Original Article

Sticking to Your Guns – Testing Competing Effects of Social Identity and Competition Motivation in an Online Multiplayer Game

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Abstract: While gender and race are known to influence self-presentation in digital environments, how critical socio-political identities such as political ideology, military experience, and national identity shape in-game behaviors remains underexplored. Building upon Social Identity Theory (SIT), this study examines how these identities predict national identification through the selection of country-based vehicle. By integrating unobtrusive behavioral log data from *World of Tanks*, self-reported survey data, and global in-game statistics, we found that North American and Russian players disproportionately select US and Soviet tanks, respectively. At the player level, American respondents (N = 2,113) with military experience or conservative ideology show significantly higher selection rates for US vehicles and lower usage of Chinese tanks. Crucially, this study quantifies the psychological friction between expressive identity and instrumental competition motivation. We found that players align with their national identity even when such choices are detrimental to winning a game. Our study identifies a psychological subsidy effect, where identity-congruent selection mitigates the importance of performance, revealing a clear hierarchy of motivations in immersive environments. By demonstrating how offline ideological schemas dictate digital decision-making through nonhumanoid avatars, this research expands the conceptual boundaries of SIT. Implications for game companies are discussed.

Keywords: social identity, political ideology, military experience, national identity, competition motivation, online multiplayer game

Nearly 67% of Americans engage with video games (Entertainment Software Association, 2021), often seeking achievement and relatedness rather than playing mindlessly (Yee, 2006). Through gaming affordances, players express aspects of their identities, such as customizing digital self-representations via avatars (Bessière et al., 2007; Martey & Consalvo, 2011). Social Identity Theory (SIT) suggests that individuals feel a sense of belonging with a certain social group and attach to the category positively (Abrams & Hogg, 2010; Tajfel & Turner, 1979). In computer-mediated communication settings where verbal cues are absent, group label acts as a shortcut for deindividuation, potentially accelerating intergroup comparisons and conflicts (Reicher et al., 1995; Walther et al., 2011). Consequently, social categories should significantly influence player interaction when identity is primed (Tang et al., 2026).

While the link between social identity and humanoid avatar selection is well-documented (e.g., Bessière et al., 2007; Trepte & Reinecke, 2010), research into the boundaries of the self and politics in virtual worlds remains sparse (Foust, 2021; Slater et al., 2014; van Vuuren & Tristan, 2019). This gap is largely due to restricted access to players' political ideologies and their corresponding behaviors. However, in games featuring war or military combat, a nationalist political self-concept may be activated (Knobloch-Westerwick & Meng, 2011; van Vuuren & Tristan, 2019). As multiplayer games serve as public spaces (Steinkuehler & Williams, 2006), the public performance of these social identities can further reinforce the self-concept (Kelly & Rodriguez, 2006).

Political ideology is strongly tied to views of foreigners, foreign policy, and national identity (Mutz, 2018; Smith, 2020). Despite this, the link between ideology, national identity, and game play is less understood. In combat games with historical backgrounds, it remains unclear if nationalistic identities influence how players relate to in-game factions or how they behave when ideology-driven preferences contradict competition motivation (i.e., winning the game). These questions are vital because

immersive gaming experiences may strengthen offline political ideology and reinforce nationalism for billions of players.

Drawing on SIT (Tajfel, 1972; Tajfel & Turner, 1979), this study explores whether political ideology, military identity, and national identity relate to behaviors in *World of Tanks* (*WoT*), a large-scale vehicle-based team combat game in which players drive a tank in a bounded environment and try to attack the opponents or occupy the other team's base in a battle. We combine unobtrusive behavioral log data, self-reported surveys, and game statistics to examine how these identities influence the selection of vehicles from different national origins. WoT is uniquely suited for this inquiry, featuring over 600 authentic tanks from 11 nations such as USSR, Germany, USA, and UK, primarily set during World War II and the early Cold War.

By testing these motivations side-by-side, we move beyond merely replicate SIT in a new context. Instead, we investigate the competing mechanisms between symbolic identity expression and instrumental gameplay goals. This allows us to quantify a psychological subsidy effect, identifying the point at which the internal gratification of identity-congruent play overrides the psychological reward of achievement. Our findings thus establish a clear hierarchy of motivations in immersive environments, expending the conceptual boundaries of SIT for nonhumanoid avatars.

Social Identity and Online Games

Social identity is defined as a perceived membership in certain social groups with emotional and value significance attached to the group membership (Tajfel, 1972). Based on SIT (Tajfel & Turner, 1979), social identity is derived from one's self-categorization based on group prototypes that highlight the distinction between in-groups and out-groups in a particular social context. Individuals tend to make binary self-categorization into social groups where the groups that they are in are the in-groups and the comparison groups are the out-groups (Abrams & Hogg, 2010). Common social groups include gender, ethnicity, socioeconomic status, and political ideology, prescribing the norms for how in-group members should think, feel, and behave.

