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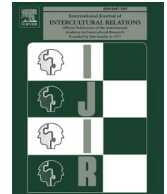
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# When the target matters: A cross-cultural comparison of the generalizability and specificity of identity fusion effects

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## ABSTRACT

Identity fusion, a synergistic union of the personal self and an additional entity, motivates people to fight and self-sacrifice to defend the fusion target. Yet, it is unclear whether the mechanisms underlying fusion effects are general or target-specific. Therefore, this research investigated fusion effects with three distinct targets: groups, leaders, and values, while introducing violence support as a potential mediator. First, three cross-sectional studies in Spain examined the association between fusion and willingness to fight, and the mediating role of violence support. Next, a quasi-experimental study in Israel directly compared these relationships across the three targets. Results confirmed a general positive association between fusion and willingness to fight for all targets. Notably, only fusion with groups and leaders was positively associated with violence support, which mediated the fusion effect on willingness to fight. Findings offer preliminary evidence for the generalizability of fusion effects, underscoring the specificity of its fundamental processes.

## 1. Introduction

Following terrorist attacks like the 9/11 Twin Towers and the 2004 Madrid train bombings, understanding what motivates individuals to fight, kill, and sacrifice their lives for convictions became a common research interest. Among the theories proposed to explain violent extremism (for a review see Gómez et al., 2024b), identity fusion, a synergistic union of personal self and fusion target, has emerged as the strongest predictor of radical intentions (see Wolfowicz et al., 2021a). These findings were consistent across heterogeneous samples from all five continents.

The original identity fusion theory (OIFT, Swann, Jetten, Gómez, Whitehouse, & Bastian, 2012) described identity fusion as a visceral feeling of oneness with a group that predicts extreme and costly actions on its behalf. Although OIFT recognized the possibility of applying the feelings of fusion to other targets, it was not until the emergence of the comprehensive identity fusion theory (CIFT, Swann et al., 2024) that fusion was formally extended to other targets, such as individuals (e.g., leaders) or values. Previous research has consistently demonstrated the effects of identity fusion on extreme pro-group behaviors and willingness to carry out costly sacrifices, such as fighting and dying for the group, while revealing the underlying mechanisms that mediate these effects (see Gómez et al., 2024b, for a review). However, little is known about the factors that explain the effects of fusion with targets other than a group, and whether such mechanisms vary across various fusion targets.

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This study aims to provide insights for addressing these gaps. Noting that identity fusion is strongly associated with radical intentions and violent extremism, we first examine whether fusion is positively associated with willingness to fight and die as well as with more general support for violence on behalf of the fusion target. Second, we explore whether violence support could explain the positive association between identity fusion and willingness to fight and die. Third, we test whether this association emerges independently of the fusion target type across three targets: a group, a leader, or a value. Fourth, we inspect whether the findings are replicated in two countries, Spain and Israel.

This paper begins by introducing the original identity fusion theory, the causes of fusion, and the mechanisms that explain its effects. Next, we focus on radical attitudes as a factor that may regulate the relationship between fusion and willingness to use violence. This leads us to propose violence support as a potential mediator in the relationship between identity fusion and willingness to fight. Then, we presented the comprehensive identity fusion theory, describing its main innovations with an emphasis on the idea that people can be fused with entities other than a group. This, in turn, brought us to explore how the mechanisms underlying identity fusion effects may vary between fusion target types, as evidenced in findings related to three fusion target types: groups, leaders, and values.

### 1.1. The original identity fusion theory (OIFT)

According to OIFT, identity fusion emerges when people share biological traits, core values, or intense experiences (Carnes & Lickel, 2018; Swann et al., 2014b; Whitehouse et al., 2017), though it can also result from political injustices (Kunst et al., 2018) or feelings of admiration (Gómez et al., 2021). Strongly fused individuals perceive strong relational ties with group members, viewing the group as "family" with shared bonds. This attachment creates two main sentiments: (a) powerful connectedness where personal and social identities become functionally equivalent, and (b) deep reciprocal strength based on believing group members will do anything for each other. These perceptions create a powerful desire to act for the group, even requiring ultimate sacrifice.

Among other findings, lab studies have consistently shown that identity fusion predicts willingness to fight and die for the group (e.g. Gómez et al., 2011a; Gómez et al., 2011b; Swann, Gómez, Seyle, Morales, & Huici, 2009, 2010b, 2014b), and willingness to self-sacrifice for other group members on intergroup versions of the trolley dilemma (Swann et al., 2014a; Swann et al., 2010a). Applications of the theory in the field indicated that fusion was positively associated with fighting against the Gaddafi regime during the Libyan insurrection (Whitehouse, McQuinn, Buhrmester, & Swann, 2014), making costly sacrifices among prisoners affiliated with jihadist groups, street gangs, and delinquent bands (Gómez et al., 2021, Gómez et al., 2022; Gómez, Vázquez, & Atran, 2023, 2024b), and among the general population in Palestine, Morocco, Lebanon, Turkey, the UK, and Ukraine (Gómez et al., 2023). A longitudinal study conducted in Israel revealed that Israelis' fusion with Judaism, rather than fusion with their country, predicted endorsement of retaliatory activity, especially following terror attacks (Fredman, Bastian, & Swann, 2017). Not in vain, recent meta-analyses demonstrated the potential of identity fusion as a predictor of extreme intentions (Varmann et al., 2024; Wolfowicz et al., 2021a).

Beyond identity fusion's consequences, researchers have sought to understand underlying mechanisms - why fusion predicts willingness to perform extreme actions for the fusion target. With groups as fusion targets, researchers explored various mediating mechanisms: emotional links like emotional commitment (Swann et al., 2014a), visceral responsibility (Chinchilla, Vázquez, & Gómez, 2022b), and trust (Gómez et al., 2023); psychosocial mechanisms from self-group interaction, such as group-based invulnerability and agency (Gómez et al., 2011a); group features like perceived physical or spiritual formidability (Gómez et al., 2023; Vázquez, López-Rodríguez, Martínez, Atran, & Gómez, 2020); reputational concerns, including motivation to restore family honor (Ashokkumar & Swann, 2022) and readiness to deny group wrongdoing (Besta, Gómez, & Vázquez, 2014); and perceived negative treatment such as personal discrimination or injustice (Gómez et al., 2022). See Gómez et al. (2024b) for a comprehensive review.

Each of the processes underlying identity fusion effects can lead to negative behaviors as intergroup violence, and indeed most research has focused on the effects of fusion on intergroup aggression. However, fusion does not inherently lead to violence, and when the outgroup is familiar and non-threatening, strongly fused persons may be positively disposed toward its members (Klein & Bastian, 2022; Vázquez, Gómez, López-Rodríguez, & Swann, 2023). To better understand the potential connection between fusion and violence, it is important to consider the broader process of extremism, which usually involves a transition from *radical attitudes* (the justification or support of extreme behaviors) to *radical behaviors* or *radical behavioral intentions* (involvement or willingness to be involved in violent actions) (King & Taylor, 2011; Wolfowicz et al., 2021b). Despite this understanding, no study has specifically tested violence-supportive attitudes as a mediator linking fusion to willingness to engage in extreme pro-group behavior, though prior research has examined related mechanisms such as moral beliefs regarding violence justifiability as a moderator (Chinchilla, Vázquez, & Gómez, 2022a). Hence, in the current research, we aimed to introduce a new mediator, violence support, which depicts individuals' attitudes toward using violence for the defense of the fusion target.

Conceptualizing violence support as a mediator reflects the sequential logic of cognitive and behavioral models of radicalization, in which beliefs about the acceptability of violence develop prior to intentions to act (King & Taylor, 2011; Wolfowicz, et al., 2021a). Social-psychological theories of attitude-intention relations similarly position attitudes toward a behavior as direct antecedents of intentions to perform it (Ajzen, 1991; Fishbein & Ajzen, 2011). This temporal ordering aligns with a mediation structure, in which violence-supportive attitudes serve as a proximal cognitive link between identity fusion and willingness to fight. Furthermore, in our case, the relevant attitudes are not general beliefs about violence but specifically the belief that using violence to defend the fusion target may be acceptable or necessary. Such target-specific violence support may emerge from identity synergy processes, making it theoretically coherent to examine it as a mediator.

