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The revealing effect of power: Popularity moderates the associations of personal values with aggression in adolescence

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Abstract

Objective: Values have been found to predict aggressive behavior in adolescents. Adolescents who endorse self-enhancement values typically exhibit more aggressive behaviors, while adolescents who endorse self-transcendent values are less likely to behave aggressively. The associations between values and aggression are low to moderate, suggesting that other factors might moderate them. The study examined whether these associations were moderated by adolescent popularity, an indication of social power.

Method: The study included 906 adolescents from three cultures: Brazilians ($N = 244$), Jewish citizens of Israel ($N = 250$), and Arabic citizens of Israel ($N = 409$). Personal values were assessed using the Portrait Values Questionnaire (PVQ). Peer nominations were used to assess direct aggression and popularity.

Results: Popularity moderated the associations between values and aggression: while the aggressive behavior of popular adolescents was highly associated with their personal values, the behavior of unpopular adolescents was unrelated to their values. This effect consistently emerged across samples, with specific variations for gender and culture.

Conclusion: Popularity enables adolescents to act according to their personal values: aggressive behaviors increase or decrease according to personal value priorities. The strength of this effect depends on cultural expectations and gender roles.

KEYWORDS

adolescence, aggression, popularity, social power, values

1 | INTRODUCTION

Adolescent aggression has disastrous psychological and social effects, including internalizing and externalizing symptoms (Parker et al., 2006), loneliness (Schinka et al., 2013), and even suicidal behavior (Gvion & Apter, 2011), making it crucial to identify the factors contributing to its development, escalation, and prevention. A key question is what are the basic motivations of aggressive youth? One motivational factor is values, broad, trans-situational goals that guide people in selecting, evaluating, and conducting action across situations and over time (Knafo et al., 2011; Rohan, 2000; Rokeach, 1973; Schwartz, 1992). Empirical studies have shown personal values relate to aggressive behavior in adolescence (e.g., Benish-Weisman & McDonald, 2015; Knafo, 2003; Knafo et al., 2008; Menesini et al., 2013), but the associations are low to moderate, suggesting that other factors may moderate them.

This study contributes to the understanding of the motivational basis of adolescent aggression by investigating popular adolescents, as popularity is a particularly salient form of social power during adolescence. Based on recent

developments in the study of social power, we hypothesized popular adolescents will be able to enhance or decrease their aggressive behaviors according to their personal value priorities. In contrast, unpopular adolescents will act according to external expectations rather than their own personal values. Consequently, personal value priorities will be more strongly associated with aggressive behavior among popular than unpopular adolescents. Since individual-level power hierarchies are nested in cultural expectations and gender roles, we investigated our hypotheses among adolescents in three cultural groups: Israeli Arabs, Israeli Jews, and Brazilians.

1.1 | Values and aggression among adolescents

Values are often defined as guiding principles in people's lives (Schwartz, 1992), including during adolescence (Knafo et al., 2008). To conceptualize and investigate the impact of values on aggression, we used Schwartz's theory of personal values. It is considered the central theory of personal values (for reviews, see Hitlin & Piliavin, 2004; Rohan, 2000), being the most influential theory in psychology in general and in cross-cultural psychology in particular (Knafo et al., 2011). Schwartz (1992) proposes ten value types, organized in a circular structure in which adjacent values share similar motivations, while values located opposite to each other may be contradictory. Values are ordered by subjective importance and thus form a hierarchy of value priorities. The more important a value, the more it is likely to affect the way people perceive and interpret the world, as well as their preferences, choices, emotions, and action (Feather, 1995). Research in over 70 cultural groups has validated the motivationally distinct content of these values and their relations of conflict and compatibility (Schwartz & Boehnke, 2004; Schwartz & Rubel, 2005).

Personal values are a central aspect of the self, related to, yet distinct from, other aspects, such as traits, motives, and social goals (Arieli et al., 2020; Miles, 2015; Roccas & Sagiv, 2010). Although both values and traits are broad and trans-situational, values seem more desirable: people view their values as closer to their ideal self and are less interested in changing them (Roccas et al., 2014); for meta-analyses, see Fischer & Boer, 2015; Parks-Leduc et al., 2015). Motives are also trans-situational, but some motives are undesirable (e.g., hate, envy) or unconscious (e.g., McClelland, 1985). Values are both desirable and cognitively accessible, and people can reflect on them and communicate about them (Schwartz, 1992). Finally, values are more broadly defined than social goals (Benish-Weisman & McDonald, 2015). Some theories of adolescent aggressive behavior focus on social goals, such as agency or communion (Salmivalli et al., 2005). The former goal reflects authority and confidence, while the latter reflects closeness and affiliation. Although values and social goals are both related to long-term goals guiding action, values are not necessarily socially specific (Roccas & Sagiv, 2010). For example, high order self-transcendence values reflect not only benevolence in concrete relationships (e.g., help-giving, loyalty) but also the abstract universalistic concern for society and nature (e.g., equality, social justice, environmentalism).

