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Teresa Lynch
The Ohio State University

Matthew R. Erxleben
The Ohio State University

Gregory P. Perreault
Appalachian State University, gperreault@usf.edu

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Teresa Lynch[1]

Matthew R. Erxleben[1]

Gregory P. Perreault[2]

Corresponding author:

Teresa Lynch
3058 Derby Hall
154 N Oval Mall
Columbus, OH 43210
phone: (614) 688-2117
email: lynch.659@osu.edu

Author biographies:

Teresa Lynch (Ph.D., Indiana University) is an assistant professor in the School of Communication at The Ohio State University. Her research interests include processes and effects of video games with specific focus on emotion, sex, gender, and identity. ORCID: https://orcid.org/0000-0003-2430-5119

Matthew R. Erxleben (M.A., Cleveland State University) is a Ph.D. student in the School of Communication at The Ohio State University. His research interests include the positive and negative psychological effects of new media, with a focus on video games and online video content. ORCID: https://orcid.org/0000-0003-3345-4132

Gregory P. Perreault (Ph.D., University of Missouri) is a scholar of digital journalism. His research extends to journalistic epistemology, hostility in journalism and digital labor. He currently serves as Vice Chair of the Standing Committee of Research for the Association for Education in Journalism and Mass Communication (AEJMC) and as Reviews Editor for Journalism & Mass Communication Quarterly. ORCID: https://orcid.org/0000-0002-6645-1117

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[1] School of Communication, The Ohio State University
[2] Department of Communication, Appalachian State University

Abstract

Advancing hypotheses derived from social identity theory, we investigated the influence of gamer identity affiliation on affective responses to identity threats and enhancements. Participants viewed a message that either devalued (i.e., threatened) or elevated (i.e., enhanced) the status of *gamers* when associating them with a mass shooting event. Relative to a control condition that neither threatened nor enhanced identity, our data demonstrated that gamer identity affiliation moderated affect. Specifically, greater gamer affiliation increased negative affect experienced after a threatening message. By contrast, greater gamer affiliation increased positive affect and reduced negative affect experienced after an enhancement message. Analyses of participants' emotional reactions to the messages revealed that individuals with stronger gamer identity affiliation reported relatively more homogeneous emotions relative to individuals less affiliated with gamer identity. We discuss these response patterns with respect to how emotions may shape intergroup interaction in online communication.

Keywords: social identity theory, video game, identity threat, identity enhancement, emotion, experiment

Threat and Enhancement: Strength of Gamer Identity Moderates Affective Response to Messages about Gaming

In 2018, entrants and enthusiasts gathered in Jackson Landing, Florida (USA) for a Madden NFL gaming tournament. The event held a significant prize for the winner and the promise of exciting competition for the audience. However, the tournament ended in tragedy when a competitor drew a gun and opened fire on the crowd, leaving several people wounded and two dead. As with other mass shootings, media coverage cited gaming culture as a factor in the tragedy (Campbel, 2018). Writing for *The Verge*, Katherine Cross reflected on the ensuing coverage, noting:

> It didn't take long for the Jacksonville mass shooting to yield to wearying, familiar discourses. On Fox News' *The Story with Martha MacCallum*, the host tried to tie games to a welter of mass shootings. "[The gunmen] spend 12, 15 hours a day [gaming], like Nikolas Cruz was one of them, Adam Lanza, and now this young man, gaming," MacCallum said, adding that playing for hours on end is a danger on par with cigarette smoking. That's par for the course for Fox, but even the BBC got in on the act, with a headline promising an article that explores the "Florida video game gunman's dark obsession with [games]" (Cross, 2018).

Media messages often characterize gaming as problematic, insinuating that violent game content causes societal violence (Kain, 2018). These characterizations have led to significant discourse within the gaming community (see Perreault & Lynch, 2022). Some of this discourse centers on messages about the community by perceived outsiders (Dutton et al., 2011), which may instigate intergroup hostility.

People tend to protect and enhance their affiliated social groups (e.g., race; Appiah et al., 2013) and we propose that gamers do the same. Gaming frequently offers enriching experiences that people find important and meaningful (see Daneels et al., 2021). Gaming activities can thus influence an individual's self-concept and sense of group affiliation. Individuals who identify as gamers may react defensively, even toxically to criticisms of this group (e.g., Kneer & Ward, 2021). Similarly, gamers may bask in positive evaluations of their group (Appiah et al., 2013).

Although researchers have asserted that *gamer* is a social identity, limited empirical investigation has examined contentions advanced by social identity theory. Accordingly, the current study addresses this gap by experimentally testing the effects and boundaries (Slater & Gleason, 2012) of social identity affiliation on threat and enhancement outcomes for gamers with two aims: First, we seek to understand whether the strength of affiliation with gamer identity influences people's emotional responses to identity-relevant messages. Second, we explore how people characterize those emotional states to determine whether consistency emerges in how people describe their feelings in the context of identity threats and enhancements.

Gamer Identity as a Type of Social Identity

Gamer identity emerges from reflexive and dynamic practices of self-definition (Shaw, 2012). Importantly, although *playing video games* may be a necessary part of gamer identity (De Grove et al., 2015), it is not a sufficient characteristic for someone to identify themselves as a *gamer*. As Shaw's (2012) interviews demonstrate, many individuals who *play* video games would not call themselves *gamers*. Similarly, some who would describe themselves as gamers do not spend substantial time playing. Self-identifying as a gamer emerges from interactions among individual and broader group-level identities, experiences in games, representations in games, and interactions with others in and outside of game environments (Shaw, 2012). In this work, we

focus on two of these dimensions – specifically, interactions among a person's individual and group-level identity and interactions with others – to form an argument for how affiliations with gamer identity may influence responses to group-relevant communication.

Identifying as a gamer is only a portion of the identities that amalgamate into a person's overall sense of themself. Unique individual characteristics such as personal history that may be (but are often not) related to gaming comprise important dimensions of a person's identity. Additionally, other group-level identities present notable intersections, overlapping in consequential ways with gamer identity. For example, gender (Vermeulen et al., 2017) and race (Gray, 2012) are two identities that have emerged as important intersections with gamer identity, especially in the context of online interactions. Yet, when gaming is particularly salient, *gamer* may be a comparably more accessible dimension of one's identity. In these contexts, the salient identity would psychologically subsume other identities during ongoing social interactions (e.g., Murphy et al., 2007).

Interactions with others in gaming contexts may increase the salience of gamer in one's self-concept (Kneer & Ward, 2021). Sometimes messages or other interactions may be positive and bolster one's self-esteem. Recent studies support what gamers have long touted; that is, they experience positive and even deeply meaningful experiences with gaming content (e.g., Daneels et al., 2021) and communities (e.g., Kreissl et al., 2021). Yet, negative gaming effects (e.g., increases in physical aggression caused by violent gaming; Prescott et al., 2018) or problematic events in gaming communities (e.g., GamerGate) may generate sharp criticisms. Public communication about gaming often focuses on the potential for games to generate negative outcomes for people and society (Campbel, 2018). These topics have generated controversy among invested parties (e.g., gamers, researchers; Przybylski, 2014). Sometimes these

controversies extend to include debate about who a gamer is and what that identity means. Further, who is allowed to speak on gaming topics and how people construe gaming have emerged as sometimes contentious group-level communication (e.g., Dutton et al., 2011; Foxman & Nieborg, 2016).

