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The Mediating Effect of *Adelante* Brand Equity on Latino Immigrant Positive Youth Development Outcomes

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Abstract

This paper reports on mediation analysis of effects of the *Adelante* brand, an innovative program for Latino immigrant adolescents and their families, and Positive Youth Development (PYD) outcomes. Specific objectives were to increase adolescent engagement and participation in a community-based program called *Adelante*, based on PYD theory, which sought to reduce substance use, sexual risk taking, and interpersonal violence among Latino immigrant youth.

A total of 238 parent-child dyads were recruited from a predominantly low-income Latino immigrant community and followed for an average of 22 months. Measures included demographics; acculturation; stress and coping; social support; violence, substance use, and sexual risk attitudes; future expectations; the *Adelante* Brand Equity scale; and PYD asset measures.

Multiple regression modeling shows that the Leadership Brand Equity construct is associated with decreased pro-violence and increased anti-violence attitudes. Additionally, having any program exposure (vs. none) is associated with improved substance abuse attitudes in models adjusting for the Loyalty Brand Equity construct. In mediation analysis, we observed a mediating effect of the Leadership Brand Equity construct on improved anti-violence attitudes among those exposed to the *Adelante* program.

As found in previous research, *Adelante* brand equity operated as a mediator of program effects on Latino youth PYD outcomes.

Keywords

Latino; adolescent; substance abuse; violence; sexual risk taking; social marketing; branding

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DISCLOSURE STATEMENT

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INTRODUCTION

The Adelante Program

The community-based, multi-level *Adelante* (translated ‘move forward’) program used a modified Positive Youth Development (PYD) approach that sought to build various individual and group assets and community supports for youth and families as a prevention mechanism (Edberg, Cleary, & Andrade, 2010). Recognizing the social-ecological nature of health (Green & Mercer, 2002), the *Adelante* intervention was based on an innovative, community-driven model to address multiple contributing factors for co-occurring substance abuse, interpersonal violence, and sexual risk behaviors among youth in Langley Park, Maryland, a Latino immigrant community near Washington, DC, where there are disproportionate rates of these co-occurring conditions (Edberg, Corey, & Cohen, 2011). As reported elsewhere, *Adelante* was a signature program of the Avance Center for the Advancement of Immigrant/Refugee Health (avancegw.org) focused on specific health disparities related to the Latino immigrant/refugee population (Edberg, Cleary, Klevens, et al., 2010; Edberg, Cleary, & Andrade, 2010).

The *Adelante* PYD model drew from the eco-developmental theoretical approach, which addressed these dynamics for immigrant Latinos that occur at different levels of influence (Pantin, Schwartz, Coatsworth, et al., 2003; Szapocznik, & Coatsworth, 1999). The *Adelante* intervention employed several inter-related intervention components designed to engage youth and ensure parental and community participation and support, thus building assets at the individual, peer, family, and community levels. Selected examples of *Adelante* components included youth and parent leadership and advocacy trainings, academic tutoring, health prevention workshops, recreational activities, multi-media projects, social media engagement, organized community volunteering, and family dinners. The model proposed that the building of assets at these levels based on 4 of the 6 PYD “C’s” (Competence, Connection, Confidence, Contribution; the other 2 being Caring and Character) will ultimately lead to the: 1) reduction of engagement in risk behaviors related to substance use, sexual risk taking (e.g., not using condoms), and interpersonal violence; 2) strengthening of parents’ capacity to foster their child’s advancement and prevent risk; and 3) connection of youth with new community resources to help them realize their full potential (Jessor, 1991; Jessor, & Jessor, 1977). The *Adelante* conceptual model has been presented and discussed in detail elsewhere (Edberg, Cleary, Andrade, et al., 2014). Briefly, that model assumes that a comprehensive PYD-based program can address socio-ecological and developmental factors that place youth at risk for multiple, co-occurring negative behavioral outcomes, including substance use, violence, and sexual risk taking. This approach recognizes that such behaviors represent a “syndemic” (aggregate behavioral risk factors leading to negative health outcomes) (Singer, 2009).