Just as radical attitudes have not been explored as a potential mediator of identity fusion effects, neither has the generalizability of the underlying mechanisms across targets beyond groups. The consideration of target types has been a primary motivation for the theory's authors to update it, fifteen years after the appearance of the first scientific manuscript and a dozen years after the

establishment of the OIFT. The following section briefly outlines the key innovations in the updated theory.

### 1.2. The comprehensive identity fusion theory (CIFT)

Identity fusion theory was originally developed to explain extreme commitment to groups, developing as a complement to aspects of group functioning that Social Identity Theory downplayed (Tajfel & Turner, 1979). Particularly, whilst social identity theory views personal and social identities as relatively separate and, at times, competing entities, identity fusion theory explores situations where they are intertwined, synergistically motivating behavior.

A notable innovation of the CIFT that further distinguishes it from the social identity theory is its extension to diverse target types. While initial research focused on fusion with groups, further studies demonstrated fusion with various entities. Examples include fusion with individuals, such as a romantic partner (Joo & Park, 2017; Walsh & Neff, 2018), a sibling (Vázquez et al., 2015, 2017, 2019), or leaders like President Donald Trump (Kunst, Dovidio, & Thomsen, 2019) and Volodymyr Zelenskyy (Gómez et al., 2023). Fusion with values has also been observed, including religion (Gómez et al., 2021, Gómez et al., 2022), honor (Gómez et al., 2022), democracy, and freedom (Gómez et al., 2023). Additionally, research has extended identity fusion theory to other targets, such as brands (Krishna & Kim, 2021; Lin & Sung, 2014) and animals (Buhrmester et al., 2018). For a detailed theoretical explanation of how identity fusion operates with non-group targets, see Swann et al. (2024).

Extending identity fusion beyond groups departs from classic social identity theory and required theoretical modifications to OIFT principles. OIFT includes four principles: (a) identity synergy - similar responses to personal or social identity activation, (b) agentic personal self - using personal agency to advance group interests, (c) relational ties - sentiments toward group members, and (d) irrevocability - perceiving permanent commitment to the target. However, only identity synergy applies to any target. Consequently, CIFT (Swann et al., 2024) redefines fusion around this principle as a synergistic union of personal self and fusion target with porous borders, creating identity synergy where individuals channel personal agency into target-supporting behaviors.

The idea that only identity synergy applies to non-group fusion targets suggests different mechanisms may underlie fusion depending on target type. This reveals a second literature gap: while fusion has been documented separately with groups, leaders, and values, to the best of our knowledge, no research has simultaneously compared these targets to examine whether mediational mechanisms are universal or target-specific. Previous studies investigated fusion with one or two targets but haven't systematically compared how these fusion types operate through similar or distinct psychological processes. Since identity fusion's influence on willingness to support extreme behavior may depend on the fusion target, investigating mechanisms for non-group targets becomes particularly significant.

### 1.3. Conceptualization of fusion with values

While the CIFT extends fusion to various targets beyond groups, fusion with values may deserve conceptual clarification. As noted earlier, fusion with values and its effects have been documented empirically, including fusion with religion (Fredman et al., 2017; Gómez et al., 2021; Gómez et al., 2022), honor (Gómez et al., 2022), democracy, and freedom (Gómez et al., 2023), demonstrating that people can develop fusion with abstract principles. Importantly, fusion with values reflects deeper identity integration than merely endorsing or prioritizing a value (Gómez et al., 2020). Meaning, while traditional value measures typically assess importance (e.g., 'How important is democracy to you?'), value fusion captures identity-level integration ('Democracy and I are one').

This inclusion of the value into one's core self-concept differentiates it from related constructs such as sacred values and moral convictions. Sacred values refer to principles that are perceived as non-negotiable and resistant to cost-benefit calculations (Atran & Axelrod, 2008; Atran & Jeremy Ginges, 2015). Moral convictions represent strongly held attitudes about right and wrong that are experienced as objectively true and universally applicable (Skitka, 2010). Both constructs are attitudinal in nature, whereas fusion with values reflects identity integration, a visceral sense that the value is incorporated into one's core self-concept (Gómez et al., 2020; Martel, Buhrmester, Gómez, Vázquez, & Swann, 2021; Swann et al., 2024). For example, a person may hold democracy as a sacred value ("democracy should never be compromised") or as a moral conviction ("democracy is objectively right and should apply to everyone") without being fused with it. In short, fusion reflects a different psychological state, signaling that the value is experienced not merely as a guiding belief but as a constituent part of the personal self.

Furthermore, fusion with values may manifest differently than fusion with groups or leaders. Indeed, recent developments in the CIFT framework describe how the expression of fusion can vary depending on the target (see Swann et al. (2024) for analyses of how core fusion principles apply across targets, and Gómez, Vázquez, Blanco, and Chinchilla (2025) for emerging evidence on moderators and mediators shaping these effects). These considerations, together with inconsistent findings in previous work comparing fusion with groups and values, with some reporting stronger effects for values (e.g., Fredman et al., 2017; Gómez et al., 2017, Gómez et al. 2022) and others stronger effects for groups (e.g., Donadio et al., 2020), motivated our systematic comparison across targets.

### 1.4. Fusion target types

Research simultaneously investigating multiple fusion targets is scarce, with existing studies showing inconsistent results on which target type has stronger behavioral effects (e.g., Atran & Gómez, 2018; Fredman et al., 2017; Gómez et al., 2017; Kunst et al., 2019). Recent multicultural research with nearly 12,000 participants found identity fusion with groups, leaders, and values all positively predicted willingness to fight for these entities (Gómez et al., 2023). However, direct comparison between fusion targets faced challenges due to varying measurement scales across studies. One study investigating three targets simultaneously found that fusion

with Ukraine, President Zelenskyy, and freedom were all associated with costly helping behavior among Spanish participants (Gómez et al., 2023). However, since this study focused on positive behaviors toward an ally, findings may not apply to understanding fusion effects on extreme behavioral intentions like willingness to fight and harm.

Investigation of identity fusion toward a *group versus a leader* revealed that fusion with a political leader (Donald Trump), above and beyond fusion with a political group (Republicans), predicted willingness to participate in political violence (Kunst et al., 2019). When studying identity fusion with a *group versus values*, a longitudinal study conducted in Israel (Fredman et al., 2017), and studies among ISIS members (Gómez et al., 2017), and imprisoned jihadists (Gómez et al., 2022) have shown that the effects of fusion with values take precedence over fusion with a group. However, in other circumstances, identity fusion with certain groups outweighed fusion with values (Donadio et al., 2020). Lastly, no study we are aware of has tested both identity fusion with *leaders and values*.

In brief, previous findings indicated that fusion with a leader may have a greater influence on extreme behavior compared to fusion with a group. Nevertheless, group-values fusion comparisons have yielded mixed results, and simultaneous leader-values fusion studies are scarce, impeding definitive conclusions regarding which target type best predicts extreme behavior. Such variations might reflect not just contextual differences but fundamental differences in how fusion operates across target types. Our paper addresses these gaps by directly comparing fusion effects across groups, leaders, and values — which represent its primary theoretical contribution. By systematically examining fusion effects across different target types, this work seeks to provide support for the conceptual framework proposed in the CIFT. Our cross-target approach offers the first assessment of whether fusion effects generalize across diverse fusion targets or manifest with target-specific patterns, thereby addressing earlier concerns about the theory's scope and applicability beyond group-based fusion.

### 1.5. Overview

We conducted four studies using two distinct methodological approaches: Cross-sectional (Studies 1a-1c) and quasi-experimental (Study 2). Studies 1a-1c were run online in Spain using the snowball technique. Study 2 was conducted online in Israel via iPanel, a well-known Israeli survey company, with participants receiving modest compensation for participating. The study procedure was similar to Studies 1a-1c, with the addition of randomly assigning participants to the group, leader, or value conditions. This study was conducted among Jewish Israelis before the most recent escalation of the Israeli–Palestinian conflict, which began on October 7th, 2023, and led to a massive round of violence, seemingly the most intense in the history of this protracted conflict. At the time of the study, there were neither peace negotiations, nor massive rounds of violence.

All studies were approved by the ethics committees of the correspondent Universities (see SI.1). In all studies, we expected that identity fusion would be positively and significantly associated with willingness to fight and die for the fusion target, across all target types. We also explored whether identity fusion would be positively and significantly associated with positive attitudes toward violence (hereafter referred to as "violence support" for brevity) for defending the fusion target, and if such association would vary depending on the target's type. In addition, we expected that when fusion is associated with violence support, the relationship between identity fusion and willingness to fight and die would be mediated by violence support. Finally, we expected that the foregoing results would remain consistent irrespective of the methodological approach, cross-sectional versus quasi-experimental, and the country, Spain versus Israel.