It is important to understand social identity, not only because it is central to self-concepts but also because it directs beliefs and behaviors toward other in-group and out-group members. SIT posits that in-group members tend to have a positive evaluation of their shared identity while seeing out-group members as inferior in social comparison (Tajfel & Turner, 1979). According to the social identity model of deindividuation (SIDE; Postmes et al., 1998; Reicher et al., 1995), when individuals enter an environment bereft of nonverbal cues, such as computer-mediated communication, their social identities become more salient. Communicators tend to experience and interpret others' behaviors as reflecting group norms rather than individual perspectives. Therefore, interacting with out-group members in a virtual world might further internalize the in-group identity and increase the distance between in- and out-group evaluations (Walther et al., 2011).

Online games, with unique affordances such as anonymity and avatar creation and selection, provide rich research opportunities for examining individuals' social identity construction, negotiation, and social interactions (Steinkuehler & Williams, 2006). Research has repeatedly shown that individuals tend to create avatars that are similar to their social identities or ideal self in the real world (Bessière et al., 2007; Rahill & Sebrechts, 2021; Trepte & Reinecke, 2010), yet less research has examined how players represent themselves by nonhumanoid avatars such as vehicles in a combat game (but see Ratan, 2019). At the same time, the virtual world allows individuals to temporarily escape from maintaining the social self in the offline setting and to expand the boundaries of the self (Slater et al., 2014).

Online social identity is self-reflective and can converge with offline practices in shaping one's self-concept (Slater, 2002). The characteristics of avatars, in turn, also impact one's self-identities and behaviors (Guegan et al., 2015). Individuals express identity through choices and behaviors online, and identities are performed, reinforced, and maintained in a dynamic process. In addition, once social identity is publicly performed in the interpersonal context, the public commitment to it would more likely internalize into the player's self-concept (Tice, 1992). When individuals know that their identity performance is publicly identifiable, the change on self-concept would even be greater (Kelly & Rodriguez, 2006). In a multiplayer online game, players can decide how to interact with other players to a varying degree of visibility. Sense of community is thus established once social identity is collectively recognized and expressed (Liu et al., 2025). Furthermore, once the game is highly competitive, the conflict between in- and out-groups could be magnified. Therefore, social identity is an indispensable perspective to understand how people behave in virtual worlds, especially in multiplayer competitive games.

Political Ideology and Military Service as Social Identities

Previous literature has documented the importance of social identity in affecting avatar creation (Bessière et al., 2007; Martey & Consalvo, 2011; Rahill & Sebrechts, 2021) and enjoyment (Trepte & Reinecke, 2010) in the context of online video games. However, these studies focus on appearance- and personality-based identities such as gender (Rahill & Sebrechts, 2021), race (Martey & Consalvo, 2011), personality traits (Bessière et al., 2007), and guild membership (Guegan et al., 2015). In addition, while avatar appearance is perhaps the most performative self-presentation in a virtual world, other behaviors, such as selecting certain game props with an identity cue or how to engage with storylines that are consistent or contradict with one's social identity, are less examined. Following the call of Slater et al. (2014) to explore the boundaries between the self and politics in virtual worlds, this study looks at how political ideological identity, military identity and national identity, predict player's props selection in an online video game.

Ideology is a general worldview composed of a wide range of issue positions that are connected with each other to a different extent on a spectrum from liberal to conservative (Zaller, 1992). According to Moral Foundations Theory (Haidt & Graham, 2007), political liberals and conservatives rely on different set of foundations to form moralities. For instance, Conservatives value ingroup membership and connections more, which could amplify the identity-based influence. Liberals tend to support effective social change while conservatives are more likely to support for maintaining the status quo (McClosky, 1958). Political ideology can form a sense of group identity that drives political attitudes and polarization (Malka & Lelkes, 2010; Mason, 2018). Liberals and conservatives can hate each other simply due to their different social categorization rather than actual views on political issues (Li & Tang, 2022; Mason, 2018). Following Malka and Lelkes (2010) and Mason (2018), we argue that political ideology itself can be considered a social identity especially when ideology simply serves as a self-label rather than representing specific beliefs and attitudes.

