant, $F(1, 207) = 1.83, p = .177, \eta^2_p = .01$,

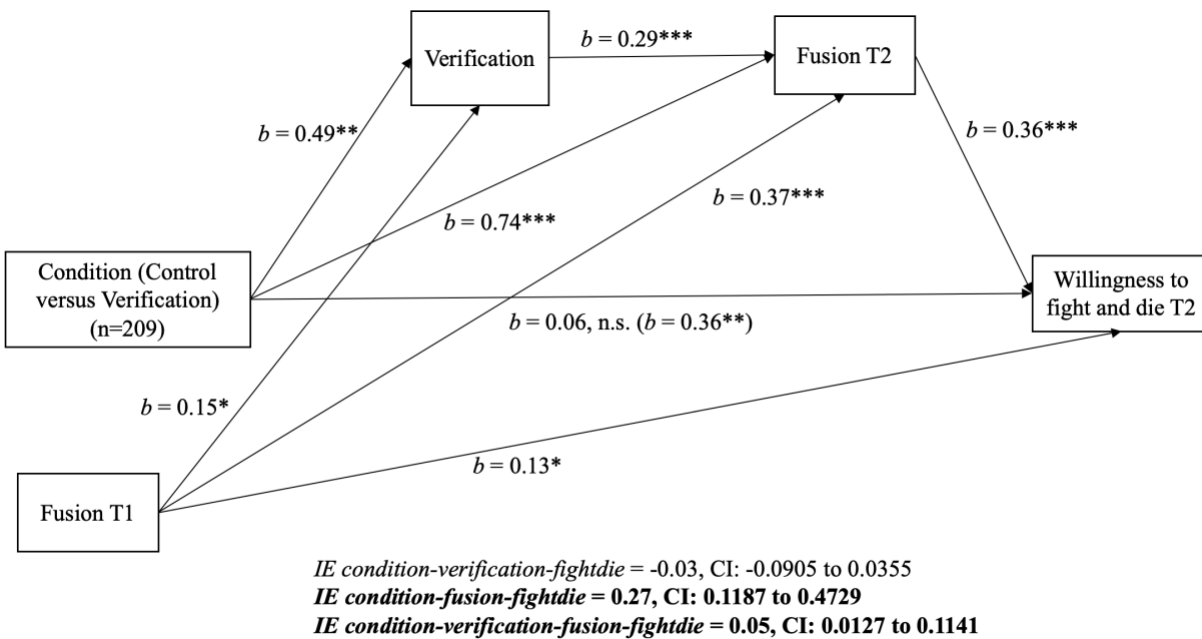
To test the hypothesis that in wave 2 the self-verification manipulation increased willingness to fight and die for the group by first augmenting perceived self-verification and then

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identity fusion while controlling for fusion at wave 1, we conducted a mediation analysis using the PROCESS macro (Model 6) from Hayes (2022). We included the experimental manipulation as the predictor, perceived self-verification as the first mediator, identity fusion at wave 2 as the second mediator, and willingness to fight and die as outcome, controlling for fusion at wave 1. As can be seen in Figure 3, the indirect effects through fusion were significant. The direct path from perceived self-verification to willingness to fight and die was not significant.

Figure 3

The Experimental Condition Increases Willingness to Fight and Die for the Group by Increasing Self-Verification First, and Fusion with the Group Second.



Notes. IE (Indirect effect), CI (95% confidence interval), n.s. (non-significant), T1 (time 1), T2 (time 2). $^{***} p < .001$, $^{**} p < .01$, $^* p < .05$.

The alternative model including fusion at wave 1 as the first mediator and perceived self-verification as the second mediator indicated that the indirect effects involving a direct path from perceived self-verification to fight and die were not significant, $IE = -0.05$, $95\% CI = -0.1564$ to

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0.0650 for manipulation > verification > willingness to fight and die; and $IE = -0.01$, 95% $CI = -0.0417$ to 0.0109 , for manipulation > fusion > verification > willingness to fight and die.