Communication focused on gaming's deleterious outcomes may produce defensive reactions from gamers because of the activity's relevance to their self-concept (e.g., Kneer & Ward, 2021). Accordingly, considering gamer identity as a social identity akin to other, more studied social identities (e.g., gender) should further theorizing in this area. One's identity as a gamer can be an important dimension of oneself (De Grove et al., 2015) and a way to position oneself within a broader social group (Consalvo, 2009). These characteristics suggest that gamer identity may, indeed, constitute a social identity and provide some explanation for gamers' communication.

Applying Social Identity Theory to Gamer Identity

Social identity theory (SIT) explains that people categorize themselves as members of groups based on common social characteristics (Tajfel & Turner, 1986). Through this categorization process, individuals delineate between themselves as group members (i.e., ingroup) and others who are not group members (i.e., outgroup). People evaluate their ingroups compared to relevant outgroups with a general motivation to achieve and maintain positive group distinctiveness (Tajfel & Turner, 1986). These evaluations can generate hierarchical status between groups and, additionally, generate positive and negative feelings related to one's ingroup. Because people affiliate with their ingroup, positive ingroup evaluations contribute to enhanced feelings of self-esteem and self-worth. Likewise, negative ingroup evaluations can contribute to diminished feelings of self-esteem and self-worth through group affiliation.

Social identities (e.g., gender, occupation) can comprise important dimensions of self-concepts because they are a basis of others' social categorization. People protect and even enhance perceptions of the ingroup to protect their personal identity and self-esteem (Steele et al., 2002). This motivation drives people's vigilance to messages about their group, especially when people understand others may devalue or negatively treat them due to group affiliations (Murphy et al., 2007). Evaluations of one's affiliated groups occur in general day-to-day interactions, but events and even certain contexts can contribute to the salience of group identity (e.g., settings; Murphy et al., 2007). This is especially likely when others hold stereotypes about a particular group or if significant contrast in social hierarchies exist (Steele & Aronson, 1995).

Amidst high-profile, identity-laden controversies in gaming culture (e.g., GamerGate), unflattering stereotypes of gamers persist (e.g., the awkward nerd; Stone, 2021). The persistence of these characterizations can fuel intergroup tensions with gamers engaging in discursive practices that draw boundaries between gamers (in-group) and non-gamers (out-group; Perreault & Lynch, 2022). Kneer and Ward (2021) propose that the prevalence of moral panics around gaming fuels gamers' inordinately high vigilance to group-relevant messages. Moral panics partly occur in response to emergent social issues that involve disproportionate hostility and concern about something's societal effect (Goode & Ben-Yehuda, 1994). Scholars have argued, for instance, that the prevalence of blaming violent game play for mass shootings is evidence of a moral panic (Markey & Ferguson, 2017). Accordingly, individuals who identify as gamers may demonstrate vigilance in monitoring messages about the role of gaming when negative events occur. Negative events resulting in messages from outgroup members may make gamers' identity salient. Identity threatening (Steele et al., 2002) and enhancing characterizations, then, should produce predictable patterns of response.

Gamers' Emotional Responses to Identity Threat and Enhancement

Social identity threat is a state that occurs following a challenge to one's affiliated group or a challenge to one's affiliation with the group (Branscombe et al., 1999). Multiple types of identity threat exist including categorization threat (i.e., categorization into a group unwillingly), distinctiveness threat (i.e., reduction in group's unique characteristics), acceptance threat (i.e., undermining of one's place in group), and value threat (i.e., detriment to group's value; Branscombe et al., 1999). Here, we focus on *value threat*, which can occur when an outgroup attacks or otherwise antagonistically engages one's ingroup. The devaluation of a group's status can occur either through challenges to the competence of the group or challenges to the morality of the group. Accordingly, suggestions that one's group is immoral or responsible for a reprehensible event (e.g., a mass shooting; Kneer & Ward, 2021) may evoke identity threat.

Social identity threat involves experiences of negative emotions (Tajfel & Turner, 1986). Here, we define emotion as a response to a stimulus (e.g., a message) that invigorates initially through generalized physiological responses that researchers may index partly through the valence dimension (Cacioppo & Gardner, 1999). This invigoration stimulates affective states, which motivate cognitions (e.g., appraisals) and behaviors (Cacioppo & Gardner, 1999). Scholars have documented a variety of behavioral manifestations of defensiveness (e.g., increased outgroup derogation; Branscombe et al., 1999). Here, we advance the idea that those defensive actions are potentiated by general negative emotional responses to identity threat.

Identity threat should produce negative, rather positive feeling states. These responses should vary predictably by the strength of affiliation with a social identity (Cameron, 2004). Threats to an affiliated group's value should produce distinct responses for lower and higher identifiers (Branscombe et al., 1999). Higher identifiers generally demonstrate stronger defensive

reactions to protect a valued ingroup compared to lower identifiers. Lower identifiers, on the other hand, may respond by seeking to undo the morally objectionable behavior (Branscombe et al., 1999).

People's subjective experience of discrete emotions (e.g., anger) in response to identity threat occurs within a social context. When stimuli promote group-level processing, group members tend to appraise emotional stimuli consistently, resulting in similar subjective feelings (Smith & Mackie, 2016). Social context appraisals are the mechanism that produce the discrete terms that people use to identify and communicate feeling states, which may result in emotionally charged and even contentious discourse. Accordingly, our first hypothesis states and our first research question asks:

H1: Strength of affiliation with gamer identity will moderate differences in affect between anti-gamer messages and control messages. Specifically, the stronger people affiliate with gamer identity, the more negative affect and the less positive affect they will report in response to an anti-gamer message compared to the control.

RQ1: How will people describe their emotional responses to anti-gamer messages?

Contrasting the relative wealth of research on identity threat, fewer studies focus on identity enhancement. We continue to focus on a group's relative *value* as contributing to its positive distinctiveness. If threats can challenge a group's value by connecting it with reprehensible occurrences, then enhancements can increase a group's value by associating it with righteous or otherwise laudable occurrences. Like threat, we define social identity enhancement as an experiential state caused by a commendation to one's affiliated group or recognition of one's affiliation with an esteemed group. Identity enhancing messages from others can

strengthen the moral value of a group by emphasizing the group's desirable or redeemable qualities. In the wake of a tragedy such as a mass shooting, messages emphasizing a group's admirable response may evoke identity enhancement.

Social identity enhancement should produce emotions that imbue group membership with significance (Tajfel & Turner, 1986). In the case of identity enhancements, group members should experience generally positive, rather than negative responses to messages that cast the group in an admirable light. Because group members are motivated to establish and maintain positive group distinctiveness, when a message evaluates the group in a positive way, it is likely that group affiliation will strengthen. The theorized strengthening in group affiliation produced by identity enhancing messages may result in consistent descriptions of experienced emotions (Smith & Mackie, 2016). Further, the relative strength of group affiliation should influence the strength of positive and reduce the prominence of negative emotional responses to identity enhancing messages.

Accordingly, our next hypothesis and research questions are:

H2: Strength of affiliation with gamer identity will moderate differences in affect between pro-gamer messages and control messages. Specifically, the stronger people affiliate with gamer identity, the more positive affect and the less negative affect they will report in response to a pro-gamer message compared to the control.

RQ2: How will people describe their emotional responses to pro-gamer messages?