The current research was conducted to evaluate development of the *Adelante* brand identity among participants to support program implementation, and to examine how components of brand equity might drive intervention outcomes. The brand identity intended to engage youth in the program, as well as embody ideals laid out by the PYD model’s constructs.

Adelante Branding

A key community engagement strategy of the program was to build awareness of and promote *Adelante*'s identity (Schwartz, Montgomery, Briones, 2006). While the main *Adelante* program was designed based on PYD theory, recognizing the importance of social ecology, an early insight during the planning phase was that a participatory, youth-led brand identity would be critical to building community and youth engagement (Evans, Blitstein, Vallone, et al., 2014). Similar to other intervention components, development of the brand identity was guided by the *Adelante* PYD theoretical model. Development of program identity, or the *Adelante* brand identity, extended to digital media including an interactive website and Facebook page, *Adelante* gear and promotional materials, mobile phone-based promotion (e.g., text messaging to engage youth), and “webnovelas,” or online video-based narrative stories depicting the lives of Latino youth from the local community (Singhal, Rogers, 1999; Andrade, Evans, Edberg, et al, 2015). These elements were the building blocks of the *Adelante* brand.

In a previous study, the research team conducted formative research with Latino immigrant youth in Langley Park to design and test concepts for the *Adelante* brand identity (Evans, Andrade, Villalba, et al, 2015). Overall, this research found that youth agreed that *Adelante* should represent being strong and resilient. They viewed *Adelante* as an active concept, *moving toward* something rather than as an *outcome*. These results were used to develop concepts for a brand personality (how to represent and create positive associations among youth with the brand), and for specific representations of *Adelante* in program activities and promotions, which are reported elsewhere (Andrade, Evans, Barrett, et al, 2018).

Health Branding Theory underlies *Adelante* intervention community engagement (Evans, Hastings, 2008; Evans, Holtz, & Snider, 2014). In recent years, branding principles from the commercial sector have been successfully applied to health behaviors (Evans, 2016). Brands frame and simplify complex choices for product consumers and individuals selecting health behavioral options such as contraceptive use (Keller, 1998). Brand equity is a mechanism that promotes behavior change. Previous studies have shown that *brand equity*, a validated multi-dimensional construct that presents audience brand associations (i.e., attitudes and beliefs about the brand and its characteristics), has been shown to mediate the effects of health messages on behaviors ranging from condom use to tobacco use and substance use (Evans, Longfield, Shekhar, et al., 2012; Evans, Price, & Blahut, 2005; Hecht, & Lee, 2008). One of the objectives of the *Adelante* intervention was to build positive *brand equity* among Langley Park Latino youth. The decision to engage in substance use, violence, or risky sexual behaviors can be mediated by brand associations created by effective health messages (Evans, & Haider, 2008), and changes to the social ecology envisioned by the *Adelante* intervention through social marketing activities (eg, reducing barriers, and therefore perceived ‘costs’ to engaging in protective behaviors). Brand equity has been observed to mediate the relationship between exposure to other community-based social marketing efforts and sexual health (Evans, Blitstein, Davis, et al, 2011) and substance use outcomes (Evans, Holtz, Snider, 2014). We developed and tested an adapted brand equity scale to measure the *Adelante* brand and its potential effects on program-related PYD outcomes.

The “call to action” of the *Adelante* brand was to be resilient, make good choices, and avoid the risk behaviors (substance use, risky sex, and violence) targeted by the program, all in a difficult social and physical community environment. Latino youth in Langley Park face significant obstacles in terms of school completion and future postsecondary education opportunities, employment, avoiding risk behaviors, over-extended parents, and uncertainty about immigration policies and potential consequences for their families (Edberg, Cleary, Andrade, et al, 2010). The brand aimed to create a call to action that youth can rise above these challenges and succeed, through engagement with the *Adelante* program.