Discussion

Our findings replicated evidence that verifying feedback increases willingness to fight and die for the group through increased perceived self-verification first, and fusion second. In contrast, identity fusion did not predict willingness to fight and die through increasing perceived self-verification. Also as expected, the verification manipulation did not significantly affect the perceived competence of the evaluators. An important contribution of Study 3 is that providing self-verifying feedback four months after wave 1 increased fusion with the group relative to a control condition. Finally, as in Studies 1a-c, 2, and 3, the impact of perceived self-verification on fight and die seemed to be indirect, through increasing identity fusion.

At first blush, our evidence that an intra-psychic process (feeling self-verified) contributes to an interpersonal process (strong fusion to a group) may seem surprising. Nevertheless, we believe that a key construct—relational ties—directly links these two variables (Swann et al., 2012). That is, when people receive self-verification from a group member, it may strengthen their allegiance (relational ties) to fellow group members. This possibility is supported by evidence that degrading relational ties to fellow group members reduces identity fusion to the group which, in turn, diminishes pro-group behavior (Gómez et al., 2019). This evidence emboldened us to conduct a fourth study to determine if relational ties mediate the relationship of self-verification to identity fusion.

Study 4. Self-Verification Is Associated with Fusion and Willingness to Fight and Die Through Relational Ties

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To determine if perceptions of self-verification were positively associated with identity fusion through relational ties, we conducted a cross-sectional study. We anticipated that the predicted positive association between perceived self-verification and willingness to fight and die for the group would be indirect - through relational ties -rather than direct.

Method

Participants

Spanish volunteers ($n = 482$; mean age = 37.33, $SD = 14.64$) participated. No participants were excluded from the analyses (see supplementary materials for more details). We conducted a sensitivity analysis using G*Power (Erdfelder et al., 1996) to determine the minimum effect size to reject the null hypothesis for a correlation (point biserial model, two tails) assuming a sample size of 482 participants and assuming an alpha level of .05 and 80% power. The minimum effect size to reject the null hypothesis was $\rho = .127$.

Procedure

The procedure was the same as in Studies 1a-1c, but we added the measure of relational ties developed by Gómez et al. (2019). The measure included three items: “I feel strong ties with the members of my country,” “I feel close to the members of my country,” and “I feel a strong sense of solidarity with the members of my country,” on scales ranging from 0 (= not at all) to 6 (= totally), $\alpha = .91$. Previous research has demonstrated that this measure of relational ties is different than other established identity measures, including the subdimension of ingroup solidarity developed by Leach et al. (2008). For example, strategies designed to reduce identity fusion and its correlates degraded feelings of agency (i.e., personal control over the group) through undermining relational ties, but not ingroup solidarity (Gómez et al., 2019). More generally, recent meta-analyses (Varmann et al., 2023) have established that measures of identity

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fusion consistently outpredict Leach et al.'s measure when the criterion is endorsement of violent behaviors to protect the group. The other measures (perceived self-verification, identity fusion with the country, and willingness to fight and die) were the same as those used in Study 1a, alphas = .89, .87, and .89. The means, standard deviations, and correlations for the scales appear in Table 4.

Table 4

Means, Standard Deviations and Correlations for Study 4.

	<i>M (SD)</i>	Fusion	F&D	RT
SV	3.12 (1.32)	.39***	.26***	.61***
Fusion	2.18 (1.34)		.39***	.51***
F&D	1.43 (1.19)			.30***
RT	3.28 (1.36)			

Notes: SV (Self-Verification), F&D (Fight and Die), RT (Relational Ties). *** $p < .001$.