### Studies 1a-1b-1c. The Effects of Fusion on Willingness to Fight and Die through Violence Support on Behalf of the Target of Fusion.

Three cross-sectional studies tested whether identity fusion with a target was positively associated with violence support and willingness to fight and die for that target. In addition, these studies examined whether violence support mediated the relationship between identity fusion and willingness to fight and die for the fused target, independently of the fusion target type. Each study focused on different types of fusion targets: a group (participants' country - Spain) in Study 1a, a leader of the participant's choosing in Study 1b, and a value (participants' religion or their most cherished value for atheists) in Study 1c. These studies were conducted sequentially, thus, unlike Study 2, participants were not randomly assigned to each target type.

## 2. Method

### 2.1. Participants

All participants in these studies were Spaniards, including 307 participants in Study 1a (55% women, mean age = 41.75,  $SD = 14.50$ ); 322 in Study 1b (48% women, mean age = 38.29,  $SD = 14.80$ ); and 299 participants in Study 1c (50% women, mean age = 43.61,  $SD = 15.53$ ).

### 2.2. Procedure

Spanish citizens from the general population voluntarily participated in online research on intergroup relations. Studies were run online using the snowball technique, wherein undergraduate students in a distance-learning university asked their acquaintances to participate. We provided students with an email to send to their acquaintances. The email stated that we were seeking volunteers to respond anonymously to an online questionnaire, and 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 study link, where they received detailed information about the study and informed consent at its beginning.

After learning that the study focused on the relationships that people establish with personally important social groups, leaders, or values (in studies 1a, 1b, and 1c, respectively), participants responded to a 30-minute online questionnaire including measures of identity fusion, violence support for defending the fusion target if necessary, and willingness to fight and die to defend the fusion target. To ensure comparability across fusion targets, we used parallel item wording, following previous fusion research that has assessed more than one type of target within the same study (e.g., Gómez et al., 2022, Gómez et al. 2023, 2024a; Vázquez et al., 2020). This parallel measurements structure aligns with established practice in the field and facilitates the cross-target comparisons central to our research question.

In Study 1a, the fusion target was participants' country (Spain). In Study 1b, participants selected a living leader they found important, mostly political figures such as current or former Spanish presidents. In Study 1c, participants referred to their religion or, if non-religious, to a personally significant value (e.g., respect, solidarity). Christianity was the most common religion (57.9%), while 34.4% of participants identified with non-religious values. We acknowledge that including both religious and non-religious values introduces some heterogeneity within the values condition. This operationalization reflected both theoretical reasons and pragmatic considerations to ensure that all participants, whether theistic or non-theistic, rated a value that was personally meaningful and contextually relevant in Spain (see SI.18a). Importantly, sensitivity analyses comparing religious and non-religious participants yielded similar patterns (see SI.18b).

Participants who failed the attention check were excluded: 17 in Study 1a, 64 in Study 1b, and 20 in Study 1c, resulting in final sample sizes of 290, 258, and 279, respectively. Including these participants did not change the results (see SI.2–SI.4).

### 2.3. Measures

**Identity Fusion.** Was assessed using the verbal measure of identity fusion, including a 7-item scale from Gómez et al. (2011a), (e.g., “My group/leader/value is me”), alphas = .90, .89, and .95, respectively.

**Attitudes toward Violence for Defending the Target of Fusion (Violence Support).** Were assessed with a 4-item scale adapted from Van Bergen, Feddes, Doosje, and Pels (2015), (e.g. If my country/leader/value is under threat: “It would be acceptable to use violence to defend my country/leader/value”, “Violence would be necessary to defend my country/leader/value”), alphas = .94, .88, and .92, respectively

**Willingness to Fight and Die for the Fusion Target.** Was measured with the 7-item scale from Swann et al. (2009), (e.g., “I would do anything to protect my country/leader/value”), alphas = .81, .83, and .78, respectively.

All items in these measures were rated on scales ranging from 0 (*strongly disagree*) to 6 (*strongly agree*).

### 2.4. Data analyses

First, we conducted a set of correlations between the three measures of interest (identity fusion, violence support, and willingness to fight and die). Next, we performed three independent mediation models using the “PROCESS” macro, model 4, version 4.3.1 (Hayes, 2022) in Rstudio version 4.3.2. with percentile confidence intervals (95%, 10,000 bootstrap samples).

## 3. Results

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

As shown in Table 1, identity fusion, violence support, and willingness to fight and die for the group were positively and significantly correlated. This pattern of correlations also emerged when the target of fusion was a leader. When the target of fusion was a value, there was a positive and significant correlation between identity fusion and willingness to fight and die, as well as between violence support and willingness to fight and die. However, there was no significant correlation between fusion with value and violence support.

To test the hypothesis that identity fusion was associated with willingness to fight and die through violence support, we performed three mediation analyses. We included identity fusion as the predictor, violence support as the mediator,<sup>1</sup> and willingness to fight and die as the outcome (see Fig. 1). Following a recent meta-analysis resulting in small though significant effects for age and gender (Varmann et al., 2024), we controlled for these variables. Analyzing without accounting for the control variables (age and gender), resulted in similar results (see SI.5 – SI.7).

The results of Study 1a indicated that fusion with the group was positively and significantly associated with violence support. Violence support, in turn, was positively and significantly associated with willingness to fight and die for the group. In addition, the indirect association of fusion with the group and willingness to fight and die through violence support was significant (IE = 0.11, 95% CI [0.05, 0.17]). Regarding the control variables, gender was negatively and significantly associated with violence support ( $b = -0.68$ ,  $SE = 0.18$ ,  $p < .001$ ) and willingness to fight and die for the group ( $b = -0.22$ ,  $SE = 0.09$ ,  $p = .015$ ), indicating that men reported stronger violence support as well as a willingness to fight and die for the group, as compared to women.

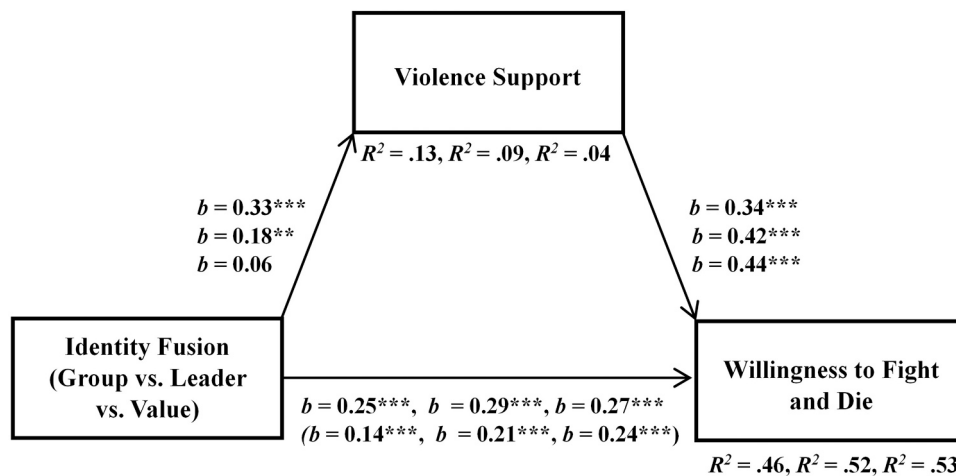
<sup>1</sup> Treating violence support as a mediator is consistent with statistical assumptions. Methodologically, moderation assumes that the predictor and moderator are ideally uncorrelated (Baron & Kenny, 1986; Little, Bovaird, & Widaman, 2006), whereas mediation requires that the predictor influence the mediator (Baron & Kenny, 1986; Vij & Farooq, 2017). Given that identity fusion and violence-supportive attitudes to defend the fusion target are theoretically related, moderation would be difficult to estimate cleanly.