The current paper reports on analysis of the *Adelante* brand equity scale based on data collected from an *Adelante* cohort of Latino immigrant youth living in the intervention community who were followed over an average 22-month period. The overall objective of the study was to confirm whether *Adelante* brand equity had a mediating effect on program outcomes, following Health Branding Theory. This study had three specific aims:

1. Validate the *Adelante* Brand Equity scale, based on previous work by the authors;
2. Evaluate the relationship between *Adelante* brand equity and the program’s intended PYD outcomes; and
3. Conduct a mediation analysis to identify causal pathways that may be associated with *Adelante* brand equity.

METHODS

Study Design

The cohort included 8th and 9th grade Latino youth from Langley Park, MD. The target sample size for the cohort was 300 youth, of which 238 (79%) were recruited. Youth were followed up to 22 months and completed surveys at baseline, 12 months, and at the conclusion of the 22 month period. They were also invited to participate in the *Adelante* cohort intervention, including case management, youth programming, and parent/family workshops.

Participants were recruited to the program based on their age and residence in Langley Park. The research team recruited at the local middle and high school, “Back to School” events, through partner non-profit agencies, and through referrals. Additionally, we screened youth for potential risk of negative substance use, violence, and/or sexual risk taking (the outcomes of interest in *Adelante*) and selected youth with a minimum threshold of risk for the cohort. Given that most youth who lived in the community were at elevated risk, virtually all youth screened were enrolled. Eligible youth were then invited to participate in the intervention study, and were read the informed consent and assent forms in their language of choice (English or Spanish). Parental consent was obtained prior to youth assent.

Measures

Surveys collected information about the participant’s interactions with their community, family, school, and attitudes related to social support, personal competencies and work

readiness. More specifically, survey measures included demographics (e.g., country of origin, education, family composition and status), acculturation, stress and coping, social support, violence and substance use and sexual risk attitudes, and future expectations. PYD asset measures included Confidence, Competence, Connection and Contribution across domains of family, peer, school and community.

Brand Equity Scale—The *Adelante* Brand Equity scale consisted of 18 items within four subscales measured on a 4-point Likert scale with ‘don’t know’ and ‘refused’ options. The scale items measured specific brand associations identified in formative research (Evans, Andrade, Villalba, et al, 2015). The subscales were based on the research team’s previous studies of Brand Equity (Evans, Price, Blahut, 2005):

- Brand Loyalty (e.g., would you recommend *Adelante* promoted behaviors to friends?)
- Leadership (e.g., How “in” is the *Adelante* promoted behavior?)
- Brand personality (e.g., How is the *Adelante* brand differentiated from competing behaviors (violence, gang activity?)
- Brand awareness (e.g., When you think of the *Adelante* brand, you think of what?)

Data Collection

Youth survey data collection was completed using a computer-assisted software, AUDIO-Casi. Participants used headphones to complete a confidential survey and directly entered answers on a touch-screen tablet. A data collector was nearby to assist the participants with questions related to the survey, with computer use, or the survey software. Subjects were not asked to provide identifiable information on the surveys. The study was approved by The George Washington University Institutional Review Board (IRB#111139).

Analysis

Brand Equity, program exposure, and demographic data for respondents were merged from baseline and follow-up surveys. Confirmatory factor analysis (CFA) was conducted on Brand Equity responses to create four first-order constructs and one higher-order overall Brand Equity factor. An *Adelante* brand exposure measure was created by assessing respondents’ reported participation in *Adelante* activities, from which participation in ‘any activity’ was calculated.

We estimated Ordinary Least Squares (OLS) regression models to examine potential effects of Brand Equity on PYD outcomes. After examining which Brand Equity constructs had effects on *Adelante* outcomes, we conducted mediation analysis to examine the mediating effect of these constructs on *Adelante* outcomes, given exposure to *Adelante* programs (Imai, Keele, Tingley, et al, 2010). All analyses were conducted using R 3.4.2 software. Mediation analysis was conducted using the “mediate” package in R (Tingley, Yamamoto, Hirose, et al, 2014). We only utilized complete cases for the survey questions in regression modelling.