Results

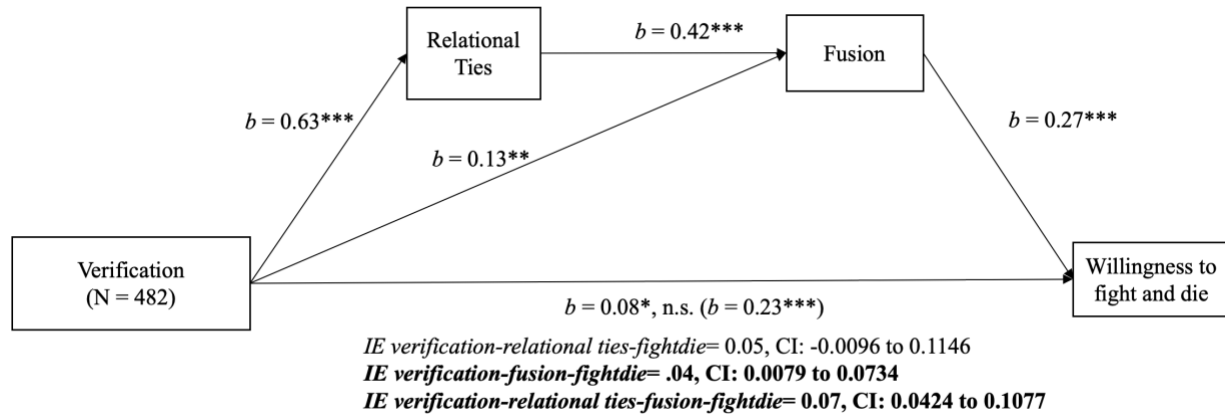
To test the hypothesis that self-verification was associated with willingness to fight and die for the group through relational ties first, and identity fusion second, we conducted a mediation analysis using the PROCESS macro (Model 6) from Hayes (2022). We included perceived self-verification as the predictor, relational ties as the first mediator, identity fusion as the second mediator, and willingness to fight and die as the outcome.

As can be seen in Figure 4, the indirect effect for the full model was significant. Nevertheless, the indirect effect for the model linking perceived self-verification with willingness to fight and die for the group through relational ties was not significant, indicating that fusion was a necessary component of the model.

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Figure 4

Self-Verification Predicts Willingness to Fight and Die Through Relational Ties First, and Identity Fusion Second



Notes. IE (Indirect effect), CI (95% confidence interval), n.s. (non-significant). $^{***} p < .001$, $^{**} p < .01$, $^* p < .05$.

An alternative model including fusion as the first mediator and relational ties as the second indicated that the indirect effects were not significant, $IE = 0.04$, 95% $CI = -0.0084$ to 0.0902 , for verification > relational ties > willingness to fight and die, and $IE = 0.01$, 95% $CI = -0.0022$ to 0.0234 , for verification > fusion > relational ties > willingness to fight and die respectively.

Discussion

Replicating previous findings, we found a positive association between perceived self-verification, identity fusion, and willingness to fight and die for the group. In addition, all three variables were positively associated with relational ties. A mediation model indicated that the positive association between verification and willingness to fight and die for the group emerged through relational ties first, and fusion second. The analyses also offered no support for alternative models in which the order of the mediators was modified.

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The results of the first four studies reported here provide converging support to the hypothesis that perceived self-verification increases willingness to fight and die for the group by augmenting identity fusion, no matter the target of fusion. Nevertheless, none of these studies provide evidence for our effects in a sample of individuals who are known to actually enact violent behaviors in the service of their group. The research on self-identified incels (Rousis et al., 2023) comes closest to doing this, but there was no documentation that their participants committed physical violence against a threatening outgroup. Also, while previous studies assessed perceived self-verification in general, none of them asked whether self-verification was a reason for joining the group. Studies 5a-5b addressed these issues.

Studies 5a-5b. Self-Verification, Fusion and Costly Sacrifices Among Incarcerated Gang Members

The last two studies were designed to generalize our previous findings to individuals who had been convicted of crimes and were serving time in Spanish prisons. Participants were drawn from either of two distinct gangs. Street gangs are dominated by Latinos and testify to Spain's unique historical and linguistic connection to Latin America. In contrast, organized-crime gang members are racially diverse and are distinguished by their involvement in localized criminal activity (drug trafficking, robbery, assault, and battery, etc.). Unlike participants in our earlier studies, participants in studies 5a and 5b had: (1) been convicted of committing violent behaviors (including murder) on behalf of their groups; and (2) completed a novel measure of perceived self-verification (in which they indicated the degree to which perceived self-verification caused their deep alignment with the gang).

Method

Participants

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Study 5a included 99 male inmates located in 17 prisons belonging to several street gangs, mean age = 27.14, $SD = 6.57$. Almost half of the sample were reluctant to identify the name of their gang (43.4%). Among those who reported the gang name, the most representative street gangs were Dominican Don't Play (DDP, 10.1%), Latin King (14.1%), Ñetas (15.2%), and Trinitarios (13.1%). Regarding their nationality, 44.4% were Spanish and 51.4% were from Latin-American countries, mainly Dominican Republic and Ecuador. When the interviews were conducted, 7.2% of participants were in solitary confinement. The average time in prison was 58.36 months, $SD = 54.59$, Range: 1-240 months.