Method

Sample

To detect effect sizes typical for media effects (Valkenburg & Peter, 2013), we conducted a power analysis using G*Power 3.1.9.7 for ANOVA (fixed effects, special, main effects and interactions) specifying $f = .176$, alpha = .05, power = .80, numerator $df = 4$, and 36 groups. The results indicated we would need 392 participants to detect effects. We recruited participants from gaming-oriented Reddit forums by posting an invitation to complete a Qualtrics-based survey that would ask participants questions about themselves along with their perceptions of game effects and a recent gaming-related event. Participants who completed the study had the option to enter a drawing for a gift card in exchange for their time. Of the 754 individuals who initiated it, 330 completed the entire study. We retained only those participants' data for analysis. Participants were primarily White, ($n = 209$, $n_{Mixed\ race} = 36$, $n_{E\ Asian} = 35$, $n_{Hispanic} = 25$, $n_{S\ Asian} = 8$, $n_{Black} = 8$, $n_{SE\ Asian} = 3$, $n_{Middle\ Eastern,\ Arab} = 2$, $n_{Pacific\ Islander} = 1$, $n_{Other} = 2$, $n_{no\ response} = 1$), young adult ($M_{age} = 26.5$; $SD = 6.27$), self-identified men ($n_{men} = 284$, $n_{women} = 40$, $n_{non\text{-}binary} = 3$, $n_{no\ response} = 3$).

Procedure

After providing consent, participants answered questions about gaming identity and open-ended questions related to their gaming experiences. We report our interpretive analysis of these qualitative results in a separate manuscript (Perreault & Lynch, 2022) and consider how those findings relate to our work here in the Discussion. We then asked participants whether they were familiar with the 2018 Jacksonville mass shooting. Most participants (73.3%) reported familiarity. Next, we introduced the stimulus with a statement explaining that people sometimes use social media to express their thoughts after such tragedies. Participants then viewed a randomly assigned, bogus Tweet referencing the 2018 tournament shooting (see Figure 1) either criticizing gamers (threat), praising gamers (enhancement), or merely referencing the gaming

context of the shooting (control). Then, participants reported perceptions of the message and responded to dependent variables and demographic measures.

Stimuli

We created a template using the typical visual presentation of a Tweet to convey our manipulations (see Figure 1; all stimuli available at https://osf.io/ep8h2/). To increase generalizability, we employed a message sampling approach (Slater et al., 2015) in which we manipulated characteristics of the source (i.e., gender, expertise) and message. We manipulated gender by altering the ostensible user's name and image to appear as Mary (woman) or Mark (man) Anderson. The expertise manipulation involved adjustments to the source's title and Twitter username (i.e., no title, @MAtechstuff for non-expert; Dr. title, @MAtechpsych for expert). Message manipulations involved changes to the specific phrasing of the source's ostensible Tweet. This produced a 3 (identity characterization: threat, enhancement, control) x 3 (message) x 2 (author gender: male, female), x 2 (author expertise: expert, non-expert) between-subjects design.

Measures

Affect

We operationalized affect in two ways. First, following standard practices in capturing the valence dimension of emotion (e.g., Read, 2021), participants reported positive and negative affect each using single items that ranged from 0 (*Not at all*) to 9 (*Completely*) ($M_{PositiveAffect}$ = 2.43, $SD_{PositiveAffect}$ = 2.69; $M_{NegativeAffect}$ = 4.22, $SD_{NegativeAffect}$ = 2.97). Second, to assess group-level patterns in discrete affective reports, we asked participants to provide brief (i.e., 1-2 word) open-ended descriptions of how the Tweet made them feel.

Gamer Identity

We used Cameron's (2004) 12-item social identity measure to assess participants' gamer identity affiliation. This measure captures identity centrality (e.g., "In general, being a gamer is an important part of my self-image"), in-group affect (e.g., "Generally, I feel good when I think about myself as a gamer"), and in-group ties (e.g., "I feel strong ties to other gamers") using a 1 (*strongly disagree*) to 6 (*strongly agree*) scale (M = 4.41, SD = 0.83, α = .82).

Manipulation check. Participants reported perceptions of the stimulus message using a sliding scale anchored at three points and initially set at neutral (-100 – *Anti-gamer*; 0 – *Neutral*; 100 – *Pro-gamer*; M = -14.43; SD = 56.26).

Demographics. We asked participants their gender and age in an open-ended format. We used close-ended responses to a question asking participants' sex assigned at birth to clarify when participants referenced this information in responses about gender. We asked participants to identify their primary race from a list that included Asian (Eastern), Asian (Southern), Black/African descent, Hispanic/Latino, Indigenous American/Native American, Middle Eastern (Arab), Middle Eastern (non-Arab), Pacific Islander, White/European descent, and Other (with open response option). We categorized participants identifying with more than one race as mixed race.

Analysis Plan and Data Preparation

Quantitative Modeling

We first determined whether our message sampling design manipulations influenced affect. Accordingly, we ran two ANOVA (i.e., one with positive and one with negative affect as outcomes) to assess whether main effects of identity characterization, author gender, author expertise, and message emerged. Only identity characterization had a main effect on positive affect, ($F(2, 275) = 40.42$, $p < .001$, $\eta^2 = .12$). Tukey post hoc comparisons indicated that

enhancement produced greater positive affect (M = 4.18, SE = .24) than control (M = 1.75, SE = .25; $p < .001$) or threat conditions (M = 1.35, SE = .23; $p < .001$). Similarly, only identity characterization had a main effect on negative affect, ($F(2, 273) = 26.57$, $p < .001$, $\eta^2 = .05$). Tukey post hoc comparisons indicated that threat produced greater negative affect (M = 5.51, SE = .26) than control (M = 4.34, SE = .28; $p = .012$) or enhancement conditions (M = 2.72, SE = .28; $p < .001$). The enhancement and control conditions also produced distinct levels of negative affect ($p < .001$). To summarize, author gender, author expertise, and message did not have main effects on positive or negative affect (all ps > .05, all $\eta^2 < .01$). We excluded these three variables in subsequent modeling.

To test hypotheses, we ran PROCESS Model 1 (Hayes, 2022) using identity characterization as a multicategorical predictor to determine whether gamer identity moderated the effect of threat and enhancement conditions on dimensional affective responses. As such, we drew inferences from two models and conducted simple slope analyses for each hypothesis, the first with negative affect (see Table 1) and the second with positive affect (see Table 2) as outcomes.

Open-Ended Data Preparation

We extracted affective categories from the open-ended data using the Geneva Affect Label Coder (GALC) macro. Following Scherer's (2005) recommendation, the lead author trained two research assistants to verify the macro's initial categorization for semantic accuracy. The assistants were blind to condition. They initially flagged 52% of the cases for review and re-categorization. They then each independently applied a new category applying Scherer's (2005) taxonomy. After this independent round of category application 13.3% instances contained disagreements. The assistants resolved these discrepancies through discussion. In addition to the

responses' affective content, the assistants flagged any instances in which the response disparaged the Tweet's ostensible author. They identified four cases of Tweet-author disparagement; all disparagement occurred in the threat condition.

Results

Manipulation Check

We conducted an ANOVA and confirmed that participants perceived the manipulations of gamer identity threat and enhancement as intended, $F(2, 302) = 99.90$, $p < .001$, $\eta^2 = .37$. Tukey post-hoc analyses showed participants perceived the enhancement condition as pro-gamer ($M = 31.07$, $SD = 53.45$), the control condition as slightly anti-gamer ($M = -14.29$, $SD = 38.72$), and the threat condition as strongly anti-gamer ($M = -54.72$, $SD = 38.08$; all pairwise comparisons $p < .001$).