RESULTS

The sample consisted of 238 youth followed up to 3 time points (80% had two follow-ups, 74% had three follow-ups). Note that due to missing data, the N for some variables may differ in the following results. See Table 1 for descriptive statistics.

To validate that the Brand Equity scale represented distinct factors for the four constructs, as observed in previous research, we conducted CFA. Table 2 provides these results, which confirm the four hypothesized first-order factors and one higher order Brand Equity factor, based on meeting the widely used Comrey and Lee (1992) criteria. These results are consistent with previous applications of the Brand Equity scale in public health interventions (Evans, Blitstein, Vallone, et al, 2014).

Next, we estimated regression models to examine the potential effect of program exposure on Brand Equity, and the potential effect of Brand Equity on *Adelante* PYD outcomes. Table 3 summarizes the results, which include both models for the program-Brand Equity relationships, and for the Brand Equity-outcomes. The latter are limited to the two Brand Equity factors for which we observed significant effects (Loyalty and Leadership).

Each coefficient in Table 3 represents a portion of a 1-point difference in the relevant dependent variable (right hand columns) associated with the independent variables (far left column). Program exposure was associated with higher levels of the Brand Equity leadership construct. For the Loyalty and Leadership construct models and the relationship of Brand Equity to PYD outcomes, we observed several significant and marginally significant effects.

First, we observed a marginal reduction in pro-violence ($-0.179, p < .1$) and anti-substance use attitudes ($0.104, p < .1$) associated with brand Loyalty, outside of a conventional definition of statistical significance. Being female was strongly correlated with anti-substance use attitudes ($-0.247, p < .01$), and age (being older) was associated with *lower* (more negative) anti-violence and more positive sexual risk avoidance beliefs. We also observed an effect for being born outside the US on lower pro-violence ($-0.825^{***}, p < .01$) and greater (more positive) anti-violence attitudes ($.685, p < .01$).

Second, in the Leadership construct model, we observed a marginal effect of the brand factor on reducing pro-violence attitudes ($-0.178, p < .1$) and a robust effect on improving anti-violence attitudes ($0.225, p < .01$). We observed similar effects for age, gender, and being born outside the US on PYD outcomes.

Finally, we conducted mediation analyses for the two Brand Equity constructs for which we observed significant effects in the regression models, Leadership and Loyalty. Based on the significant effect of the Leadership construct, and marginal effect of Loyalty construct, in the multivariate regression models, we decided to examine whether these were mediators in the pathway between *Adelante* participation and PYD outcomes. Figure 4 depicts the mediating effects of the Loyalty and Leadership constructs on each of the PYD outcomes. We observed a statistically significant, mediating effect of the Leadership construct on anti-violence attitudes and noted an average causal mediation effect (ACME) for Higher Leadership Brand Equity (abbreviated as BE in the figure) of 0.0447 ($p = 0.066$). In comparison to the Total

Effect of 0.1335, we can infer that 33.5% of the effect of participation on the score was mediated by the Leadership construct.

DISCUSSION

Adelante represents an innovation in building community and participant engagement in health programs. It is a strategic effort to brand a community-based prevention and health promotion program for Latino adolescents and to build community engagement with the program. The overall objective of the program was to engage community stakeholders and youth by creating a positive brand identity.

With respect to the specific aims of this study, we successfully validated the *Adelante* Brand Equity scale. Scale alphas were high for all four first-order constructs (all above .9, except for Loyalty), and for the higher-order factor. This is consistent with previous studies on the Brand Equity scale in fields such as tobacco use, nutrition, physical activity, reproductive health, and sexual health (Evans, Blitstein, Vallone, et al, 2014). It also extends evidence for the internal validity of the Brand Equity construct to a new population (Latino immigrant youth), and subject matter (violence and related beliefs).

We observed evidence that some Brand Equity factors, namely Loyalty and Leadership, are associated with improved PYD outcomes. The primary effects observed were reduced pro-violence and improved anti-violence beliefs, which extends the evidence base on the effectiveness of Brand Equity as a predictor of precursors to behavior change to a new subject matter area. Additionally, we observed significant effects for girls, older youth, and youth born outside the US in these models. It may be that Brand Equity affects different demographics of youth differently, thus suggesting the need to target the *Adelante* (and future brands for this population) based on demographic segments.