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

| Measure                      | Study 1a<br>(Group) |        |        | Study 1b<br>(Leader) |        | Study 1c<br>(Value) |               |     |        |
|------------------------------|---------------------|--------|--------|----------------------|--------|---------------------|---------------|-----|--------|
|                              | M (SD)              | VS     | F&D    | M (SD)               | VS     | F&D                 | M (SD)        | VS  | F&D    |
| Identity Fusion              | 2.17<br>(1.42)      | .29*** | .36*** | 1.02 (1.18)          | .18*** | .42***              | 1.99 (1.64)   | .08 | .46*** |
| Violence Support             | 2.58<br>(1.89)      |        | .64*** | 0.66 (1.13)          |        | .65***              | 0.60 (1.17)   |     | .59*** |
| Willingness to Fight and Die | 1.14<br>(1.16)      |        |        | 0.41<br>(.80)        |        |                     | 0.69<br>(.94) |     |        |

Notes. VS (Violence Support), F&D (Fight and Die).

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



**Fig. 1.** Indirect Associations of Identity Fusion with Willingness to Fight and Die Through Violence Support (Studies 1a-1c). Mediation models. Indirect associations of identity fusion with willingness to fight and die, via violence support in studies 1a-ab-ac (unstandardized betas are presented in this order, respectively). Total effect model  $R^2 = .19, .20, .24$  for studies 1a-1b-1c, respectively. The path from identity fusion to willingness to fight and die shows total effects, with indirect effects in parentheses. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

The results of Study 1b replicated those from Study 1a, but considering a leader as the target of fusion, violence support, and willingness to fight and die. The indirect association of identity fusion and willingness to fight and die through violence support was positive and significant (IE = 0.08, 95% CI [0.02, 0.16]). Regarding the control variables, gender was negatively and significantly associated with violence support ( $b = -0.48$ ,  $SE = 0.12$ ,  $p < .001$ ), indicating that when fused with a leader, men reported higher violence support for the leader, as compared to women.

The analyses of Study 1c revealed that fusion with a value was significantly and positively associated with willingness to fight and die. Similarly, violence support was positively and significantly associated with the willingness to fight and die for the value. However, fusion with a value was not significantly associated with violence support (see Fig. 1), and the indirect association of fusion and willingness to fight and die through violence support was not significant (IE = 0.03, 95% CI [-0.002, 0.060]). Regarding the control variables, gender ( $b = -0.25$ ,  $SE = 0.11$ ,  $p = .025$ ) and age ( $b = -0.01$ ,  $SE = 0.004$ ,  $p = .042$ ) were negatively and significantly associated with violence support, indicating that men and younger participants reported stronger violence support in defense of the value, as compared to women and older participants.

**Measurement Invariance Tests.** We conducted measurement invariance tests separately for the Spanish samples (Studies 1a-1c) and the Israeli sample (Study 2), and report these analyses in SI.20a and SI.20b, respectively. These analyses examined whether participants responded to violence support items similarly regardless of the type of fusion target they were considering, testing three levels of invariance: configural (same factor structure), metric (equal factor loadings), and scalar (equal item intercepts), using the change in Comparative Fit Index ( $\Delta CFI$ ), with  $\Delta CFI < .01$  as the criterion for invariance (Cheung & Rensvold, 2002). In both countries, we found configural invariance, indicating that participants conceptualized violence support as a single underlying construct for all target types (see SI. 20 for details). However, metric and scalar invariance were not fully supported, suggesting that item loadings and intercepts vary somewhat by target. Meaning, some items are more diagnostic for certain targets, and baseline levels of violence support differ across groups, leaders, and values. This pattern indicates that violence support might operate differently across targets. Importantly, these violations mainly affect mean-level comparisons, which we therefore interpret cautiously, whereas our central

mediation and moderation analyses rely on correlations and regression coefficients, which are robust to partial non-invariance and do not necessarily require scalar invariance (Steinmetz, 2013).

**Robustness Analyses.** Low means in Studies 1a–1c outcome variables (see Table 1) led us to test for floor effects, which were significant for willingness to fight and die in Study 1a and across all measures in Studies 1b–1c (see SI.8). Hence, we assessed linear regression assumptions, finding that the group model (Study 1a) met most assumptions, while leader and value models (Studies 1b–1c) violated linearity, homoscedasticity, and residual normality assumptions (see SI.9).

To address these violations, we conducted two complementary robustness analyses serving distinct purposes. First, to directly address heteroscedasticity, we re-estimated all analyses using heteroscedasticity-consistent (HC3) robust standard errors (Long & Ervin, 2000), which provides valid inference even when error variances are unequal across observations. Results from these analyses fully replicated the original PROCESS findings: violence support significantly mediated the relationship between identity fusion and willingness to fight and die for group and leader targets, whereas the indirect effect remained nonsignificant for values. Put simply, accounting for heteroscedasticity did not alter the significance, direction, or relative magnitude of any substantive effects (see SI.22).

Second, we conducted Tobit regression (Tobin, 1958), which addresses censoring at scale boundaries by modeling both boundary response likelihood and continuous outcomes, though it does not correct heteroscedasticity. Consistent with the robust standard error results, Tobit models replicated the original mediation pattern: violence support mediated the fusion–willingness relationship for groups and leaders but not for values, and effect size patterns remained stable across targets (see SI.10).

In addition to these robustness checks, we also conducted multigroup structural equation modeling to compare indirect effects across the group, leader, and value conditions (SI.21). While multigroup SEM offers advantages for testing differences in indirect effects, our data exhibited violations of distributional assumptions (non-normality, heteroscedasticity, and floor/ceiling effects; see SI.9, SI.16) and Studies 1a–1c differed in their sampling frames, limiting the suitability of a unified multigroup model. We therefore report these SEM results in the SI, where they converged with the PROCESS findings: violence support mediated the relationship between identity fusion and willingness to fight and die for groups and leaders but not for values (see SI.21a). The only divergence was the absence of a significant leader–value difference, which we interpret cautiously given the analytic constraints noted above.

**Sensitivity power analysis.** Sensitivity power analyses were conducted using G\*Power (Faul, Erdfelder, Lang, & Buchner, 2007) for linear multiple regression (F-tests family, fixed model,  $R^2$  increase). Assuming 80% power,  $\alpha = .05$ , three total predictors (including two covariates: age and gender), and one tested predictor (identity fusion or violence support), analyses indicated minimum detectable effect sizes of  $f^2 = 0.026$ , 0.025, and 0.026 for Studies 1a ( $N = 307$ ), 1b ( $N = 322$ ), and 1c ( $N = 299$ ), respectively.

## 4. Discussion

As expected, we found a positive association between identity fusion and willingness to fight and die for each of the three fusion targets – groups, leaders, and values. Likewise, the results indicated that violence support for defending any of these targets was also positively and significantly associated with willingness to fight and die for the fusion target defense. However, the relationship between identity fusion and violence support differed across targets. While identity fusion was positively and significantly associated with violence support for defending groups and leaders, this association was not significant for values. Lastly, mediation analysis indicated that violence support mediated the relationship between identity fusion and willingness to fight and die only when the fusion target was a group or a leader, but not when the target was a value. These results were obtained while controlling for gender and age.

These preliminary findings provide at least two significant theoretical contributions. First, we identify an innovative pattern of association between identity fusion and willingness to fight and die, by examining how violence support for defending the fusion target relates to both variables. Second, in line with recent advancements in Identity Fusion Theory (Gómez et al., 2024a, 2024b; Swann et al., 2024), the findings demonstrate how these patterns of association differ across fusion target types. This is evidenced by the finding that violence support did not significantly mediate the relationship between fusion with values and willingness to fight and die, whereas this mediation was significant for fusion with groups and leaders.

Nevertheless, these studies have several limitations. First, all three were conducted in one country, limiting cultural generalizability. Second, since participants weren't randomly assigned across studies, observed differences in Studies 1a–1c might reflect sample differences rather than fusion target type. Study 2 addressed these limitations using a quasi-experimental design in Israel, randomly allocating participants to questionnaires adapted for different targets. Israel was selected as a distinct cultural context with ongoing intergroup conflict and salient religious-national identities, where fusion with groups, leaders, and values may have particularly strong behavioral implications (Fredman et al., 2017). These complementary contexts allow testing the generalizability of fusion mechanisms across distinct sociopolitical landscapes. In study 2, we aim to explore relationships between identity fusion, violence support for defending the fusion target, and willingness to fight and die across three conditions: fusion with Israel, fusion with participants' most cherished Israeli leader, and fusion with an Israeli societal value.