Hypothesis 1

Our first hypothesis predicted that strength of gamer identity affiliation would moderate differences in affect reported by participants who saw an anti-gamer (i.e., identity threatening) message compared to a control message. Specifically, we predicted that the stronger people identified as gamers, the more negative and less positive affect they would report in response to the anti-gamer message. The results of our moderation analysis supported this hypothesis for negative affect (see Table 1) but did not support the hypothesized pattern for positive affect (see Table 2). At medium and high levels of gamer identity, participants reported greater negative affect compared to the control conditions. However, at the lowest levels of the identity moderator, the threat condition did not produce different reports of negative affect (see Figures 2 and 3).

Research Question 1

Our first research question asked how people would describe their emotions in response to anti-gamer messages. Participants' open-ended responses to identity threats were largely negative rather than positive in valence. We compared these responses to the control condition (see Figure 4a). In the control condition, participants primarily characterized their feelings as negative, but low in arousal. Across both the threat and control conditions, boredom and sadness emerged as prominent reported feelings. However, in the threat condition, participants also reported negative feelings of greater intensity (i.e., higher arousal) and primarily characterized their feelings as anger and irritation. The feeling of disappointment emerged more prominently in the threat condition as compared to the control. Notably, a few reports of amusement emerged in the threat condition and not the other two identity characterization conditions. As visualized in Figure 4c, different response patterns emerged by gamer identity affiliation strength. Individuals with stronger affiliation reported a relatively more homogeneous pattern compared to individuals of medium and low affiliation with gamer identity. Specifically, high affiliation individuals reported eleven distinct emotional responses as compared to those of low and medium affiliation with gamer identity, who each reported thirteen emotions.

Hypothesis 2

Our second hypothesis predicted that the strength of affiliation with gamer identity would moderate differences in affect reported by participants who saw a pro-gamer (i.e., identity enhancing) message compared to a control message. Specifically, we predicted that the stronger people affiliated with the gamer identity, the more positive and less negative affect they would feel in response to the pro-gamer message. The results of our moderation analysis fully supported this hypothesis with the expected patterns emerging for positive affect (see Table 2) and negative affect (see Table 1). At all levels of the identity moderator, the enhancement

condition produced different reports of positive and negative affect compared to the control condition (see Figures 2 and 3).

Research Question 2

Our second research question asked how people would describe their emotions in response to pro-gamer messages. Participants' open-ended responses to the identity enhancing messages were positive and negative in valence. We compared these open-ended responses (Figure 4b) to the control condition (Figure 4a). Reports of negative, low valence emotions such as boredom were common across the enhancement and control conditions. Participants most prominently reported high arousal, generally positive feelings. Notably, some among those with stronger affiliations with gamer identity reported feelings of pride. Participants also reported a number of lower arousal, positively valenced feelings such as hope and contentment. Higher arousal feelings of positive and negative valence both generated more homogeneity in responses for participants with stronger affiliation with gamer identity.

Discussion

We examined whether the strength of affiliation with gamer identity influenced emotional responses to identity enhancing and threatening messages. We hypothesized moderation effects such that stronger affiliation with gamer identity would strengthen negative and lessen positive emotional responses to identity threatening messages. Similarly, we hypothesized that stronger gamer identity would strengthen positive and lessen negative emotional responses to identity enhancing messages. To test these hypotheses, we generated ostensible Tweets that either criticized and implicated gamers in a real-world mass shooting event that occurred in Jacksonville, Florida (USA) or exonerated and celebrated gamers for their response following the tragedy. Participants reported their emotional responses using both

dimensional and discrete measures of emotion. This approach allowed us to capture both generalized affective dimensions and participants' feelings in their own words, respectively. Our purpose in advancing these predictions was twofold. First, we aimed to understand whether people identifying as *gamers* would respond in ways deduced from social identity theory. Supportive of predictions and like other social identities (e.g., gender), we generally found that individuals with stronger identity affiliations responded with greater emotion to threatening and enhancing identity characterizations.

We predicted that affiliation strength would moderate identity threat's influence on affect. Implicitly, we assumed that *any* affiliation would invigorate more negative and less positive affect than the control condition. Our hypothesis was partially supported in that we observed the expected pattern of response for negative affect, but not for positive. Identity threat produced a pattern suggesting gamer identity produced divergent positive contributory moderation for negative affect (Holbert & Park, 2020). Those of weakest gamer affiliation did not report significantly more negative affect in the threat compared to the control condition. We may be detecting a boundary condition in which more weakly affiliated individuals will not experience exacerbated negative emotion compared to strong affiliates. Regarding the null effect of the threat condition on positive affect, it seems likely that we are observing a floor effect given the inherently negative nature of our stimulus (i.e., commentary about a mass shooting). Review of the condition means indicates that positive affect was likely too low to decrease noticeably even with the contribution of an identity threatening stimulus.

Affective responses to identity enhancing messages suggested different moderation patterns. From weaker to stronger gamer affiliation participants reported a decrease in negative and increase in positive affect compared to the control. We assume that the presence of any

encouraging information – whether related or unrelated to a personally important identity – may promote positive and reduce negative affect, even in such a terrible context. Although we did not detect a boundary with respect to affiliation, the pattern of moderation seems consistent with theory. Specifically, gamer identity seemed to produce divergent negative contingent moderation for negative affect and divergent, cleaved moderation for positive affect (Holbert & Park, 2020). Researchers could make specific predictions about the moderations drawing on these observations.

Our second goal was to determine how people described feeling in response to identity threatening and enhancing messages. Following the invigoration of generalized emotional responses, social context can shape how people communicate and make sense of their feelings (Smith & Mackie, 2016). As others have elaborated (e.g., Kneer & Ward, 2021), accusations of responsibility for heinous events (e.g., mass shootings) can lead to identity threat and patterns of defensiveness that produce and promote intergroup hostility. This hostility can manifest in online environments (e.g., social media). Less research examines how identity enhancement shapes online discourse. Our results demonstrate that gamers experience positive emotions when their group's value is boosted. These positive feelings likely enhance self-esteem and self-worth, especially when group affiliation is strong. Further, these patterns of response are like other group-level effects. For example, the phenomenon of basking in reflected glory (e.g., Cialdini et al., 1976) occurs when one's ingroup is celebrated. Our findings may speak to patterns of response in groups aside from gamers (e.g., sports fans) and present an opportunity to explore the interrelated nature of threat and enhancement effects with respect to group-affiliation. Moreover, because of the persistently stereotyped and even stigmatized nature of gamer identity, it is possible that our findings offer a broader vantage on how disparagement and embellishment of

marginalized identities operate. Future work can apply our theorizing to explore, for example, how general these effects are and whether strength of affiliation is a robust predictor of threat and enhancement effects.

Understanding that people experience stronger affect in response to identity-laden messages is important, but gathering and analyzing people's descriptions of those states offers a rich complement to general valence dimensions. To assess the qualities of emotions reported by participants in our study, we compared open-ended responses provided in the threat and enhancement conditions to those in the control condition. Across all conditions participants reported feeling saddened and bored by the stimuli. Given the nature of the stimuli, sadness is an understandable response. We interpret the prominence of boredom in two ways. First, it seems reasonable that participants encountering a static Tweet may simply not have found the information stimulating enough to constitute another emotion. A second interpretation could be that participants in the study are tired of hearing the connection of gaming and mass shootings.