We also observed some mediating effects, as noted in the results. The main result was the mediating effect of Leadership on anti-violence beliefs, which was significant and accounted for more than 1/3 of the total effect of *Adelante* participation on that outcome. Overall, it should be noted that while this mediating effect is significant and accounts for a large portion of the variance in the anti-violence beliefs outcome in that model, overall mediation results did not extend to the other constructs or outcomes. One likely explanation of this result is the relatively small sample size and some cases of missing data in the Brand Equity constructs (noted earlier and in limitations below). However these results do confirm a small but significant mediation effect of Brand Equity, again consistent with the earlier regression models on violence-related beliefs.

Several overarching lessons learned emerged from this study that may be useful in future social marketing efforts. First, Latino immigrant youth from low-income communities can live in a challenging environment in which to grow up, finish school, and succeed. Branding *Adelante* can help Latino and immigrant adolescents 1) engage with a source of social support to help them gain life skills and overcome obstacles, and 2) identify positive alternative healthy behaviors such as staying in school, and avoiding substance use, sexual risk taking, and gang involvement or other sources of violence. In this sense, *Adelante* takes

an overt marketing approach – the brand represents choosing the healthy behaviors of avoiding substance use, practicing safe sex, and avoiding violence over the unhealthy alternatives. The brand is explicitly *in competition* with those unhealthy behaviors. Having youth co-create the brand with social marketers can lead to an authentic, targeted, community-based brand identity that reflects the challenges and contexts unique to this population. This approach also represents a way to identify and promote positive behavioral choices and program values in a way that considers the high-risk community context and social-ecological nature of health and health-related behaviors.

Finally, this study has some important limitations. First, the study relied on a relatively small sample of youth. Because of the small sample, some potential (and more powerful) analytical techniques such as Structural Equation Modeling (SEM) were not feasible. In addition, the magnitude of the effects that were identified in the mediation analysis were fairly small, and thus a small sample size may have lessened our ability to detect some mediated effects. Evaluation of the *Adelante* brand in a large sample over an extended period of time would add to the growing literature on branding as an effective behavior change strategy (Rescue Social Change Group, 2015; Evans, Rath, Vallone, et al, 2017).

Second, we worked with youth who had some level of ongoing engagement with the *Adelante* in-person program activities (the existing program for which we were developing a brand). Gaining the perspectives of un-engaged youth in the community who might also benefit from *Adelante* would increase its potential reach to new segments of youth. Additionally, digital tools may be valuable techniques for disseminating the brand, and should be part of future *Adelante* intervention efforts. Developing a digital campaign based on the brand would provide further insight for social marketers seeking to replicate the *Adelante* community engagement strategy.

CONCLUSION

The *Adelante* program effectively applied health branding principles to build a clear identity in the community and engage youth. *Adelante* Brand Equity mediates effects of program exposure on PYD outcomes, confirming previous health branding research. Future efforts should focus on optimizing engagement in and delivery of the brand to maximize benefits for Latino immigrant youth at scale.