We contend that military service is another critical factor that might have effects in combat games. Military service has profound political and social impact such as shaping national identity on individuals (Krebs, 2004). Previous military service experience can boost voting turnout (Teigen, 2006) and the likelihood of initiating militarized disputes as leaders (Horowitz & Stam, 2014). As for foreign policy, veterans and nonveterans have distinctive beliefs and stances with the former tending to have a more hawkish stance (Endicott, 2020). The collection edited by Huntemann and Payne (2010) addresses a wide range of important topics such as the historical background and representation of wars in military video game in the United States. Nearly half of veterans actively play PC or Console video games and their favorite genre is Shooters such as *World of Tanks*, according to a national survey (Banerjee & Weinstein, 2025). Yet, no research has examined the role of military identity in playing online games at the individual level to our best knowledge. Given the profound political and social impact of being enlisted on individuals, we expect to observe these influences in the context of a combat game.

Game spaces are often reflective of the actual material world, thus, the ideological, political, and international contexts often serve as the backdrop, especially for combat games (Cummings, 2015). Video games can be politicized when different ideologies collide with each other and influence the players (Foust, 2021). The narrative of combat games can prime ideology- and veteran-based identity such that players' behaviors could be influenced by the norms, beliefs, and values in these social groups and through which their political self-concept is maintained (Knobloch-Westerwick & Meng, 2011; van Vuuren & Tristan, 2019). Yee (2006) suggested that it is crucial for researchers to understand whether political ideology and military service impact players' behaviors and how in an immersive game context. Doing so informs us about the choices people make in virtual, and perhaps later real space (Williams, 2010). After discussing the importance of political and military identities in video games, next we move to another common goal in games, competition, and explore the consequences when expressing social identities conflict with the goal of winning the game.

Play to Win: The Role of Competition Motivation

Competition is one of the major motivations of playing video games and is the source of enjoyment (Song et al., 2013; Vorderer et al., 2003; Yee, 2006). To win a battle against computer-controlled enemies and other players is challenging but rewarding. Numerous psychological studies have found that the experience of success often induces a positive affective state (Nummenmaa & Niemi, 2004). Winning a game provides a sense of achievement and creates passion and satisfaction (Cheah et al., 2022; Kneer et al., 2016). Receiving winning feedback in video games improved player's levels of enjoyment and immersion by reducing anxiety while losing games hurt player's experience (Rieger et al., 2014; Trepte & Reinecke, 2011; Zhang et al., 2023).

Perceiving higher levels of competence leads to higher levels of psychological well-being of players (Liu et al., 2021) and fulfilling needs for competence also mediates the effect of in-game success on enjoyment (Cheah et al., 2022; Rieger et al., 2014). A more competitive video game is more entertaining as it influences emotional state, self-esteem, and individual's mood (Vorderer et al., 2003) probably because winning in a more competitive game provides a stronger sense of competence and self-efficacy (Trepte & Reinecke, 2011). More competitive individuals tend to have more positive experiences in a game with more competition (Song et al., 2013). The emergence of cozy games suggests that players fulfill needs for socialization and immersion in fantasy worlds rather than simply focusing on winning battles (Huang-Isherwood & Tang, 2024; Tang et al., 2026; Yee, 2006). Nevertheless, for games primarily featuring combat within a military setting, competition remains an essential component of the player experience.

As discussed earlier, social identification and competition-orientation have been widely recognized as two major motivations of playing digital games (see a review, Cheah et al., 2022), but how does players change their behaviors once these important motivations contradict with each other? The current study explores this research gap by empirically testing the effects of social identity and competition motivation side by side.

Research Context

The current study looks at how players select combat vehicles in a combat game based on ideological and military identities. Although the game is distributed globally, different geographic zones largely attract local players. The survey data used below are from the North American server, and so focuses on primarily a US audience, with small minorities of nearby countries' players. The national origins of vehicles may serve as in- and out-group cues for players such that their selection of vehicles align with attitudes toward the countries in the real world. In WoT, players can play from a first- or third-person perspective, where they can see their vehicles and other players' vehicles. There is no humanoid avatar in the game. In this study, we argue that the vehicle avatars, just like humanoid avatars in other video games, can enable players to activate the social categorization process and self-representations that express one's social identity (Ratan, 2019).

Table E1 in the Electronic Supplemental Materials, ESM 1, summarizes the number of tanks and example models of the 11 nations in WoT. We focus on three nations, the United States, the USSR, and China, because the United States is the most favorable country for Americans while Russia and China are less popular in public opinion polls (e.g., Mutz, 2018; Smith, 2020), and are often portrayed as the main competitors of the United States. As detailed below, data come from late 2020 and early 2021, well before the Russian invasion of Ukraine. Liberals and conservatives have distinct attitudes toward these countries, thus making them suitable comparison groups for the current study (see the discussion on partisan public opinion toward the three countries in great details in Electronic Supplemental Materials, ESM 1).