**Study 2. Fusion Target Type Moderates the Indirect Effect of Violence Support on the Relationship Between Identity Fusion and Willingness to Fight and Die.**

## 5. Method

### 5.1. Participants

Participants were 834 Jewish Israelis (49% women, mean age = 42.47,  $SD = 15.95$ ). The sample was diverse in terms of gender (men and women), age (18–85), political ideology (rightists, leftists, and centrists), and religiosity level (atheists, secularists,

secularists with relation to tradition, traditionalists, religious, and ultra-orthodox). All participants spoke Hebrew as their first language. As shown in Table 2, the demographic characteristics of the participants did not statistically differ between conditions. The sample included only participants who completed all measures of interest (see SI.11 for a detailed explanation of exclusion criteria).

## 5.2. Procedure

Participants were recruited via iPanel, a professional Israeli survey company, and received a monetary payment (10 shekels). They were provided with a link to the study, which was conducted on 'Qualtrics'. The study procedure was similar to the one of studies 1a-1c, with the exception that participants in this study were randomly assigned to the group, leader, or value conditions.

To address potential confounding factors, all fusion targets were defined as related to Israel, to maintain a shared cultural frame across all fusion targets. Our rationale was to minimize cross-domain confounding by ensuring that the group (Israeli nationality), the leader (an Israeli political figure), and the values (core principles associated with Israeli society) all belonged to the same thematic and cultural domain. This approach avoided introducing unrelated values (e.g., environmentalism), which could add heterogeneity and undermine meaningful comparisons across conditions. While we acknowledge that societal values may retain some group-based elements, we operationalized them as abstract principles rather than as markers of group membership per se, consistent with theoretical conceptualizations of value fusion (Gómez et al., 2020). This strategy allowed us to maintain theoretically meaningful distinctions between fusion targets while reducing potential confounding across domains.

## 5.3. Measures

*Identity fusion* (alphas = .92, .93, and .90, for the group, leader, and value conditions, respectively), *violence support to defend the target of fusion* (alphas = .86, .86, and .87 for the group, leader, and value conditions, respectively) and *willingness to fight and die* (.81, .84, and .75 for the group, leader and value conditions, respectively) were measured using the same scales from studies 1a-1c, with adaptations to the Israeli context. Specifically, in the group condition, the target of fusion was defined as the state of Israel for all participants. In the leader condition, participants were asked to choose an Israeli politician (a woman or a man) who is alive today and is important to them. The most chosen leaders were Benjamin Netanyahu, Benny Gantz, and Yair Lapid. In the value condition, participants were asked to choose a personally significant value they identified with Israeli society, including but not limited to solidarity, social justice, human dignity, and tradition preservation. Most participants chose one of the values mentioned in the question or the value of freedom.

## 5.4. Data analyses

First, we computed the correlations between the measures of identity fusion, violence support, and willingness to fight and die, across the three target types (group, leader, and value). Next, we performed several ANOVA tests to investigate whether there are differences between these variables, across fusion target types. Following a significant main effect found for the fusion target type in each of the ANOVA tests, we conducted Tukey's HSD post-hoc tests to examine pairwise differences among the three fusion target types.

Finally, a moderated mediation analysis was performed in a single-group model using a bootstrapping approach to assess whether

**Table 2**  
Descriptive Statistics of Final Sample Demographics for Study 2.

| Baseline Characteristic                | Group         | Leader        | Value       | Full Sample   | Test Statistics        |
|----------------------------------------|---------------|---------------|-------------|---------------|------------------------|
| Final sample size                      | 272           | 280           | 282         | 834           | $\chi^2(4) = 0.123$ ,  |
| (% Women)                              | (49.63)       | (48.57)       | (50.00)     | (49.40)       | $p = .940$             |
| Mean age                               | 41.84 (15.88) | 42.64 (15.66) | 43.13       | 42.47 (15.95) | $F(2, 817) = .349$ ,   |
| (SD)                                   |               |               | (16.46)     |               | $p = .705$             |
| Political ideology                     |               |               |             |               |                        |
| n (%) <sup>a</sup>                     |               |               |             |               |                        |
| Leftists                               | 44 (16.20)    | 43 (15.40)    | 46 (16.30)  | 133 (15.90)   | $\chi^2(4) = .281$ ,   |
| Rightists                              | 163 (59.90)   | 166 (59.30)   | 165 (58.50) | 494 (59.20)   | $p = .991$             |
| Centrists                              | 65 (23.90)    | 71 (25.40)    | 71 (25.20)  | 207 (24.80)   |                        |
| Religiosity level                      |               |               |             |               |                        |
| n (%) <sup>a</sup>                     |               |               |             |               |                        |
| Atheists                               | 20 (7.40)     | 24 (8.60)     | 20 (7.10)   | 64 (7.70)     | $\chi^2(10) = 2.861$ , |
| Secularists                            | 101 (37.10)   | 94 (33.60)    | 108 (38.30) | 303 (36.30)   | $p = .985$             |
| Secularists with relation to tradition | 51 (18.80)    | 56 (20.00)    | 55 (19.50)  | 162 (19.40)   |                        |
| Traditionalists                        | 34 (12.50)    | 39 (13.90)    | 30 (10.60)  | 103 (12.40)   |                        |
| Religious                              | 29 (10.70)    | 31 (11.10)    | 32 (11.30)  | 92 (11.00)    |                        |
| Ultra-orthodox                         | 37 (13.60)    | 36 (12.90)    | 37 (13.10)  | 110 (13.20)   |                        |

Note: Total  $N = 834$ .

All  $p$ -values are for test statistics. For age, ANOVA test was used, and  $\chi^2$  tests were conducted for all other factors.

<sup>a</sup> n (%) = Number of participants, followed by participants' percentage.

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

the indirect effect of violence support varies across identity fusion target types (Ryu & Cheong, 2017). In the single-group analysis approach, a categorical variable indicating the group membership is used as a covariate, and its interaction with the independent variable is included to test the difference of its effect on the mediator across the moderator's categories (Ryu & Cheong, 2017). We conducted this moderated mediation analysis in a multi-group approach as well and replicated results obtained from the single-group approach (see SI.12 for details).

To properly probe the moderating effect of a multi-categorical moderator, we followed Ryu and Cheong's (2017) tutorial, transforming the moderator into two categorical variables (W1 and W2). For comprehensive comparisons across all conditions - group vs. leader, group vs. value, and leader vs. value - we conducted the analysis twice using different coding schemes. First, we used dummy coding where W1 represented group vs. leader comparison (coded as 0 for group, 1 for leader, 0 for value) and W2 represented group vs. value comparison (coded as 0 for group, 0 for leader, 1 for value). The group condition served as the reference level, so coefficients for leader or value conditions indicated differences in violence support between groups and leaders or values respectively, with the group condition as baseline for interactions.

Next, we used a sequential coding scheme, where the leader condition was defined as the reference level with W1 representing the comparison between leader and group conditions (coded as 0 for group, 1 for leader, and 1 for value), and W2 represented the comparison between value and leader conditions (coded as 0 for group, 0 for leader, and 1 for value). Our primary interest was to compare the group to other targets since most research on identity fusion to date focused on social groups as the targets of fusion (see Gómez et al., 2024b, for a review). Hence, we first reported the dummy coding results with the group as the reference level in the main results section and provided the sequential coding results in SI.13.

The moderated mediation model tested the conditional indirect effect of fusion target type (the moderator) on the relationship between identity fusion (the predictor, centered) and willingness to fight and die (the outcome variable) via violence support (a potential mediator). We conducted this analysis using the "PROCESS" macro, model 7, version 4.3.1 (Hayes, 2022; Hayes & Montoya, 2017), where moderation occurs on the  $a'$  path (between predictor and mediator). The analysis was performed in Rstudio version 4.3.2. with percentile confidence intervals (95%, 10,000 bootstrap samples). An index of moderated mediation was used to test the significance of the moderated mediation - i.e., the difference of the indirect effects across levels of fusion target type. Significant effects were supported by the absence of zero within the confidence intervals.

Control variables included gender (coded as: 1 = men, 2 = women), age (18–85), political ideology (coded as: leftists = 1, centrists = 2, and rightists = 3), and religiosity level (coded as: 0 = atheists, 1 = secularists, 2 = secularists with relation to tradition, 3 = traditionalists, 4 = religious, and 5 = ultra-orthodox). Conducting the analyses without incorporating these control variables resulted in similar findings (see SI.14).

## 6. Results

As shown in Table 3, identity fusion with a group, violence support, and willingness to fight and die for the group were positively and significantly correlated. This pattern of correlations also emerged when the target of fusion was a leader. When the target of fusion was a value, there was a positive and significant correlation between identity fusion and willingness to fight and die, as well as between violence support and willingness to fight and die. However, there was no significant correlation between fusion with a value and violence support.