Establishing sadness and boredom as emotional responses to the nature of the event allowed us to engage in a comparison of emotion responses to identity threat and enhancement conditions. Although some negative emotions emerged in response to identity enhancements, these stimuli produced reports of positive emotions that varied in terms of their intensity. Specifically, participants reported feeling happy, hopeful, and contented. Notably, some participants reported feeling pride, which underscores affiliation with gamer identity. Many types of interaction can increase the salience of social identity (Murphy et al., 2007). Participants in this study reported group-level emotions (e.g., pride) in response to identity-enhancing messages, suggesting affirming messages may strengthen group affiliation. Our operationalization of enhancement characterized gamers and the gaming community as a bastion

of support following the tragedy at the Madden tournament. Thus, these responses suggest that participants' perceptions of their group's value were enhanced in ways that may have driven a desire to affiliate. Identity enhancing messages, therefore, may be a ripe area for promoting positive instantiations of group functioning and characterization. For instance, emphasizing that gaming tournament proceeds fund scholarships may promote positive intra- and intergroup interactions. Future work could explore this possibility.

Participants primarily reported negative emotional responses to identity threat. Although negative emotions were also prominent in the control condition, the threat condition emotions reflected greater levels of intensity. Specifically, many participants reported feeling angered, irritated, and frustrated by the identity threatening Tweets. Some also reported disappointment. Although it is unclear what caused participants' disappointment, as with boredom we can speculate. First, participants may have been disappointed with the nature of the event itself – that is, dismay at the atrocity of a mass shooting. Alternatively, participants may have been disappointed in the continued connection of gaming and mass shootings. Either interpretation seems plausible and, certainly, these explanations are not mutually exclusive.

Finally, in the threat condition exclusively, three participants reported amusement. In the context of a horrible event such as a mass shooting, we interpret responses of amusement as reactive to identity threat – an attempt by the individuals to cope with identity threat by disparaging the group(s) perceived as threatening the in-group's status. By laughing in the face of tragedy, these participants may have been attempting to reclaim challenged status by asserting dominance. Taken together with the four cases of explicit source derogation (e.g., one participant called the Tweet's author a "disgusting grandstander"), only 6% of individuals in the threat condition issued responses that we interpret as the sort that might promote intergroup conflict.

Although we are likely observing less intergroup hostility due to social desirability bias in our data, these patterns still suggest that overt hostility is produced by a few loud voices within the gaming community rather than the majority. Future work should examine what unique combinations of source, receiver, and context characteristics result in overtly antisocial and prosocial outcomes.

A final future direction in light of our results is that it is worth considering when and how social identity becomes *persistent*; that is, not necessarily requiring activation by a stimulus (e.g. an attack) for the identity to influence emotion and cognition (Steele et al., 2002). Because individuals are motivated by a desire to enhance perceptions of their groups, any interaction may present a strategic opportunity to signal and manage social identity publicly (see Perreault & Lynch, 2022). Although gamers tend to exhibit vigilance regarding gaming-related messaging (Kneer & Ward, 2021), receiving uplifting messages about their group may produce unexpectedly strong positive responses. Whether this promotes group cohesion to prosocial outcomes or, alternatively, strengthens loyalties to contribute to antisocial outcomes are open questions. To this point, we have some insight on how these individuals make sense of their identity and involve that identity with respect to gaming communities, broadly. We conducted this experimental data collection as part of a larger study that included both qualitative and quantitative data collection procedures. The other study that emerged from this effort (Perreault & Lynch, 2022) involved asking participants broad open-ended questions about their experiences gaming and we used interpretive techniques to extract themes from those data. The results of those analyses revealed patterns in how gamers interpret and situate their identities in the context of gaming communities. The mechanisms we identify here (i.e., identity threat and enhancement)

likely occur naturally and spur the kinds of meaning-making revealed in the participants' reports described in Perreault and Lynch (2022).

Although these findings align with our theorizing and reveal meaningful patterns of responses, there are limitations to our data collection and results that future research can address. First, our sample represents only a portion of individuals who likely affiliate with gamer identity. In recruiting from Reddit, we anticipated that our sample would likely be more homogeneous than the general population with respect to gender identity, race, and age. And, indeed, our sample largely identified as young White men. This portion of the gamer population, although of critical importance in understanding gamers' psychology and social identity, represents only a subset of gamers. Individuals with other intersecting identities may diverge in important ways. Ample evidence exists and is accruing to demonstrate the ways that non-dominant groups navigate the implicit hierarchies in gaming communities (e.g., Gray, 2017). It is crucial, therefore, that future research investigate the ways in which social identity theory may predict (or not account for and therefore be refined), by examining if and how gamer identity functions for individuals who are not young White men. We hope our work here provides a starting point for fruitful discovery in this area.

The second major limitation in this work is that, although we seem to have detected a lower boundary of gamer identity's effect with respect to threat effects, we did not detect the same boundary for enhancement effects. We suspect that this had to do with a lack of variance among the individuals sampled in this study. We recruited individuals from gaming-oriented forums so that we could recruit people of sufficient affiliation to produce threat and enhancement effects. Unfortunately, the tradeoff of meeting this aim was to limit the sample in providing a range of affiliations sufficient to detect the boundary robustly. Future research could replicate

this work conceptually and advance on additional theoretical effects by recruiting individuals not affiliated with the gamer identity. This could produce intriguing insights into patterns of behavior that may be meaningfully divergent. For example, individuals with low group affiliations tend to respond to identity threats by attempting to reverse harms caused by the group (Branscombe et al., 1999). Future research could investigate whether these distinct patterns of response emerge in gaming communities by strength of affiliation.

Our work is also limited by several methodological considerations. First, we were slightly underpowered to detect effects of our message sampling manipulations. However, we observed these manipulations as having quite modest effect sizes for all main effects and interactions with the identity characterization manipulations (largest partial $\eta^2 = .017$) suggesting that these cues did not contribute heavily to shaping perceptions. Still, because there is substantial evidence to support intergroup phenomena surrounding certain identities in gaming contexts (e.g., gender), future work could address this limitation by centrally examining the influence of source characteristics on affective outcomes. Additionally, related to our affective measurement, we had theoretical reasons to approach measuring emotion using a combined dimensional and discrete approach (i.e., to capture both general valence and group-level appraisals). However, there are many ways to measure emotion and researchers should continue to employ a variety of measurement techniques to triangulate these complex outcomes. Finally, we relied primarily on self-reported reactions in this study, which sometimes seemed to result in social desirability biases. This sort of bias could influence our results such that, for example, the prevalence of outgroup derogation may be less prominent than in natural online discourse.

Despite these limitations, our work advances and contributes to the work on understanding *gamer* as a social identity. Importantly, our experimental design allowed us to

identify mechanisms (i.e., identity threat) that may trigger patterns of intergroup hostility in online gaming, gaming forums, and other gaming-adjacent spaces. In the weeks that followed the Jacksonville Madden tournament shooting, a familiar media narrative followed: exhaustive coverage of the shooter and polarized discussions of what drove him to commit the mass shooting. News sites noted the shooter's history of mental illness, his competitive nature, and connected these characteristics to his propensity for hours and hours of video game play (Fleming, 2018). Games journalism news sites and blogs responded reactively at the accusation that the shooter's identity as a *gamer* was the cause. Yet, many of the victims of the heinous act were also gamers and members of the community stepped up admirably to assist and support one another in the dark moment. Collectively, our results indicate that gamers may react negatively when their group is threatened, but they also feel pride and happiness in that affiliation making it one with deep meaning and consequence.