In short, historically, conservatives might view the USSR more negatively but recent data show that conservatives slightly prefer Russia (the largest constituent of the Soviet Union) compared to liberals. As for China, liberal Americans have fewer negative views. In addition, liberals are more critical of their own country, the United States, than conservatives. Besides political ideology, considering the nature of WoT as a combat game, we also intend to explore whether military service experience would shape players' vehicles selection based on historical and current military competition with USSR and China, respectively. Based on the discussion above, we propose the following hypotheses:

Hypothesis 1 (H1): Political ideology (*H1a*) and military service (*H1b*) will be associated with the choice of vehicles of different nations. Specifically, compared with liberals, conservative players would use US and Soviet tanks more but select less Chinese tanks. Players with military experience would select US tanks over Soviet and Chinese vehicles.

Hypothesis 2 (H2): National identity congruence will predict vehicle popularity on the North American and Russian servers; specifically, tanks will exhibit higher selection rates on the server matching their national origin (i.e., US tanks in North America and Soviet tanks in Russia) than on nonmatching servers.

Hypothesis 3 (H3): Players will more likely choose tanks with stronger performance.

When Social Identity Meets Competition Motivation

Although social identities may shape players' behaviors in a virtual world, in a multiplayer online game such as WoT, how do players prioritize competitiveness and an ideology-consistent selection of vehicles? As a highly competitive video game, players of WoT typically prioritize winning as it gives positive psychological feedback, accumulates more credits, and yields a higher player's rating score (Liu et al., 2021). WoT's vehicles are not equal, and there was a vast

ecosystem of player-driven website[1] analyzing their detailed strengths and weaknesses, including the win rates that players of each take have over time. With this information in place, a player prioritizing winning would always pick the superior tank independently, regardless of its associated nation. This raises the question: What happens when the best tank for the job is not the one a player would choose if they placed a value on national identity? In short, how would players prioritize identity against winning?

Previous studies found that competition influences how players create and identify with avatars (Trepte & Reinecke, 2010). Griffiths et al. (2016) found that when losing a competitive game, players with stronger team identification would have higher levels of hostility. A survey found that both social gratifications (e.g., social identity effect) and individual gratifications (e.g., competition) are antecedents of enjoyment in digital games (Possler et al., 2020) but it is unclear whether competition would strengthen or mitigate the effects of social identity.

These selected findings suggest that whether social identity or competition outcompetes one another depends on the contextual and individual variations. For the players' decision-making in WoT, winning the game is no doubt an important individual interest, but how about a vehicle to which players feel a strong emotional tie? Will players behave similarly with subjects in offline settings? It is worth testing the interplay of social identity and competition motivation in the virtual world. Given previous literature in gaming studies hardly examines the conflicts between social identity and competition motivation, we ask:

Research Question 1 (RQ1): Will identity-driven vehicle selection hold when considering performance of vehicles?

Method

Data

We test the hypotheses and answer the research question using two distinct datasets at the player level and vehicle level. Figure E1 (see ESM 1) illustrates the data collection and processing pipeline for these two sources.

North American Player-Level Data

For the play-level analysis, we combined unobtrusive behavioral log data (October 20, 2020, to February 20, 2021) with two batches of survey data conducted in April 2019 (N = 1,977) and February 2021 (N = 2,923). These surveys were coordinated with the game publisher of *World of Tanks (WoT)*, Wargaming.net (https://wargaming.net/en), and achieved response rates of 20.6% and 23.19%, respectively. Participation invitations were distributed exclusively to individuals who had played at least 200 battles on the North American server. Respondents' behavioral data, including daily tank usage of different nations, daily win rate, and battle counts, were matched with using anonymized and encrypted player IDs.

Global Vehicle-Level Data

For the vehicle-level analysis, we used statistics from Wotlabs.net, a player-created website tracking in-game metrics for millions of WoT players. This dataset records tank-level data for all currently available vehicles across four major regions: the North American and Russian servers (664 tanks each) and the European and Asian servers (657 tanks each). The metrics include nation, vehicle type[2], number of players who own the tank, average battles played, and average win rates. We downloaded the aggregated statistics for these regions on April 11, 2022.

Measures

Political Ideology

Participants were asked to report their political ideology on a 7-point Likert scale (1 = *very liberal*, 4 = *neutral*, 7 = *very conservative and hard to say*, which caused the respondent to be dropped from analysis). The M was M = 3.34 and the SD was SD = 1.53.

Military Identity

Participants were asked if they had served or were serving the US Army either in the active duty or the reserve component. We coded participants who were serving or had served the Army as 1 (N = 764, 32.4%) and those who had never served the Army as 0 (N = 1,367, 58.0%). In total, 224 participants (9.6%[3]) selected *hard to*

[1] The website, https://wotlabs.net/, was permanently shut down during the revision of the manuscript.