Study 5b included 71 male inmates located in eight Spanish prisons, belonging to several organized-crime gangs, mean age = 48.06, $SD = 10.62$. All refused to provide the name of their gang. Most participants (64.8%) were Spanish, and the remainder were from France, Italy, The Netherlands, United Kingdom, Romania, Serbia, Morocco, Dominican Republic, Brazil, Colombia or Turkey. When the interviews were conducted, 7% of participants were in solitary confinement. The average amount of time in prison was 79.80 months, $SD = 66.11$, Range: 2-240 months.

Following Gómez et al. (2022), we dropped several participants. Three members of organized-crime gangs were dropped because they responded "0" to the two items of the lie detection scale and to the item for assessing their attention described below. In addition, eight members of street gangs and 11 members of organized-crime gangs were dropped because they failed to respond to the dependent variables. After all deletions, 91 members of street gangs took part in Study 5a, and 57 members of organized-crime gangs took part in Study 5b. See Table 3 for means and standard deviations. Using G*Power (Erdfelder et al., 1996), we performed a sensitivity analysis in each study to determine the minimum effect size to reject the null

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hypothesis for a correlation (point biserial model, two tails) assuming our sample sizes with an alpha level of .05 and 80% power. The minimum effect sizes (ρ) to reject the null hypothesis were .285 and .353 for Studies 5a and 5b, respectively.

Procedure

These studies were carried out in Spanish prisons using the procedure developed by Gómez et al. (2021, 2022). The study was conducted under the auspices of the Spanish government. Authorized professionals (psychologists, social workers) from the prisons selected inmates who satisfied the inclusion criteria and volunteered to collaborate in the research for no compensation. Standard human subject's protections were acknowledged through informed consent. Prison staff did not have access to individual prisoner responses. For most participants, this was the first time they participated in scientific research.

Participants responded to a questionnaire including measures of perceived self-verification, fusion, costly sacrifices, and a lie detection scale (see Gómez et al., 2022). Following the recommendations by Gómez, Vázquez, Chinchilla, et al. (2023) for conducting studies in prisons with participants of this profile, we adapted our measures to these samples. In particular, we used only one item for the measures of self-verification and fusion respectively, and a scale of costly sacrifices that would only apply to someone who is in prison, such as foregoing the opportunity to meet with a loved one, and a lie detection scale (see Gómez et al., 2022).

Perceived self-verification was assessed with a single item that was inspired by a measure developed by Wiesenfeld et al. (2007). Participants indicated the extent to which feeling understood and reaffirmed was a reason for their alignment with their gang, on a scale from 0 (= totally disagree) to 6 (= totally agree).

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Fusion with the gang was measured with the Dynamic Index of Identity Fusion (DIFI, Jiménez et al., 2016). Respondents view two circles of different sizes on a screen, a small “self” circle (or “me”), and a larger “gang” circle. Participants were asked to indicate how they perceived their relationship to the gang by moving the small circle towards or away from the large circle.⁶

Costly sacrifices for the gang were assessed by a 5-item scale developed by Gómez et al. (2022). Participants were asked if they would make a series of sacrifices for the gang, including: “Relinquishing my prison income,” “Giving up communications with my family or important people outside prison,” “Moving to a facility further away from my family,” “Giving up participating in activities that make me feel good,” and “Relinquishing commodities (e.g., an individual room, my own clothes, my own hygienic stuff...)”, on scales ranging from 0 (=totally disagree) to 6 (= totally agree), alphas = .93 in Study 5a and .89 in Study 5b.

The lie detection scale included items adapted from the relevant MMPI questionnaire (Hathaway & McKinley, 1983). On scales ranging from 0 (=totally disagree) to 6 (= totally agree), respondents indicated their agreement with these items: “I have been honest in my answers,” and “I think my responses to the interview may affect my time in prison.” We also added one item as an attention check: “I have been concentrating during the interview.” See Table 5 for means and standard deviations.

Table 5

Means, Standard Deviations and Correlations for Studies 5a-5b.