Next, we conducted three one-way analysis of variance (ANOVA) tests to investigate potential differences in the study measures' scores between the three fusion target types (group, leader, and value, see Table 3). First, for the identity fusion measure, the ANOVA test revealed a statistically significant difference in fusion scores between the three targets [ $F(2, 875) = 224.57, p < .001$ ]. Tukey's HSD post-hoc tests indicated that all pairwise comparisons were significant (adj.  $p < .001$ ). Specifically, fusion scores with a value were significantly higher than both the fusion scores with a group (Mean Difference = 0.73, 95% CI [0.47, 1.00]) and a leader (Mean Difference = 2.31, 95% CI [2.04, 2.57]). Additionally, fusion scores with a group were significantly higher than those of fusion with a leader (Mean Difference = 1.57, 95% CI [1.31, 1.84]).

Secondly, for violence support, the ANOVA showed a significant effect for the fusion target type [ $F(2, 831) = 530.88, p < .001$ ]. Post-hoc tests revealed that all pairwise comparisons were significant (adj.  $p < .001$  for group vs. leader and group vs. value; adj.  $p = .016$  for leader vs. value). Particularly, violence support was significantly higher for fusion with a group, compared to both fusion

**Table 3**  
Means, Standard Deviations, Correlations, and ANOVA Tests' Statistics for Study 2.

| Measure  | Group         |        |        | Leader        |        |        | Value         |      |        | Test Statistics            |
|----------|---------------|--------|--------|---------------|--------|--------|---------------|------|--------|----------------------------|
|          | <i>M (SD)</i> | VS     | F&D    | <i>M (SD)</i> | VS     | F&D    | <i>M (SD)</i> | VS   | F&D    |                            |
| Identity | 3.97          | .31*** | .56*** | 2.39          | .36*** | .53*** | 4.70          | -.10 | .27*** | $F(2, 875) = 224.57^{***}$ |
| Fusion   | (1.45)        |        |        | (1.53)        |        |        | (1.04)        |      |        |                            |
| VS       | 4.62 (1.43)   | —      | .64*** | 1.04          | —      | .61*** | 1.37          | —    | .51*** | $F(2, 831) = 530.88^{***}$ |
|          |               |        |        | (1.36)        |        |        | (1.47)        |      |        |                            |
| F&D      | 3.56 (1.43)   |        | —      | 1.01          |        | —      | 2.49          |      | —      | $F(2, 847) = 268.47^{***}$ |
|          |               |        |        | (1.20)        |        |        | (1.30)        |      |        |                            |

Notes. VS (Violence Support), F&D (Fight and Die).

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

with a leader (Mean Difference = 3.58, 95% CI [3.29, 3.86]) and a value (Mean Difference = 3.25, 95% CI [2.96, 3.52]). Additionally, violence support was significantly higher for fusion with a value, compared to fusion with a leader (Mean Difference = 0.33, 95% CI [0.05, 0.61]).

Lastly, for willingness to fight and die, the ANOVA yielded a significant difference between the three target types [ $F(2, 847) = 268.47, p < .001$ ]. Post-hoc tests showed all pairwise comparisons were significant (adj.  $p < .001$ ). In particular, scores of willingness to fight and die for the group were significantly higher than those for the leader (Mean Difference = 2.55, 95% CI [2.29, 2.81]), and the value (Mean Difference = 1.08, 95% CI [0.82, 1.34]). Furthermore, scores of willingness to fight and die for the value were significantly higher than those for the leader (Mean Difference = 1.48, 95% CI [1.22, 1.73]).

In summary, the post-hoc tests revealed a consistent pattern whereby measures' scores varied across fusion target types. Specifically, the lowest scores were found for the leader fusion target in all measures, where the group target type had the highest scores in both violence support and willingness to fight and die measures, and the value target type had the highest scores for the identity fusion measure.

### 6.1. Moderated mediation model

To test the hypothesis that the indirect effect of violence support on the relationship between identity fusion and willingness to fight and die may vary between different types of fusion targets, we performed moderated mediation analyses using the PROCESS macro (Model 7) from Hayes (Hayes, 2022; Hayes & Montoya, 2017).

The findings revealed that violence support had diverse effects on the relationship between identity fusion and willingness to fight and die, depending on whether comparisons were made between groups and values, rather than between groups and leaders. In particular, the moderated mediation model was supported with the index of moderated mediation significant when comparing the indirect effects for the group and value fusion targets,  $b = -0.20$ , 95% CI [-0.30, -0.10]. As zero is not within the CI this indicates that the indirect effects of the group and value fusion target types were significantly different from each other. However, this index was not significant when comparing the group and leader fusion targets ( $b = 0.01$ , 95% CI [-0.06, 0.09]), indicating no evidence for moderated mediation between these target types. Similar results were found when employing sequential coding with the leader as the reference level (see SI.13), as well as when not including control variables (see SI.14).

Examination of the violence support indirect effects' strength revealed the strongest effect for leaders, followed by groups, and not significant for values. Namely, the positive conditional indirect effect of identity fusion on willingness to fight and die through violence support was strongest for leader fusion targets (coded as 2),  $b = 0.15$ , 95% CI [0.10, 0.20], followed by the group fusion targets (coded as 1),  $b = 0.13$ , 95% CI [0.07, 0.19], and not significant for value fusion targets (coded as 3),  $b = -0.07$ , 95% CI [-0.15, 0.01] (see Table 4 and Fig. 2).

Furthermore, it was found that the relationship between identity fusion and violence support differed between groups and values, but not when comparing groups to leaders. In other words, there was a significant interaction effect between identity fusion and fusion target type on violence support (a-path), for the value target ( $b = -0.42, p < .001$ ), but not for the leader target ( $b = 0.03, p = .704$ ), both compared to the group target (see Table 4 and Fig. 3). The effect of identity fusion on violence support was significant for groups and leaders, with a positive and strongest effect for leader targets,  $b = 0.31, p < .001$ , followed by the effect for group targets,  $b = 0.28, p < .001$ , and nonsignificant for value fusion targets,  $b = -0.14, p = .077$ .

The direct effects of both identity fusion and violence support on willingness to fight and die were positive and significant. Specifically, violence support was positively associated with willingness to fight and die (b-path),  $b = 0.48, p < .001$ . Similarly, identity

**Table 4**

Regression Results for the a-Path from Identity Fusion to Violence Support and for the b-Path from Violence Support to Willingness to Fight and Die, for Study 2.

| Predictor         | Violence Support |           |          | Willingness to Fight and Die |           |          |
|-------------------|------------------|-----------|----------|------------------------------|-----------|----------|
|                   | <i>b</i>         | <i>SE</i> | <i>p</i> | <i>b</i>                     | <i>SE</i> | <i>p</i> |
| Constant          | 4.66             | 0.29      | < .001   | 1.26                         | 0.21      | < .001   |
| Identity Fusion   | 0.28             | 0.06      | < .001   | 0.41                         | 0.02      | < .001   |
| Fusion Target     |                  |           |          |                              |           |          |
| Leader            | -3.10            | 0.14      | < .001   |                              |           |          |
| Value             | -3.02            | 0.14      | < .001   |                              |           |          |
| Identity Fusion x |                  |           |          |                              |           |          |
| Fusion Target     |                  |           |          |                              |           |          |
| Leader            | 0.03             | 0.08      | .704     |                              |           |          |
| Value             | -0.42            | 0.10      | < .001   |                              |           |          |
| Violence Support  |                  |           |          | 0.48                         | 0.02      | < .001   |
| Gender            | -0.20            | 0.10      | .036     | 0.004                        | 0.07      | .957     |
| Age               | -0.004           | 0.003     | .203     | -0.001                       | 0.00      | .764     |
| Ideology          | 0.20             | 0.07      | .003     | -0.06                        | 0.05      | .201     |
| Religiosity       | -0.06            | 0.03      | .058     | 0.06                         | 0.02      | .007     |

Note.  $N = 834$ .

$R^2$  of violence support to defend the target of fusion model = .60,  $F(9, 823) = 139.01, p < .001$ .  $R^2$  of the willingness to fight and die model = .66,  $F(6, 826) = 273.17, p < .001$ . Unstandardized regression coefficients are reported.