[2] Details of vehicle type can be found in ESM 1, Table E2.

[3] We content that the nonnegligible percentage might reflect the sensitivity of military identity as respondents may feel necessary to protect their privacy in an in-game online survey. Players who served other branches of the US Armed Forces or were from Canada or Mexico may also have found this question to be irrelevant.

say as an answer and were removed from analytical sample. We recognize that this measure specifically identifies service within the Army rather than the entirety of the US Armed Force, which also includes the Navy, Air Force, and so on. We acknowledge that focusing solely on the US Army provides an incomplete capture of all service branches, thus this approach results in a conservative estimate of the broader military service variable.

Selective Choice of Vehicles of Different Nations

We calculated each player's percentage of selecting US, Chinese, and USSR vehicles. For each nation, we divided the number of battles where a player selected a vehicle of the nation in a week by the total number of weekly battles a player played. We calculated the weekly aggregated proportion of using US vehicles ($M = 0.26$, $SD = 0.22$), Chinese vehicles ($M = 0.03$, $SD = 0.06$), and Soviet tanks ($M = 0.18$, $SD = 0.15$).[4]

Competition Motivation

From a validated scale of video game play motivations (Kahn et al., 2015), competition motivation measures to what extent a video game player is motivated to play because of winning. Three questions were asked on a 5-point Likert scale: "Winning is a big reason for me to play *World of Tanks*," "I play *World of Tanks* to win," and "It is important to me to be the most skilled person playing *World of Tanks*," with higher scores indicating a stronger competition motivation (rated on a scale from 1 to 5, with 1 = *I disagree completely*, 5 = *I agree completely and hard to say*, $M = 3.36$, $SD = 1.02$, $\alpha = .72$). Respondents were removed if they provided a *hard to say* response to any one of the three items. A total of 134 respondents were dropped from analysis.

Win Rate

We calculated the weekly aggregated win rate for each player by dividing the total number of battles a player won in a week by the total number of battles a player had in that week. Here, we reported the *M* and *SD* across all 16 weeks ($M = 0.48$, $SD = 0.09$). The win rate is tightly clustered around the *M* and because WoT allows for ties, the *M* value of wins is always under .50.

Weekly Battle Count

To control for the frequency of play, we included the *M* weekly battle count between October 20, 2020, to February 20, 2021, of players as a covariate ($M = 62.91$, $SD = 55.70$).

Statistical Analysis

To test the proposed hypotheses and answer the research question, we employed a two-level analytical strategy using distinct datasets.

Player-Level Analysis (H1, H3, and RQ1)

We performed a series of Ordinary Least Squares (OLS) regression models to examine how identities and competition motivation predict the proportion of vehicles

Table 1. OLS models predicting vehicle selection at the player level

	US (Model 4)	USSR (Model 5)	Chinese (Model 6)
Variables	Estimate (SE)	Estimate (SE)	Estimate (SE)
Intercept	.246*** (.006)	.193*** (.004)	.032*** (.002)
H1a: political ideology	−.014** (.005)	−.006 (.004)	.003* (.001)
H1b: military identity	.038*** (.011)	−.022* (.008)	−.007* (.003)
H3: competition	−.012[a] (.006)	.008[a] (.004)	.002 (.002)
RQ1: political ideology × competition	−.001 (.005)	.000 (.004)	.000 (.001)
RQ1: military ideology × competition	.013 (.011)	−.012 (.008)	−.001 (.003)
Player win rate	−.018*** (.005)	−.006[a] (.004)	.003** (.001)
Player battle count	−.015** (.005)	−.006[a] (.001)	.002 (.001)
N	1,920	1,920	1,920
R^2	.026	.010	.014
F-score for ΔR^2	6.142***	2.253[a]	2.360[a]

Note. [a]$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$.

[4] Other nations' tanks – German, British, French, Swedish, Czech and Japanese – were not included in the analysis.

Table 2. Zero-truncated negative binomial models predicting vehicle selection at the vehicle level