	Study 5a (Street-Gangs)			Study 5b (Organized-Crime Gangs)		
	<i>M (SD)</i>	Fusion	CS	<i>M (SD)</i>	Fusion	CS
SV	4.07 (2.16)	.37***	.36***	2.49 (2.27)	.47***	.33*

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Fusion	0.32 (0.44)	.71***	0.25 (0.42)	.66***
CS	1.33 (1.93)		0.53 (1.12)	

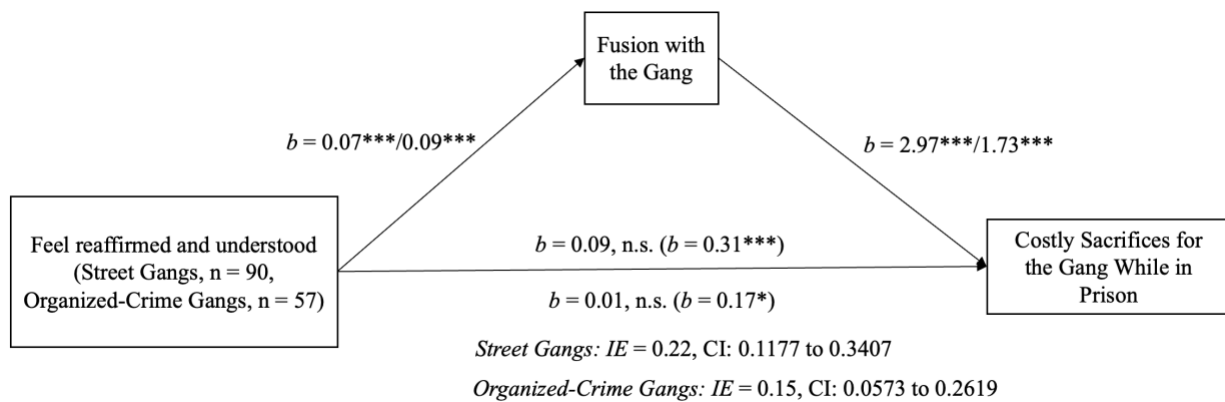
Notes: SV (Self-Verification), CS (Costly Sacrifices). *** $p < .001$, * $p < .05$.

Results

To test the hypothesis that perceived self-verification was associated with costly sacrifices for the gang through identity fusion, we conducted a series of mediation analyses using the PROCESS macro (Model 4) from Hayes (2022). We included perceived self-verification as the predictor, identity fusion as mediator, and costly sacrifices for the gang as outcome, controlling for the time in prison. As shown in Figure 5, the indirect effects for the two studies were significant. Also, when fusion was included in the model, the direct path between perceived self-verification and costly sacrifices for the gang was not significant.

Figure 5

Self-Verification Predicts Costly Sacrifices in Prisons for The Gang Through Identity Fusion with The Gang



Notes. IE (Indirect effect), CI (95% confidence interval), n.s. (non-significant). *** $p < .001$, * $p < .05$.

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To rule out the rival hypothesis that fusion was positively associated with costly sacrifices for the gang through perceived self-verification, we conducted a series of two alternative mediations introducing fusion as predictor, perceived self-verification as mediator, and costly sacrifices for the gang as the outcome. The rival hypothesis was not supported in that the indirect effect was not significant in either study, $IE = 0.17$, 95% $CI = -0.0262$ to 0.3860 for Study 5a; and $IE = 0.04$, 95% $CI = -0.1434$ to 0.2531 for Study 5b.

Qualitative Data

Strongly fused participants routinely used family metaphors in describing their relational ties to fellow gang members (e.g., “Members of the group are my family,” “We are a family, a brotherhood, we will never fail each other,” “With my gang I feel like with my family”). Comments of gang members during our interviews capture some of these ideas: “I felt like we were one... a single person. Like a group of individuals that turned into one, only one mind” and “Just by looking at each other we know what we have to do.”

Discussion

Replicating the results of Studies 1a-1c, we found a positive association between perceived self-verification, identity fusion, and costly sacrifices for the gang. Moreover, identity fusion mediated the link between perceived self-verification and costly sacrifices, but self-verification did not mediate the link between identity fusion and costly sacrifices. Furthermore, strongly fused gang members spontaneously expressed feelings of family toward fellow gang members, thus confirming the links between fusion and familial ties in a naturally occurring setting.