Research Transparency Statement: The authors share their data, analytical syntax, and stimulus materials here: https://osf.io/ep8h2/. Other study material may be available upon request to the corresponding author.

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Table 1

Test of Moderation of Condition on Negative Affect by Identification

			Negative Affect (Y)		
	Coeff	*SE*	*p*	*LLCI*	*ULCI*
Constant	5.42	0.26	< .001	4.92	5.92
X1 (Threat vs. Enhancement)	-2.73	0.37	< .001	-3.47	-2.00
X2 (Threat vs. Control)	-1.04	0.38	.006	-1.78	-0.30
Gamer Identity (W)	1.04	0.32	.001	0.41	1.67
Interaction 1 (X1*W)	-1.21	0.45	.007	-2.09	-0.33
Interaction 2 (X2*W)	-0.84	0.47	.073	-1.75	0.08
			$R^2 = .18$		
			F (5, 303) = 13.38, $p < .001$		
Threat vs. Enhancement			Conditional Effects (*SE*)		
W = -1 *SD*	-1.72	0.53	.001	-2.77	-0.68
W = Mean	-2.73	0.37	< .001	-3.47	-2.00
W = +1 *SD*	-3.74	0.52	< .001	-4.77	-2.71
Threat vs. Control					
W = -1 *SD*	-0.34	0.54	.524	-1.41	0.72
W = Mean	-1.04	0.38	.006	-1.78	-0.30
W = +1 *SD*	-1.74	0.54	.001	-2.80	-0.68
Enhancement vs. Control					
W = -1 *SD*	1.38	0.53	.010	0.33	2.77
W = Mean	1.69	0.39	< .001	0.93	2.45
W = +1 *SD*	2.00	0.55	< .001	0.92	3.09

Note: We contrast coded the IVs in Table 1's model using threat condition as the multicategorical indicator. Threat = 0, Enhancement = 1, Control = 2.

Table 2

Test of Moderation of Condition on Positive Affect by Identification

	Positive Affect (Y)				
	Coeff	*SE*	*p*	*LLCI*	*ULCI*
Constant	4.19	0.23	< .001	3.74	4.64
X1 (Enhancement v. Threat)	-2.81	0.32	< .001	-3.44	-2.19
X2 (Enhancement v. Control)	-2.40	0.33	< .001	-3.04	-1.75
Gamer Identity (W)	1.22	0.26	< .001	0.71	1.73
Interaction 1 (X1*W)	-1.34	0.38	< .001	-2.08	-0.59
Interaction 2 (X2*W)	-1.20	0.39	.002	-1.96	-0.44
		$R^2 = .27$			
		F (5, 305) = 22.12, $p < .001$			
	Conditional Effects (*SE*)				
Enhancement vs. Threat					
W = -1 *SD*	-1.69	0.45	< .001	-2.58	-0.80
W = Mean	-2.81	0.32	< .001	-3.44	-2.19
W = +1 *SD*	-3.93	0.45	< .001	-4.81	-3.06
Enhancement vs. Control					
W = -1 *SD*	-1.39	0.46	.002	-2.29	-0.50
W = Mean	-2.40	0.33	< .001	-3.04	-1.75
W = +1 *SD*	-3.40	0.47	< .001	-4.32	-2.48
Threat vs. Control					
W = -1 *SD*	0.30	0.47	.518	-0.62	1.22
W = Mean	0.42	0.32	.198	-0.22	1.06
W = +1 *SD*	0.54	0.46	.248	-0.38	1.44

Note: We contrast coded the IVs in Table 2's model using enhancement condition as the multicategorical indicator. Enhancement = 0, Threat = 1, Control = 2.

Figure 1. An example of the bogus Tweet used for the identity threat condition.

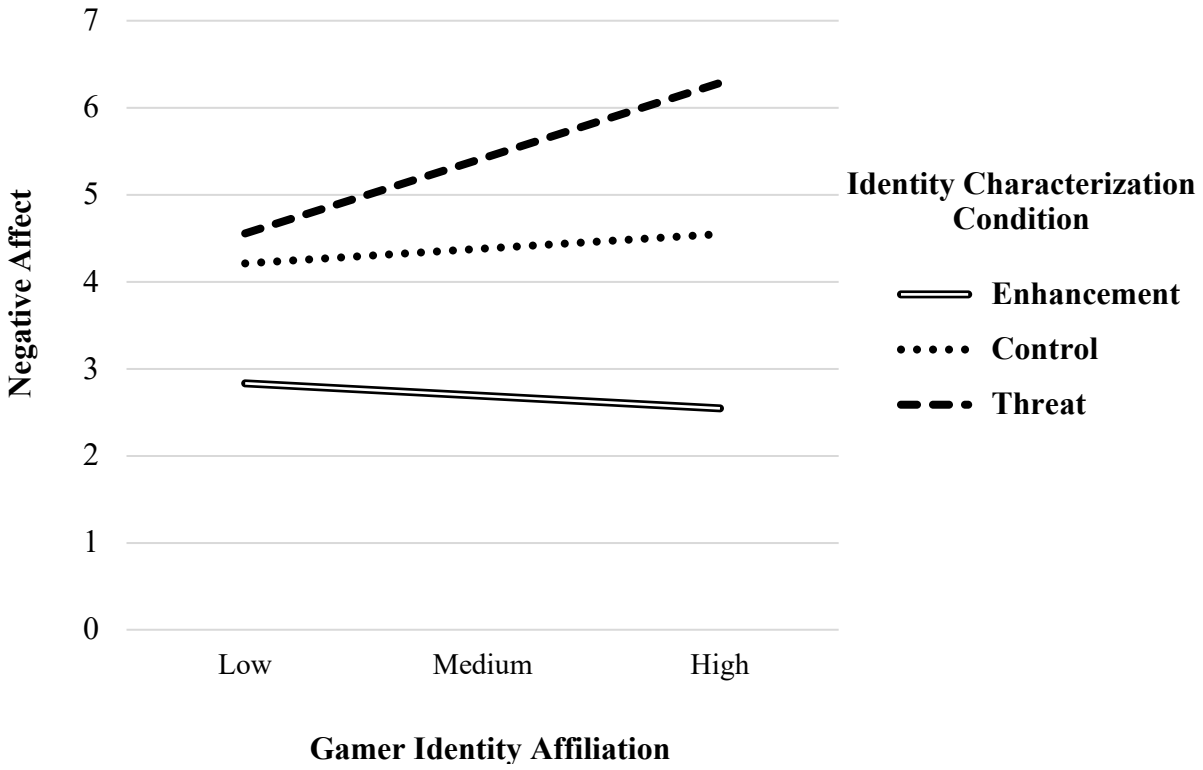

Figure 2. *Conditional Effects of Negative Affect at Values of Gamer Identification*