	North American	Russian	European	Asian	North American	Russian	European	Asian
	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Variables	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
H2: Vehicle identity (1 = *congruent*)	.307*** (.070)	.350*** (.071)	−.140** (.052)	.038 (.081)	6.730*** (1.751)	5.351*** (1.569)	−2.231[a] (1.150)	−4.514[a] (2.482)
H3: Win rate	.023** (.007)	.055*** (.015)	−.006 (.011)	.001 (.013)	.030*** (.008)	.081*** (.018)	−.030[a] (.018)	−.003 (.013)
RQ1: Win rate × vehicle identity					−.130*** (.035)	−.099** (.031)	.042[a] (.023)	.091[a] (.050)
Vehicle tier	.235*** (.011)	.316*** (.013)	.268*** (.011)	.277*** (.012)	.235*** (.011)	.319*** (.013)	.270*** (.011)	.278*** (.012)
Vehicle type								
Heavy tanks	.020 (.072)	.040 (.082)	.032 (.073)	.096 (.071)	.017 (.072)	.037 (.082)	.036 (.073)	.091 (.071)
Light tanks	−.109 (.076)	−.032 (.086)	−.127[a] (.076)	−.092 (.074)	−.109 (.076)	−.030 (.085)	−.127[a] (.076)	−.092 (.074)
Self-propelled guns	.392*** (.102)	.308** (.118)	.211* (.103)	.258* (.101)	.386*** (.102)	.307** (.118)	.214* (.103)	.250* (.101)
Tanks destroyers	.114 (.074)	.127 (.084)	.072 (.075)	.099 (.073)	.116 (.074)	.144a (.084)	.084 (.075)	.094 (.073)
Intercept	1.708*** (.383)	−0.192 (.794)	3.202*** (.587)	2.690*** (.670)	1.360*** (.391)	−1.518 (.953)	4.386*** (.924)	2.925*** (.684)
α	.894*** (.055)	.642*** (.054)	.893*** (.055)	.955*** (.055)	.905*** (.055)	.656*** (.054)	.897*** (.055)	.959*** (.055)
Number of observations	664	664	657	657	664	664	657	657
Degrees of freedom	1,319	1,319	1,305	1,305	1,319	1,319	1,305	1,305
Log-likelihood	−3,495.69	−3,753.95	−3,517.78	−3,530.01	−3,491.974	−3,748.99	−3,516.37	−3,528.77
% Change in expected counts for identity-congruent vehicles	35.9%***	41.8%***	−13.1%**	3.8%				
% Change in expected counts for 1% change in win rate	2.3%**	5.7%***	−.6%	.1%				

Note. [a]$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$. Standard errors in parentheses. The α (overdispersion) parameters are significantly different from zero, indicating that zero-truncated negative binomial models should be used instead of Poisson models.

selected from different nations. Support for H1 and H3 was determined based on the significance and direction of the standardized coefficients in the full model (Table 1 Models 4–6), where player win rate and battle count were included as covariates to ensure the robustness of the findings on the individual-level data. Baseline models (Models 1–3) can be found in ESM 1, Table E3.

Vehicle-Level Analysis (H2, H3, and RQ1)

To evaluate the aggregate impact of national identity and performance, we conducted a series of Zero-Truncated Negative Binomial (ZTNB) models on global vehicle-level data. This model type was selected to account for the overdispersion of battle counts and the exclusion of zero-usage vehicles. H2 was considered supported if identity congruence, defined as a vehicle's national origin matching the server's primary geographic region, significantly predicted higher battle counts when vehicle tier, type, and win rates were controlled. H3 was determined to be supported if win rates significantly predicted battle counts (see Table 2 Models 7–10). Internation terms were added to these models to answer RQ1 by testing whether identity congruence moderates the relationship between vehicle performance and popularity (see Table 2 Models 11–14). All analyses were conducted using R 4.1.1.

Results

Player-Level Results: North American Server

Table 1 presents the OLS model results for the effects of political ideology and military identity on vehicle selection. The baseline models (see ESM 1, Table E3 Model 1–3) indicate that as liberal ideology increases, players were less likely to select US vehicles ($\beta = -.01$, $p < .01$) but more likely to select Chinese tanks ($\beta = .00$, $p < .05$). Players with military experience demonstrated significantly higher usage of US vehicles ($\beta = .04$, $p < .001$) and lower selection rates for Soviet ($\beta = -.02$, $p < .01$) and Chinese vehicles ($\beta = -.01$, $p < .05$). These relationships for political ideology and military service remained robust in the full models (Table 1 Models 4–6), which controlled for win rate and battle count. H1 received partial support. Figure E2 and Figure E3 in ESM 1 show the average usage of the US, Chinese, and USSR vehicles by political ideology and military service in the North American server.

Regarding H3, competition motivation was not significantly associated with usage of any vehicles across models ($\beta_{US} = -.01$, $\beta_{USS.R} = .01$, $\beta_{Chinese} = .00$, all ps $> .05$). Furthermore, no significant interaction effects were observed between identities and competition motivation at the player level. Thus, at the player level, H3 was not supported and we found no interaction effect between identity and competition for RQ1.

Vehicle-Level Results: Global Servers

Visual analysis of the relationship between vehicle win rates and popularity across four servers (see ESM 1, Figure E4) suggests that selection is driven by identity rather than competitive optimization. On the North American server, US tanks were the most popular despite having second lowest average win rate among 11 nations (see ESM 1, Table E4 for specific numbers). Similarly, Soviet tanks were selected most frequently on the Russian server despite ranking 7th in win rate.