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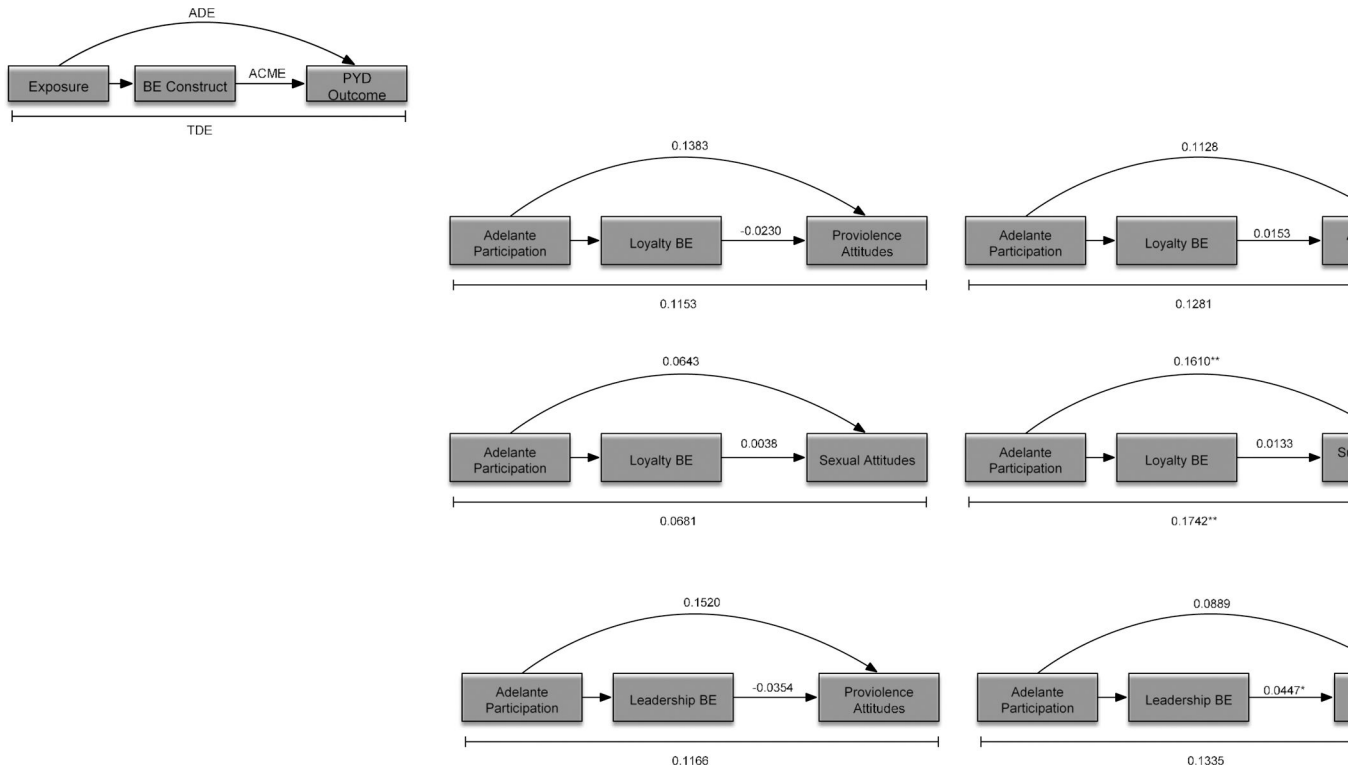


Figure 1.
Mediation Models (Legend first, then models)

Table 1.

Sample Demographics

(n=118)	Mean	SD
Age	15.1	1.3
	N	%
Gender (% Male)	67	56.8%
US-Born	42	35.6%
Education Level		
Not in School	6	5.1%
Middle School	53	44.9%
High School	56	47.5%
Technical School	1	0.8%
Participated in Any Adelante Program	25	21.2%
Outcomes	Mean	SD
Pro-Violence Attitudes	2.62	0.74
Anti-Violence Attitudes	3.61	0.72
Sexual Attitudes	2.59	0.64
Substance Attitudes	1.50	0.53

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Table 2.