The results of Study 5 replicated across two distinct types of gangs: street versus organized-crime gangs. The two studies thus generalize our previous findings to a sample of

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individuals who have committed violent acts - including murder - on behalf of their group. In addition, participants in Studies 5a-5b indicated their reasons for joining the gang in the past as well as their willingness to commit costly sacrifices in the present—outcome measures that have never been reported in the fusion literature.

General Discussion

We examined some of the key psychological processes that give rise to identity fusion and its behavioral consequences. In eight studies, we tested the hypothesis that verification of personal self-views increases fusion, and fusion, in turn, motivates behavioral support for the target of fusion. Our research featured several different methodological approaches. Three cross-sectional studies showed that perceived self-verification was positively associated with fusion, which was positively associated with willingness to fight and die for a group (1a), a value (1b), and a leader (1c). Two experimental studies followed. Study 2 indicated that increasing perceived self-verification fomented greater willingness to fight and die for the group, but only indirectly through increases in fusion. Study 3 used a longitudinal design. Four months after responding to a measure of fusion with a group, experimentally induced increments in perceived self-verification augmented fusion which, in turn, augmented endorsement of fighting and dying for one's group. Study 4 revealed that relational ties mediated the relationship between perceived self-verification and fusion with a group. Finally, we reported two investigations that featured face-to-face interviews with gang members (specifically, street and organized-crime gangs) who were incarcerated for serious crimes (Studies 5a-5b). Consistent with the results of Studies 1a-1c, perceived self-verification was positively associated with fusion, which was positively associated with costly sacrifices for the gang.

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These findings provide further evidence of the synergistic relation between the personal and social selves among strongly fused persons. For example, rather than being functionally antagonistic (Turner et al., 1987), the personal and social self-views of our participants worked together to motivate pro-group behavior, especially when our participants' personal selves were verified. Our findings also move beyond social identity theory's emphasis on a sovereign social self by showing that fusion effects generalize to targets other than groups, including values such as "freedom."

Our findings build upon and extend earlier evidence of links between self-verification, fusion, and willingness to sacrifice for the group (Rousis et al., 2023; Swann et al., 2009). For example, our studies address a weakness of the previous work: the lack of measures of perceived self-verification in Swann et al. (2009) and the lack of experimental designs in the Rousis et al.'s (2023) studies. These limitations of the earlier research prevented the investigators from ascertaining whether feeling self-verified *caused* increases in identity fusion, and if it did, whether identity fusion mediated the relationship between perceived self-verification and pro-group behavior. Our experiments addressed these issues. The data showed that increasing perceived self-verification fostered endorsement of fighting and dying for one's group and that this effect was mediated by increments in identity fusion. This study was not only the first to manipulate perceived self-verification, it also ruled out rival causal models. In addition, whereas Swann et al. (2009) and Rousis et al. (2023) focused exclusively on fusion with a group, we observed the effects of fusion with values (Study 1b) and leaders (Study 1c).

Other findings addressed the generality of the links between self-verification, fusion and extreme behavior. The results of Studies 5a and 5b show that fusion effects generalized to a sample of incarcerated gang members - individuals who were known to have committed

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violence. These findings help establish the ecological validity of links between identity fusion and violence to protect the ingroup. Finally, whereas neither Swann et al. nor Rousis et al. specified the psychological mechanism through which self-verification fostered identity fusion, we showed that this relationship was mediated by relational ties.

Our evidence that relational ties mediated the link between self-verification and identity fusion dovetails with evidence that feelings of self-verification strengthened interpersonal alignments with the source of the validation (e.g., Burke & Harrod, 2005; Campbell et al., 2006; Swann et al., 1992). Similarly, relational ties appear to increase commitment among gang members. In fact, some of our gang-member participants reported that the relational ties they developed to fellow gang members were akin to those they had formed with family members (cf. Bolden, 2013). Unfortunately, within gangs, strong relational ties may foster an esprit de corps that encourages members to support each other's delinquency and violence. In contrast, gangs with weak relational ties may experience greater intra-gang conflict and reduced control over the behaviors of individual members and cliques in the gang (Hughes, 2013).