To statically test H2 and H3, ZTNB models (see Table 2 Model 7–14) were used to assess the effects of social identity and competition motivation in vehicle selection. On the North American server, while vehicle win rate was positively associated with battle counts ($\beta = .02$, $p < .01$), identity congruence exhibited a substantially larger effect size ($\beta = .31$, $p < .001$). In terms of percentage change, a 1% increase in win rate boosted battle counts by 2.3%, whereas identity-congruent US vehicles saw a 35.9% increase in usage. This indicates the effect of identity congruence is 14 times greater than a 1% improvement in performance, which is already a huge difference as the gap between the most and least winning vehicles is less than 2% across all servers. A similar pattern was observed on the Russian server, where national identity was 7.3 times more influential than performance.

The European and Asian samples showed no significant association between identity congruence and battle counts, likely due to the heterogeneous nature of these regions. However, based on the homogenous North American and Russian samples, H2 and H3 are supported at the vehicle level.

Interaction terms were added in Model 11 to Model 14 to test if the favorability of vehicle performance is moderated by identity congruence. We found significant negative interaction effects on both the North American and Russian servers. These interactions, illustrated in ESM 1, Figure E5, reveal that identity congruence mitigates the effect of vehicle performance: when national origins align with the player's identity, even vehicles with lower win rates remain highly popular. As summarized in Table 3, these findings demonstrate that identity congruence significantly moderates the influence of performance on vehicle selection.

Table 3. Summary of findings

Hypotheses and RQ	Player-level	Vehicle-level
H1: Political ideology (H1a) and military service (H1b) are associated with vehicle selection.	Partially supported	N/A
H2: National identity is associated with vehicle selection.	N/A	Supported
H3: Competition motivation is associated with vehicle selection.	Not supported	Supported
RQ1: How do effects of identity and competition interact?	No evidence	Significant negative interaction effects

Discussion

Despite abundant research on the effects of social identity among video game players (Bessière et al., 2007; Martey & Consalvo, 2011; Rahill & Sebrechts, 2021; Trepte & Reinecke, 2010), few studies have investigated the role of political ideology, military identity, and national identity in shaping gaming behaviors. Leveraging access to players' in-game behavioral logs, self-reported survey data, and player-curated vehicle statistics, the current study offers empirical evidence that these social identities significantly predict the selection of combat vehicles in a multiplayer online war-theme game. This research extends Social Identity Theory (SIT; Abrams & Hogg, 2010; Tajfel, 1972; Tajfel & Turner, 1979) and game studies by shifting the focus from demographic and appearance-based identities (Bessière et al., 2007; Martey & Consalvo, 2011; Rahill & Sebrechts, 2021) to those based on attitudes and ideologies. Social identities traditionally influential in offline settings, such as political ideology and military identity (Horowitz & Stam, 2014; Krebs, 2004; Teigen, 2006; Zaller, 1992), prove equally powerful in gaming. By leveraging global player data, we also provide a comparative perspective across diverse national contexts (Huang-Isherwood & Tang, 2024).

Addressing the gap in research on nonhumanoid avatars (Ratan, 2019; Slater et al., 2014; Yee, 2006), we show that vehicle selection in WoT largely aligns with public attitudes toward the United States, Russia, and China among Americans with specific ideological beliefs (Abrams & Hogg, 2010; Smith, 2020) or military experience (Endicott, 2020). Players on North American and Russian servers disproportionately select US and Soviet tanks, respectively, even when vehicle performance is controlled, which further underscores the robust effect of national identity on behavior.

In contrast, we found inconsistent effects of social identities on both the European and Asian servers. European players even selected more non-European vehicles more frequently, likely because the player composition in that region is significantly more heterogeneous. For example, a British player may select a US vehicle over a German one due to the historical international relations framed by the gamer's WWII context. Similarly, the lack of distinct selection patterns for Chinese or Japanese vehicles among Southeast Asian players is unsurprising given that the Asian server primarily serves markets where these nations do not serve as primary in-group identifiers.

As WoT battles are team-based and highly competitive, the immersive setting likely activates these identities, fostering affinity toward in-group and repulsion toward the out-group (Reicher et al., 1995; Tajfel & Turner, 1979; Tang et al., 2026). Moreover, because tank nationality is clearly visible via flags, selection functions as a public identity performance (Kelly & Rodriguez, 2006; Tice, 1992; Walther et al., 2011). This internalization suggests that positive perceptions of a nation can enhance the gaming experience, thereby reinforcing the player's political self-concept (Knobloch-Westerwick & Meng, 2011). These findings open a research agenda on how group norms influence complex gaming behaviors beyond avatar creation. Once players select a category to express in-group identity, their subsequent interactions, such as in-game performance or toxic conduct, may be significantly altered by the distance between in-groups and out-groups (Guegan et al., 2015; Steinkuehler & Williams, 2006).