Confirmatory Factor Analysis Results

BE Constructs (1–5)	Baseline		Followup		Factor Loading	Alpha (intra-construct reliability)
	Mean	SD	Mean	SD		
Loyalty	3.33	0.57	3.38	0.82	0.72	
I would like to help spread the word about Adelante.	3.29	0.64	3.42	0.92	0.84	0.72
I would wear an Adelante T-shirt.	3.27	0.62	3.37	0.90	0.95	
If I had the chance, I would recommend Adelante to my friends.	3.33	0.64	3.33	0.82	0.93	
Leadership	3.35	0.61	3.40	0.75	0.95	
Adelante staff are there when you need them.	3.26	0.63	3.37	0.88	0.85	0.97
I pay attention when I see anything related to Adelante in my community.	3.20	0.73	3.37	0.83	0.87	
Adelante is the best program for youth like me.	3.32	0.66	3.40	0.81	0.94	
Adelante is becoming more popular with youth like me.	3.27	0.66	3.49	0.92	0.90	
Adelante is meant for youth like me.	3.31	0.65	3.42	0.81	0.93	
I get a lot out of being in Adelante.	3.34	0.67	3.36	0.85	0.85	
Being in Adelante is really worth it.	3.27	0.58	3.36	0.80	0.84	
Personality	3.33	0.57	3.47	0.73	0.90	
Youth in Adelante are strong.	3.33	0.59	3.41	0.86	0.85	0.93
Youth in Adelante are confident.	3.24	0.55	3.43	0.88	0.94	
Youth in Adelante take control of their lives.	3.16	0.67	3.56	0.94	0.79	
Youth in Adelante are successful.	3.33	0.56	3.53	0.84	0.85	
The Adelante program is always honest.	3.33	0.61	3.42	0.74	0.79	
Awareness	3.18	0.64	3.32	0.73	0.80	
I can recognize Adelante when I see the programs in my community.	3.26	0.66	3.35	0.84	0.61	0.91
When I think of Adelante, I think to myself, it is dumb to do drugs.	2.89	0.97	3.31	0.93	0.73	
When I think of Adelante, I think to myself I should learn skills to get a good job.	3.27	0.71	3.33	0.79	0.81	
When I think of Adelante, I think to myself, I should stay in school.	3.27	0.71	3.28	0.82	0.83	
When I think of Adelante, I think to myself it is dumb to be involved in violence.	2.94	0.92	3.16	0.92	0.80	
When I think of Adelante, I think to myself it is dumb to have unprotected sex.	2.92	0.96	3.35	0.93	0.80	
When I think of Adelante, I think to myself I have a place to go when I need help.	3.33	0.63	3.36	0.85	0.83	
Overall BE	3.29	0.55	3.33	0.64		0.96

Table 3.

OLS Regression Models (BE = Brand Equity)

Exposure and BE Factors	<i>Dependent variable:</i>				
	BE Factor	loyalty	leadership	personality	awareness
	-1	-2	-3	-4	-5
Any Program Exposure	0.151	0.135	0.213*	0.186	0.15
(no=ref)	(-0.089, 0.390)	(-0.077, 0.347)	(-0.016, 0.441)	(-0.040, 0.411)	(-0.096, 0.395)
Age	-0.006	-0.018	-0.014	-0.054	0.002
(Continuous)	(-0.115, 0.103)	(-0.114, 0.077)	(-0.118, 0.090)	(-0.156, 0.049)	(-0.110, 0.115)
Gender	0.015	0.02	0.06	0.011	0.002
(Male=ref)	(-0.217, 0.247)	(-0.188, 0.227)	(-0.166, 0.287)	(-0.211, 0.232)	(-0.228, 0.233)
Not US Born	-0.079	0.026	-0.132	-0.116	-0.168
(US Born = ref)	(-0.359, 0.201)	(-0.223, 0.275)	(-0.396, 0.131)	(-0.378, 0.147)	(-0.447, 0.111)
Observations	112	149	140	134	126
R ²	0.015	0.013	0.031	0.036	0.019
Adjusted R ²	-0.021	-0.015	0.002	0.006	-0.013
Residual Std. Error	0.608 (df = 107)	0.618 (df = 144)	0.652 (df = 135)	0.626 (df = 129)	0.640 (df = 121)
F Statistic	0.417 (df = 4; 107)	0.470 (df = 4; 144)	1.080 (df = 4; 135)	1.212 (df = 4; 129)	0.598 (df = 4; 121)
Outcome Models - Loyalty					
	<i>Dependent variable:</i>				
	Pro-violence Attitudes	Anti-violence Attitudes	Sexual Attitudes	Substance Attitudes	
	-1	-2	-3	-4	
Loyalty	-0.179*	0.12	0.037	0.104*	
(1 point change)	(-0.366, 0.007)	(-0.035, 0.274)	(-0.123, 0.198)	(-0.015, 0.223)	
Age	0.075	-0.114**	0.194***	-0.008	
(Continuous)	(-0.033, 0.183)	(-0.204, -0.024)	(0.100, 0.287)	(-0.077, 0.061)	
Gender	-0.121	0.229**	-0.042	-0.247***	
(Male=ref)	(-0.357, 0.115)	(0.033, 0.425)	(-0.246, 0.162)	(-0.398, -0.096)	
Not US Born	-0.825***	0.685***	0.062	0.00002	
(US Born = ref)	(-1.109, -0.541)	(0.449, 0.921)	(-0.183, 0.308)	(-0.181, 0.181)	
Any Program Exposure	0.138	0.113	0.117	0.161**	
(no=ref)	(-0.102, 0.378)	(-0.086, 0.312)	(-0.092, 0.327)	(0.008, 0.314)	
Observations	153	153	149	153	