The role of relational ties is so central to the interpersonal dynamics within gangs that researchers have developed a language to refer to fusion-related constructs. For example, "embeddedness" refers to the degree to which gang members are connected to others in dense, overlapping ways, and "nestedness" in a group refers to one's structural position in the group. Similarly, "multiplexity" refers to strong ties that foster trust and reciprocity and constrain behavior to preserve these relationships across multiple contexts (see Sierra-Arevalo & Papachristos, 2015).

Just as intra-group relational ties represent a way of maintaining the unity of the gang, extra-group relational ties tend to weaken the gang (e.g., Fleisher, 2005). In fact, counselors

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often encourage former or current gang members to shift their allegiance away from gangs onto their families and staff members. In such instances, the development and strengthening of relational ties with non-gang individuals appears to be key to the development of positive values that keep criminals on a straight, socially constructive, path.

Given the importance of relational ties to effective social functioning and wellbeing, it behooves researchers to learn more about how to foster such ties. Our evidence indicates that fostering self-verification may be one effective way of increasing relational ties. In fact, we suspect that the same interventions that researchers have used to foster fusion do so, at least in part, by increasing perceived self-verification. For example, we believe that possessing shared values will increase the likelihood that people will pay careful attention to fellow group members and come to see them as they see themselves (e.g., Swann et al., 2014). Similarly, possessing shared genes will increase attention to other group members and encourage the development of verifying appraisals of them (cf. Swann et al., 2014; Vázquez, Gómez, Ordoñana, et al., 2017). Finally, engaging in rituals may foster cohesiveness than can encourage self-verification within groups (Watson-Jones & Legare, 2016; Whitehouse et al., 2014).

Despite our evidence that relational ties mediate the link between self-verification and fusion, some of our findings indicate that relational ties are not necessary for fusion to occur. Consider, for example, that self-verification predicted fusion with a value (Study 1b) and leader (Study 1c) and that fusion predicted willingness to fight and die for the target of fusion. Given that fusion with a value or leader is not necessarily associated with members of any particular group, fusion effects clearly do not require relational ties. The same is likely true of a wide array of fusion targets that have been studied recently, including causes such as religion, freedom, or democracy (e.g., Gómez et al., 2022; Gómez, Vázquez, & Atran, 2023), values such as gun

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rights (Martel et al., 2021), and brands (Krishna & Kim, 2021; 2022; Lin & Sung, 2014).

Converging evidence of the influence of fusion with non-group targets suggests that relational ties are a contributory but not necessary component of fusion. This raises the possibility that identity fusion may persist even when relational ties weaken or vanish completely. This could have implications for the stability of identity fusion.

The Stability of Identity Fusion

Early evidence indicated that identity fusion was relatively stable. For example, among strongly fused persons, the rank orderings of fusion scores remained stable over months (Swann et al., 2012, p. 447). Nevertheless, despite this evidence of relative (rank order) stability of fusion (cf. Mathieu & Gosling, 2012; Roberts & DeVecchio, 2000; Santor et al., 1997), subsequent investigations of absolute (average) stability revealed a more complex picture. For instance, when researchers (Vázquez, Gómez, & Swann, 2017) examined the reactions of Spanish participants to three negative historic events (a corruption scandal involving the Royal Family and two separatist efforts by a prosperous region of Spain), they discovered that average fusion scores declined following these events. Closer inspection revealed that these declines were limited to sentiments toward the group category (“collective ties”)—negative events did *not* tarnish sentiments toward individual group members (“relational ties”) nor did these events diminish willingness to fight and die for Spain.

The results of experimental studies added additional nuance to the stability question. Gómez et al. (2019) reported that experimentally compromising either collective ties (i.e., sentiments toward the group as a whole) or relational ties (i.e., sentiments toward individual group members) lowered *state* identity fusion (fusion at the moment) but not trait fusion (the standard measure of fusion which includes no temporal instructions). These findings suggest that

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measures of trait fusion tap into relatively stable representations of the person in general, whereas measures of state fusion focus attention on relatively specific features of the immediate situation -including either perceptions of the group as a whole (i.e., collective ties) or other group members (i.e., relational ties).