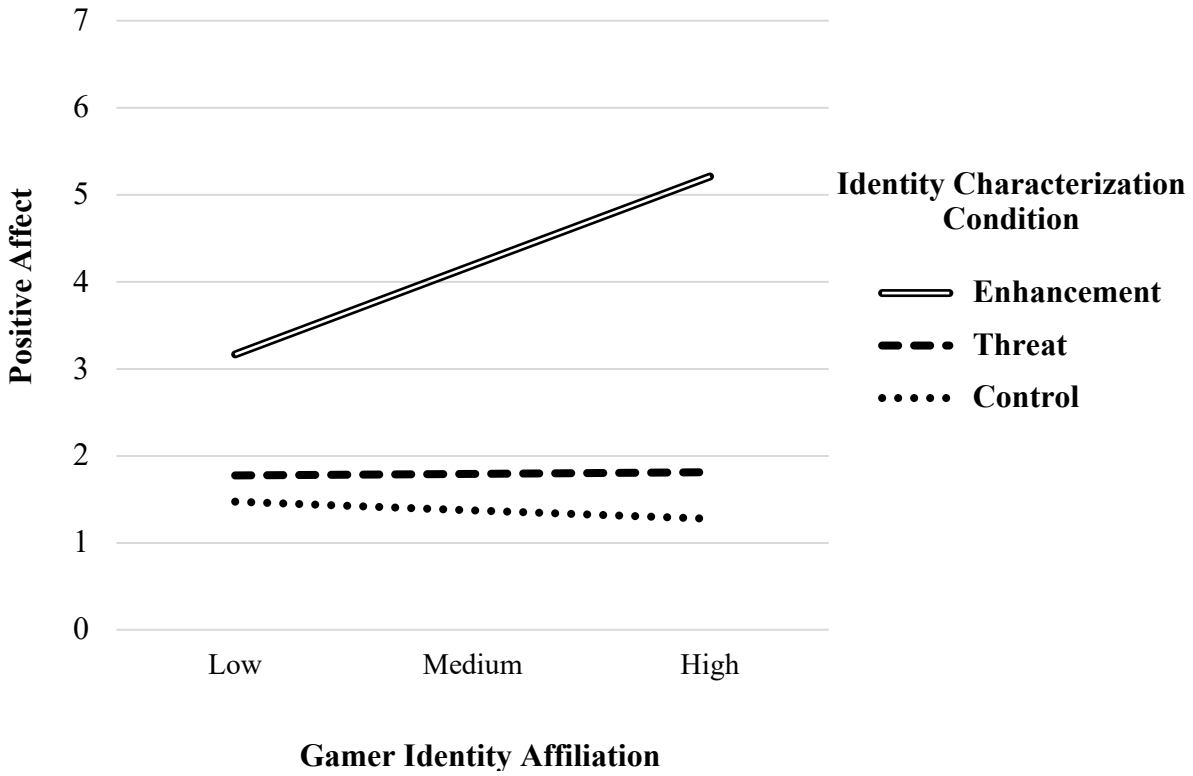

Figure 3. *Conditional Effects of Positive Affect at Values of Gamer Identification*

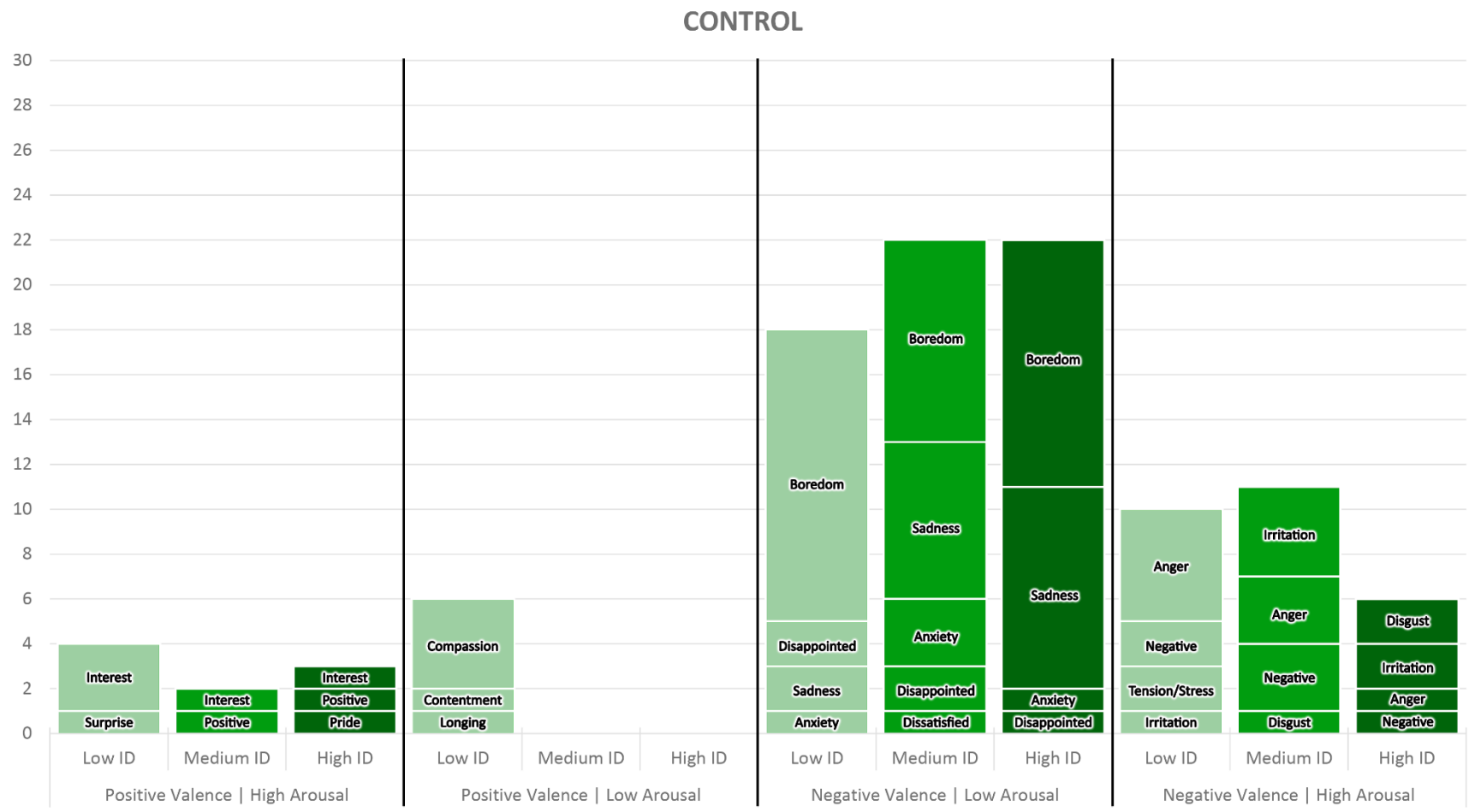

Figure 4a. *Counts of open-ended affective categories reported by participants in the control condition organized by valence, arousal, and strength of affiliation with gamer identity.*