**Fig. 2.** Conditional Indirect Effects of Identity Fusion on Willingness to Fight and Die for Group, Leader, and Value through Violence Support (Study 2). Conditional indirect effects of identity fusion and willingness to fight and die, via violence support, for the three fusion target types (group, leader, and value). Unstandardized regression coefficients are presented. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

fusion was also positively associated with willingness to fight and die (direct effect),  $b = 0.41$ ,  $p < .001$  (see Table 4).

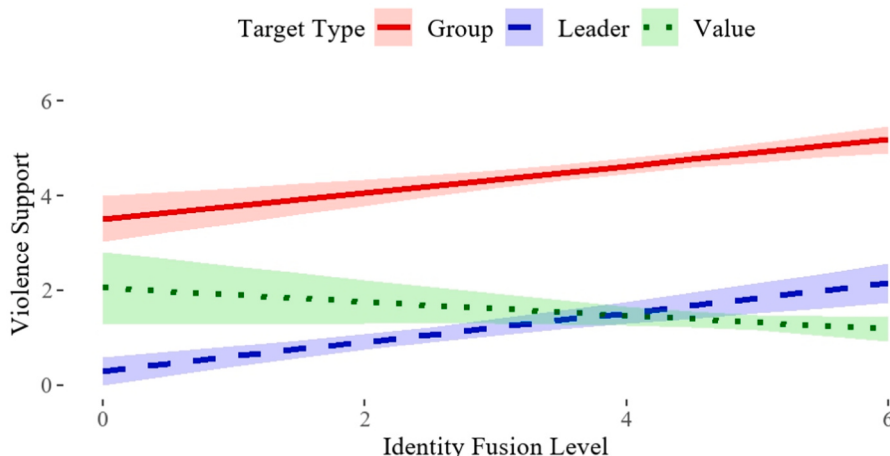
Regarding the control variables, gender was negatively associated with violence support ( $b = -.20$ ,  $SE = 0.10$ ,  $p = .036$ ), and political ideology positively predicted it ( $b = .20$ ,  $SE = 0.07$ ,  $p = .003$ ), indicating an increased level of violence support among men and rightists. Additionally, religiosity level was positively associated with willingness to fight and die ( $b = 0.06$ ,  $SE = 0.02$ ,  $p = .007$ ), indicating that higher levels of religiosity were related to an increased willingness to fight and die for the fusion target.

Taken together, the results support a moderated mediation model, whereby the indirect effect of identity fusion on willingness to fight and die through violence support depends on the fusion target type. Specifically, this conditional indirect effect was found to be strongest for leaders, followed by groups fusion targets, and nonsignificant for values fusion targets.

**Robustness Analyses.** Low means in Study 2 outcome variables led us to test for floor effects, revealing both floor and ceiling effects in the outcome variables (see SI.15). Hence, we tested the linear regression assumption, revealing a mild heteroscedasticity (see SI.16).

To address these violations, we conducted three complementary robustness analyses serving distinct purposes. First, to directly address heteroscedasticity, we re-estimated the moderated mediation model using HC3 robust standard errors (Long & Ervin, 2000), alongside bootstrap confidence intervals (10,000 resamples) for all conditional indirect effects. These analyses replicated results of the original PROCESS estimates: the Fusion  $\times$  Value interaction on violence support remained significant, and the conditional indirect effects were positive and significant for group and leader targets but nonsignificant for values (see SI.22). Thus, explicitly accounting for heteroscedasticity did not change the interpretation of the moderated mediation pattern.

Second, we estimated Tobit regression models (Tobin, 1958), which model floor and ceiling effects but do not address heteroscedasticity. Third, we conducted quantile regression analyses (Koenker & Bassett, 1978), which estimate effects at different points of the outcome distribution and are less reliant on assumptions of normally distributed errors. These complementary analyses generally converged with the OLS and robust-SE results. However, unlike the PROCESS and robust standard error models, Tobit and quantile regressions revealed a small but negative indirect effect for fusion with values. This discrepancy likely reflects the improved handling of clustered responses at the scale boundaries rather than a reversal of the substantive pattern. Across all models, effect size patterns



**Fig. 3.** Violence Support by Identity Fusion Level with Group, Leader and Value (Study 2). Violence support by identity fusion level. Line plots are linear regression lines, for the effects of identity fusion on violence support, for the three fusion target types (group, leader, and value). Results indicated positive and significant effects for the group and leader fusion targets, but nonsignificant for value fusion targets. Shaded areas represent 95% CI.

remained consistent: fusion effects were strongest for leaders, moderate for groups, and weakest and negative for values, with a sharper drop between group and value fusion compared to the more moderate difference between leaders and groups (see SI.17).

As an additional supplementary analysis, we estimated multigroup SEM models comparing the indirect effects across the group, leader, and value conditions in Study 2 (SI.21). SEM's results confirmed the main pattern with significant mediation for groups and leaders but not for values (SI.21b). Taken together, this convergence across multiple analytical approaches, including multigroup mediation analyses (SI.12), the robust standard errors analysis (SI.18), and Tobit and quantile regressions (SI.17), suggests that the main conclusions of Study 2 are not solely attributable to heteroscedasticity, censoring, or specific distributional assumptions.

**Sensitivity power analysis.** A sensitivity power analysis was conducted using G\*Power (Faul et al., 2007) for linear multiple regression (F-tests family, fixed model,  $R^2$  increase). With 80% power,  $\alpha = .05$ , one tested predictor (each fusion  $\times$  target type interaction term modeled separately), and seven total predictors in the model (including four covariates: gender, age, political ideology, religiosity level; plus main effects), the analysis indicated Study 2 ( $N = 834$ ) was powered to detect a minimum effect size of  $f^2 = 0.009$ , corresponding to a very small effect.

## 7. General discussion

This paper aimed to investigate whether the mechanisms underlying identity fusion, a synergistic union of personal identity and fusion targets, are universal or target-specific, focusing on three targets: groups, leaders, and values. Initially, three cross-sectional studies conducted in Spain reaffirmed the association between identity fusion and willingness to fight and self-sacrifice to defend the fusion target, across all target types. Notably, findings revealed this relationship was mediated by violence support for fusion with groups and leaders, but not with values. Subsequently, a quasi-experimental study conducted in Israel replicated these results, revealing a positive relation between identity fusion and willingness to fight for all fusion targets. Importantly, the direct comparison between the three target types reestablished the differential effects of fusion on violence support, which was positively significant for fusion with groups and leaders only. Robustness analyses confirmed the main findings and added nuance, showing that fusion with values may not just lack a positive association to violence support, it may even relate negatively, reflecting a meaningful distinction in how fusion with values operates.

The variation in fusion effects invites a closer look at the mechanisms underlying fusion with values. In the current studies, participants often selected values reflecting positive conventions such as solidarity, social justice, and freedom. The moral content of such values, combined with people's motivation for coherence between attitudes and behavior (Festinger, 1997), may reduce support for violence that contradicts these principles.

At the same time, a more fundamental explanation may relate to how people perceive the "mind" of the fusion target. Research on mind perception shows that moral concern and protective motivations arise primarily toward targets perceived as capable of experience, the capacity to sense and feel (Gray, Young, & Waytz, 2012; Waytz, Gray, Epley, & Wegner, 2010). Unlike groups and leaders, which can be concretely threatened or physically harmed, values lack experiential capacities and cannot be physically endangered. Because fusion-based motivations frequently involve a perceived obligation to protect the target from threat (Whitehouse, 2018), this protective drive may manifest differently for abstract values. As a result, even strong fusion with values may not translate into heightened violence-supportive attitudes in the same way observed for fusion with groups or leaders. We believe that these theoretical considerations, together with the empirical convergence observed across countries, designs, and analytic approaches, suggest that the non-significant mediation for values reflects a substantive difference in how fusion with values functions rather than a methodological artifact. Future research would benefit from directly disentangling these alternative explanations.

The differential effects of fusion on violence support across target types represent the main contribution of this study, offering both theoretical insights and practical implications. Theoretically, our findings build on prior work linking fusion to willingness to fight and self-sacrifice for groups and leaders (e.g., Gómez et al., 2011a, 2011b; Swann et al., 2014b; Gómez et al., 2020; Kunst et al., 2019; Vázquez et al., 2017), but highlight that fusion affects violence support differently depending on the target. These results support the idea that fusion with diverse targets may have distinct origins and consequences, addressing a gap noted by Gómez et al. (2020), who argued against assuming that fusion with non-group targets functions like group fusion. To our knowledge, this is the first study to test fusion with three target types simultaneously using randomized assignment (Study 2), offering empirical support for CIFT and helping expand OIFT's applicability beyond group-based fusion.