	<i>Dependent variable:</i>				
Exposure and BE Factors	BE Factor	loyalty	leadership	personality	awareness
	-1	-2	-3	-4	-5
R ²	0.208	0.226	0.164	0.127	
Adjusted R ²	0.181	0.2	0.134	0.097	
Residual Std. Error	0.715 (df = 147)	0.594 (df = 147)	0.608 (df = 143)	0.456 (df = 147)	
F Statistic	7.735 *** (df = 5; 147)	8.584 *** (df = 5; 147)	5.595 *** (df = 5; 143)	4.265 *** (df = 5; 147)	
Outcome Models - Leadership					
	<i>Dependent variable:</i>				
	Pro-violence Attitudes	Anti-violence Attitudes	Sexual Attitudes	Substance Attitudes	
	-1	-2	-3	-4	
Leadership BE Factor	-0.178 *	0.225 ***	0.114	0.031	
(1 point change)	(-0.359, 0.002)	(0.074, 0.376)	(-0.043, 0.272)	(-0.085, 0.147)	
Age	0.091	-0.121 **	0.195 ***	-0.027	
(Continuous)	(-0.018, 0.201)	(-0.212, -0.029)	(0.098, 0.292)	(-0.097, 0.043)	
Gender	-0.088	0.211 **	-0.041	-0.225 ***	
(Male=ref)	(-0.329, 0.153)	(0.010, 0.412)	(-0.253, 0.170)	(-0.380, -0.070)	
Not US Born	-0.817 ***	0.686 ***	0.138	0.002	
(US Born = ref)	(-1.098, -0.536)	(0.452, 0.920)	(-0.109, 0.385)	(-0.178, 0.183)	
Any Program Exposure	0.152	0.089	0.095	0.140 *	
(no=ref)	(-0.092, 0.396)	(-0.114, 0.292)	(-0.121, 0.311)	(-0.017, 0.297)	
Observations	143	143	140	142	
R ²	0.205	0.254	0.179	0.092	
Adjusted R ²	0.176	0.227	0.149	0.058	
Residual Std. Error	0.704 (df = 137)	0.586 (df = 137)	0.609 (df = 134)	0.451 (df = 136)	
F Statistic	7.068 *** (df = 5; 137)	9.341 *** (df = 5; 137)	5.851 *** (df = 5; 134)	2.750 ** (df = 5; 136)	
Observations	150	150	146	150	
R ²	0.268	0.253	0.136	0.149	
Adjusted R ²	0.237	0.222	0.098	0.114	
Residual Std. Error	0.697 (df = 143)	0.591 (df = 143)	0.601 (df = 139)	0.449 (df = 143)	
F Statistic	8.713 *** (df = 6; 143)	8.081 *** (df = 6; 143)	3.636 *** (df = 6; 139)	4.185 *** (df = 6; 143)	

Note:

* p<0.1

** p<0.05

p<0.01

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