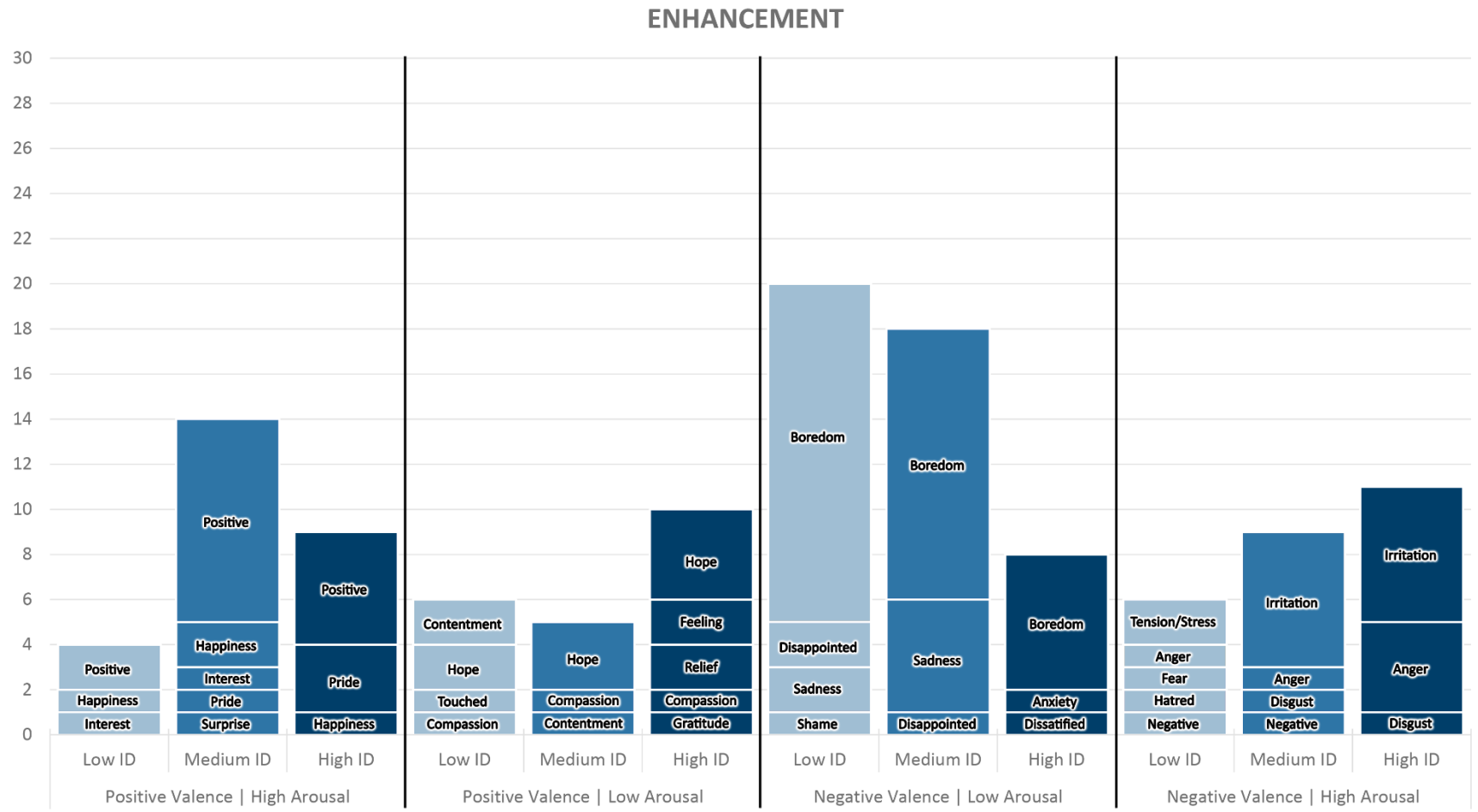

Figure 4b. *Counts of open-ended affective categories reported by participants in the enhancement condition organized by valence, arousal, and strength of affiliation with gamer identity.*

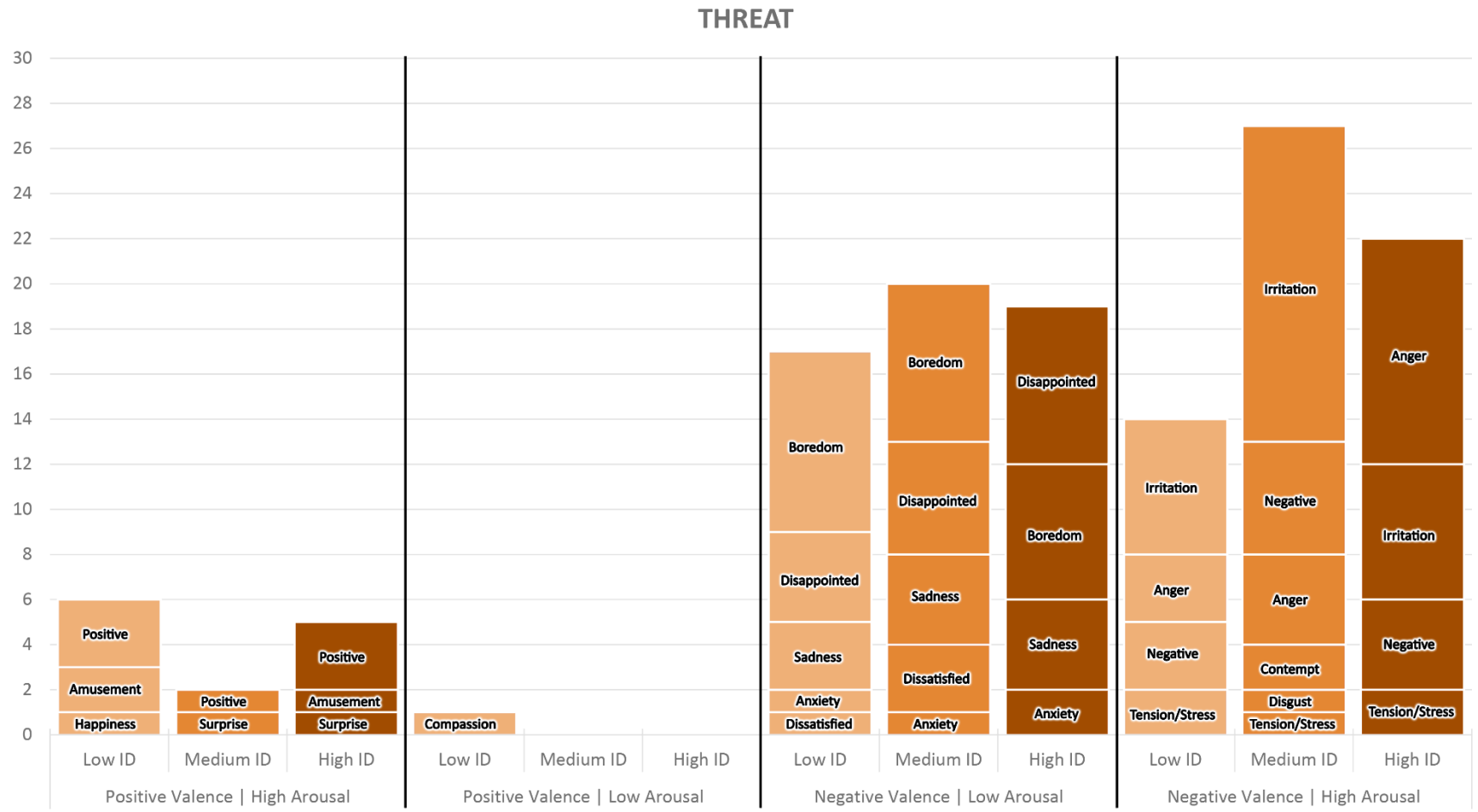

Figure 4c. *Counts of open-ended affective categories reported by participants in the threat condition organized by valence, arousal, and strength of affiliation with gamer identity.*