Our success in experimentally increasing trait fusion by increasing perceived self-verification in Study 3 adds an additional wrinkle to the issue of the stability of fusion. To the best of our knowledge, this is the first evidence that trait fusion can be experimentally manipulated. Although this is an undeniably important finding, we should add three caveats. First, although the manipulation increased absolute fusion, it had little impact on relative fusion, r 's = .39 and .43, baseline vs. experimental conditions, respectively. Second, although we succeeded in *increasing* trait fusion, experimentally *decreasing* trait fusion may be more difficult due to processes related to loss aversion (Kahneman et al., 1991). Third, given that so many efforts have failed to successfully manipulate fusion, there appear to be many factors stabilizing fusion in naturally occurring settings; over time, these factors will likely reverse the changes we produced in our experiment.

Considering the foregoing caveats, we suspect that our success in changing fusion may say more about the potency of the perceived self-verification manipulation than the fragility of identity fusion. Conceivably, our manipulation was especially effective because it targeted the personal self—the heart or essence of identity fusion. Be this as it may, the results of Study 3, together with earlier evidence of success in changing fusion or components thereof (Gómez et al., 2019; Vázquez, Gómez, & Swann, 2017), repudiate Swann et al.'s (2012) claim that identity fusion is *irrevocable*. For this reason, in Swann et al.'s (in press) recent revision of identity fusion theory the authors indicate that although fusion may be *resilient*, it is not irrevocable.

Conclusion

To date, the research literature has offered considerable insight into the consequences of identity fusion but far less insight into its antecedents. This report addressed this gap in the literature by examining the hypothesis that perceiving that others are self-verifying (see one as one sees oneself) fosters identity fusion which, in turn, leads to sacrifices for the target of fusion. Our findings supported this prediction, including critical evidence that perceived self-verification plays a causal role in identity fusion. Moreover, our results indicated that the relationship between perceived self-verification and fusion generalized to various targets of fusion (including a group, a value, and a leader), and to samples of criminals who were known to have committed violent crimes (i.e., incarcerated members of street gangs and organized crime gangs). These results provide some of the strongest evidence yet of the unique role of the personal self in motivating extreme sacrifices. In addition, they show that targets of identity fusion are not limited to groups but include other abstractions such as values and leaders. Taken together, these findings deepen and broaden our understanding of why people undertake extraordinary actions to preserve and promote the ideas they care about.

Footnotes

¹ While acknowledging the many informal revisions of the social identity perspective, we focus here on the classic versions because the revisions are inconsistent with one another and no single revision has been recognized as the successor to the original theory.

² In the original identity fusion publication, Swann et al. (2009) indicated that fusion is associated with a blurring of the borders between the self and group. Swann et al. (2012) later realized that this is misleading due to the implication that fusion causes people to lose sight of who they are. This latter possibility not only contradicts the theory and relevant evidence, it would theoretically compromise the capacity of the personal and social self to engage in mutual strengthening. As such, Swann et al. (2012) modified the argument by contending that fusion causes the borders to become porous rather than blurred.

³ The formidability representation hypothesis (Fessler et al., 2012) states that formidability is the sum of an adversary's tactical assets and liabilities compared to one's own. Recently, some authors (Gómez et al., 2017; Gómez, Vázquez & Atran, 2023; Tossell et al., 2022) have distinguished two facets of formidability, physical (fighting ability or the capacity to inflict harm on others) and spiritual (the conviction and non-material resources including values, strength of beliefs, and character).

⁴ Studies 1 to 4 were conducted in Spain and with Spanish citizens, including residents of all Spanish regions, which are highly diverse (17 regions plus two additional autonomous cities in north-Africa). Studies 5a-5b included participants from many different nations.

⁵ We have conducted ANOVAs because the number of studies replicating the effects and the samples are big enough to produce trustworthy results and it is considered a robust test (see for example Blanca et al., 2017)

⁶ The pictorial measure of fusion differs from Aron et al.'s (1992) scale in several ways. Most obviously, the fusion scale refers to alignment with a group rather than another individual. In addition, to capture fusion in a manner that emphasized perceived overlap and nothing else, Swann et al. (2009) had participants indicate which picture best represented the way they perceived their relationship with the group instead of choosing the option that best reflected their "closeness with the group" (this may seem like a subtle distinction, but extensive piloting indicated that including the word "relationship" facilitated our goal of increasing the salience of the personal self). More information about the development of the pictorial measure of identity fusion and its differences with other measures can be found in Swann et al. (2009) and Jiménez et al. (2016).

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