This paper advances identity fusion theory by introducing violence support as a new mediator between fusion and extreme behavioral intentions, specifically for fusion with groups and leaders. This finding aligns with describing extremism as a transition from radical attitudes to radical behaviors (King & Taylor, 2011; Wolfowicz, et al., 2021b), and research showing that attitudes can predict behavioral intentions (Festinger, 1997). Relatedly, fusion with groups and leaders may involve social influences emphasizing perceived group norms or leader views regarding violence, leading individuals to adjust their attitudes to align with perceived group or leader attitudes toward violence. Future work should explore how fusion interacts with perceived group or leader norms regarding violence, potentially shaping individual attitudes toward violence support.

The new developments of identity fusion theory and its comprehensive revised version call for exploring which mediators and moderators are universal and which are target-dependent (Gómez et al., 2025). Future research should therefore examine alternative mediating mechanisms, including moral justification of violence (Chinchilla et al., 2022a) and perceived threat (Whitehouse, 2018). The threat-plus-fusion model suggests extreme behavior emerges when fusion combines with perceived threat, and moral beliefs about violence justifiability have been shown to moderate fusion effects. Integrating multiple mediators into comprehensive models would provide a more complete understanding of pathways from fusion to extreme behavioral intentions across different target types.

Beyond the theoretical level, these findings have implications for designing deradicalization or disengagement programs.

Specifically, considering fusion's central role in violent extremism (e.g. Gómez et al., 2021, Gómez et al. 2022, 2023, 2024b), understanding its differential effects across diverse target types could enhance violent prevention strategies. For instance, showing that violence support plays a role in radicalization following fusion with groups and leaders rather than values, suggests that countering radical attitudes may be less efficient when addressing extremism stemming from values-based fusion.

These theoretical and practical contributions should be discussed alongside several methodological considerations that emerged during our investigation. In particular, measuring and conceptualizing fusion with abstract values presents unique challenges that require future methodological development. One such challenge concerned the operationalization of values in Study 2. Values were framed as those 'identified with Israeli society' to maintain a shared cultural frame across all fusion targets and minimize cross-domain confounding. While this approach ensured comparability, it may have introduced some conceptual ambiguity by embedding subtle group-related content.

However, several explanations suggest this operationalization does not undermine our interpretation. First, identity fusion and group identification represent distinct psychological processes (Gómez et al., 2020). Group identification emphasizes shared categorical membership, whereas fusion reflects a perceived oneness between the personal and social selves and is grounded in relational psychological processes (Gómez et al., 2019; Swann et al., 2014b). Empirically, fusion predicts extreme pro-group behavior above and beyond identification and responds uniquely to relational cues (Bortolini, Newson, Natividade, Vázquez, & Gómez, 2018; Gómez et al., 2019). Second, the pattern of findings mitigates concerns about collapsing value fusion into group-based identification. In Study 2, fusion with values displayed substantially different associations with violence-supportive attitudes than fusion with the group target. If the value condition had functioned as a proxy for group identification, the patterns across targets would likely have been more similar. Moreover, Studies 1a–1c replicated the same findings for values, while using alternative operationalizations of values not tied to societal framing and tested in a different context. This convergence suggests that the weaker association between value fusion and violence-supportive attitudes reflects its conceptual nature rather than the specific wording used in Study 2.

Nevertheless, to promote clarity, future work would benefit from using value targets that are explicitly abstract and not tied to a particular society or cultural context would help isolate value-based fusion from any unintended group-related interpretations. Additionally, future research should examine whether using a uniform value target for all participants yields different results compared to allowing participants to select personally meaningful values. Furthermore, future work should develop and validate measures that more precisely capture the unique phenomenology of value fusion while clearly distinguishing it from related constructs like value endorsement, sacred values, and moral convictions.

Beyond these measurement considerations, our findings also suggest that the violence support scale may operate somewhat differently across target types. The absence of full invariance indicates that violence-supportive attitudes may be expressed in target-specific ways, depending on whether the target affords relational ties, such as groups and leaders, or represents a more abstract value. Future research should therefore consider developing more target-sensitive measures that capture these distinctions. For example, violence support in the context of groups may be more closely tied to social-bond obligations, whereas for leaders it may reflect authority loyalty, and for values it may center on defending core principles.

Along with measurement considerations specific to fusion targets, a further limitation involves self-report measures, which are susceptible to self-serving (Heider, 1958) and social-desirability bias (Edwards, 1957). These biases may lead respondents to present themselves more favorably and seek positive researcher evaluation, particularly when reporting socially unacceptable behaviors like violence. This is a common challenge for violence researchers (Anderson & Huesmann, 2003). Importantly, if effects were observed despite these biases, the true effects are likely stronger than indicated in this study. Relatedly, an additional measurement consideration involves the distinction between violence support (attitudes) and willingness to fight and die (behavioral intentions). Although our psychometric analyses confirmed that these constructs are empirically distinguishable (SI.19b), differentiating attitudes from behavioral intentions remains inherently complex, particularly when relying on self-report measures regarding violence in intergroup contexts (e.g., Blanco et al., 2025). Future research would therefore benefit from incorporating behavioral indicators or longitudinal designs that track escalation from attitudes to actual behavior, although such approaches raise clear ethical and practical challenges.

Finally, we hope our findings will inspire future studies on fusion effects across diverse targets, countries, and timeframes. While conducted in Spain and Israel, more diverse samples are needed for generalizability. Additionally, our quasi-experimental design cannot establish causality between identity fusion and violence support, and therefore a long-term studies with varied populations will help clarify the identity fusion process. Future research should also examine how simultaneous fusions with multiple targets (like groups and leaders) interact and influence each other.

## 8. Conclusions

What might lead individuals to support and be willing to engage in violence to defend personally significant groups, leaders, and values? The current paper employs identity fusion theory to address this question. Findings from three cross-sectional studies in Spain and a quasi-experimental study in Israel indicate that identity fusion positively relates to willingness to fight and self-sacrifice for groups, leaders, and values. Notably, the results emphasize the specificity of fusion's effect on attitudes toward violence: only fusion with groups and leaders was positively associated with violence support, which mediated the fusion effect on willingness to fight. These conclusions enhance the understanding of factors influencing individuals' adoption or rejection of violent radicalization.

## Ethical approval and informed consent statements

The research ethics committees of the corresponding universities approved all studies. Studies 1a-1c and Study 2 received ethical

permission (approval number: 10-SISH-PSI-2023) from the ethics committee of the Universidad Nacional de Educación a Distancia on April 11, 2023. In addition, Study 2 was approved by the ethics committee of the Hebrew University of Jerusalem (approval number: 2023–05103) on May 10, 2023. All participants provided written informed consent before enrolment in the study.

### Transparency and Openness

This study was part of a broader international project, and therefore was not pre-registered independently. Additionally, sample size decisions were made by the central coordinating team and were not based on a priori power analyses specific to this study. In lieu of pre-registration, all materials, data, and analysis code are publicly available at the OSF repository (<https://osf.io/nv3gb>) to facilitate transparency and reproducibility.

### CRedit authorship contribution statement

**Ángel Gómez:** Writing – review & editing, Writing – original draft, Supervision, Resources, Methodology, Funding acquisition, Conceptualization. **Juana Chinchilla:** Writing – review & editing, Resources, Project administration, Investigation, Data curation, Conceptualization. **Eran Halperin:** Writing – review & editing, Supervision, Methodology, Conceptualization. **Batya Feigin:** Writing – review & editing, Writing – original draft, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

### Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this manuscript, the authors used ChatGPT by OpenAI and Claude by Anthropic to assist with improving the clarity and flow of the writing, shortening the manuscript to meet word count requirements, and supporting the development of code for data analysis. All AI-generated content was carefully reviewed and edited by the authors, who take full responsibility for the final content of the publication.

### Declaration of Competing Interest

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

### Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.ijintrel.2026.102392](https://doi.org/10.1016/j.ijintrel.2026.102392).

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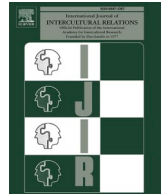
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### Corrigendum to “When the target matters: A cross-cultural comparison of the generalizability and specificity of identity fusion effects” [Int. J. Intercult. Relat. 113 (2026) 102392]

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