Likewise, as a combat game can reflect real-world political and international contexts (Foust, 2021; van Vuuren & Tristan, 2019), the performance of social identities may converge with offline practices (Guegan et al., 2015; Slater, 2002). After the narrative of combat games primes certain political identities, norms and values of the corresponding social groups can be reinforced to maintain the political self-concept (Knobloch-Westerwick & Meng, 2011). If the identity priming is repeatedly performed by billions of players in the games (e.g., *Call of Duty*), their political ideology and nationalist sentiment are likely to be solidified, which might have profound effects on political polarization that hurts democracy and public opinion about international relation policies (Li & Tang, 2022; McClosky, 1958; Mutz, 2018; Zaller, 1992). Therefore, the link between identity-driven gaming behavior and offline behaviors such as information seeking, political discussion, and even voting merits further investigation (Tice, 1992).

A key theoretical contribution of this study is the quantification of the friction between two primary gaming motivations: social identity and competition. While previous literature documents how social identities influence

self-presentation online, to what extent their influence remains vital when contradicting with competition motivation is unknown (Kahn et al., 2015; Liu et al., 2021; Trepte & Reinecke, 2010; Yee, 2006). Winning a battle in the virtual world is a rewarding experience proving a sense of achievement and satisfaction (Cheah et al., 2022; Nummenmaa & Niemi, 2004). Our results indicate that social identities prevail in the context of vehicle selection. On the North American server, for instance, identity congruence was 14 times more influential in predicting vehicle usage than a 1% increase in win rate.

This finding provides an important boundary condition for understanding player decision-making. In an immersive environment where these identities are primed, the symbolic value of representing one's in-group may provide a psychological subsidy that offsets the negative feedback of losing. Players are not merely failing to optimize for winning; they are actively prioritizing self-concept reinforcement over instrumental success (Kahn et al., 2015). This suggests that in highly polarized or identity-salient media contexts, expressive motivations can eclipse utilitarian ones. Our approach suggests that testing competing mechanism in virtual worlds offers critical theoretical insights into the prioritization of online behaviors, thus enriching our understanding of SIT (Abrams & Hogg, 2010) and SIDE (Postmes et al., 1998; Reicher et al., 1995).

Practically, this study provides insights for game designers and game companies. Catering to a wider political ideology spectrum and national identities in combat games such as WoT may boost player engagement, improve players' experience, and enhance player loyalty and retention. Potential measures against toxic gaming behaviors might include promoting activities bridging in-group and out-group to alleviate identity-based conflicts among players.

Limitations

This study has several limitations. First, despite the privileged access to players' in-game behavioral data and self-reported data, this study only looks at one single game which is predominantly by males. Future research may replicate our design to examine the role of political ideology, military service, and national identity in other games with a more diverse population. Second, we were not able to assess the causal relationship between vehicle performance, social identity, and vehicle selection. Future research may adopt experimental designs to evaluate respective effects of identities and competition of vehicles on their popularity. Third, because we could only conduct surveys in North America, we are not able to test the national identity effect in European and Asian servers where the findings show a different pattern compared with North American and Russian servers. It may be explained by the heterogeneous nationalism of those areas, but our current data cannot provide direct evidence. Canadian or Mexican players on the North American server may have found the military service question irrelevant. Future studies should provide a more general measurement for military service or add a question regarding participant nationality. Additionally, WoT utilizes WWII and early Cold War as its thematic foundation, restricting our ability to test the influence of national identity for players whose countries were not central participants in these conflicts. Future researchers may broaden this line of inquiry by selecting games with contemporary or localized contexts to test the generalizability of these identity-driven selection patterns.

Electronic Supplementary Material

The electronic supplementary materials are available with this article at https://doi.org/10.1027/1864-1105/a000510

ESM 1. Supplementary Tables (Table E1 Summary of Available Vehicles; Table E2 Summary of Types of Vehicles; Table E3 OLS Baseline Models Predicting Vehicle Selection at Player Level; Table E4 Average Player, Average Battles, and Average Win Rate for Tanks of Different Nations); Figures (Figure E1 Data Collection and Processing Pipeline; Figure E2 Usage of US, USSR and Chinese Tanks Grouped by Political Ideology; Figure E3 Usage of US, USSR, and Chinese Tanks Grouped by Military Identity; Figure E4 Win Rate, Battles, and Players of Tanks of All Nations Across Servers).

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