Ample research has demonstrated the relations between values and behaviors (Roccas & Sagiv, 2017), and recent studies have examined the relations between values and aggression (for a review, see Benish-Weisman, 2019). These studies suggest the importance adolescents attribute to high-order values of self-enhancement and self-transcendence is associated with their aggressive behavior. Self-enhancement values express the motivation to gain dominance and control over people and resources (power); they also express the motivation for competence and personal success (achievement). The importance of power values increases in adolescence, possibly as a result of self-differentiation, autonomy, and competence seeking (Daniel & Benish-Weisman, 2019). Self-enhancement values, particularly power, have been positively related to self-reported violent behavior (Knafo, 2003; Knafo et al., 2008), traditional bullying and cyberbullying (Menesini et al., 2013), and peer-nominated aggression (Benish-Weisman, 2015) and negatively related to the expression of empathy with others (Myyry & Helkama, 2001). Similarly, agentic goals, aimed at achieving power, status, or influence in relationships (Locke, 2015), have been positively associated with aggression and bullying (Caravita et al., 2011; Ojanen et al., 2005; Salmivalli et al., 2005).

Self-transcendence values are motivationally opposed to self-enhancement values, as they express concern and care for others (benevolence) and a desire to promote peace, tolerance, and care for the environment (universalism). Self-transcendence values, particularly universalism, have been negatively related to individuals' social dominance orientation, militarism, and authoritarianism (Altemeyer, 1998; Cohrs et al., 2005) and to reduced self-reported bullying behavior among adolescents(Knafo, 2003) and less peer-nominated aggression (Benish-Weisman, 2015).

Although past studies have indicated the associations between values and aggression are in the direction expected by the Schwartz value theory, there are individual differences in the enactment of values in particular forms of behavior. We examined whether the associations between values and aggression are moderated by adolescent popularity, which reflects their social power.

1.2 | Psychological experience of social power

Considerable research has investigated the cognitive, interpersonal, emotional, and behavioral effects of social power

(for reviews, see Guinote, 2017; Keltner et al., 2003; Magee & Smith, 2013), defined as asymmetric control over valued resources in social relations. In a cognitive sense, power increases attention to the self and decreases attention to others (e.g., De Dreu & Van Kleef, 2004; Fiske, 1993; Goodwin et al., 2000; Keltner & Robinson, 1997; Rodríguez-Bailón et al., 2000). In the area of interpersonal relations, power increases social distance (Magee & Smith, 2013), stereotyping (Fiske, 1993; Guinote & Phillips, 2010; Weick & Guinote, 2008), and objectification (Gruenfeld et al., 2008). In the emotional arena, power decreases empathy and compassion for others' suffering (Van Kleef et al., 2008) and increases overconfidence (Sivanathan & Galinsky, 2007). Behaviorally, power increases rule-breaking, inappropriate actions (Van Kleef et al., 2011), and unethical and antisocial behaviors (Piff et al., 2012).

Keltner et al. (2003) reasoned that because powerful individuals act in a more resource-rich environment, they experience fewer mental and behavioral constraints. In contrast, powerless individuals experience more social constraints, feel more dependent on others, and inhibit their behaviors. Thus, the powerful are more likely to express their values and goals in their actual behaviors (Bargh et al., 1995; Chen et al., 2001; Magee & Galinsky, 2008). Guinote (2017) further proposed that power enhances self-expression by improving the direction of attention and effort toward salient goals, including individual values. This "revealing effect" of power has been supported in various empirical studies showing that power enhances associations between personal goals, values, and behaviors (Anderson & Berdahl, 2002; Côté et al., 2011; Overbeck & Park, 2006; Schmid Mast et al., 2009). In one study, power increased generosity among individuals with a communal relationship orientation but decreased it among individuals with an exchange relationship orientation (Chen et al., 2001).

If the revealing effect of power holds, adolescents high in the social hierarchy should be better able to express their values in their actual behavior. We focused on a specific form of social power that is important during adolescence: popularity. We argued that the association between personal value priorities and aggressive behavior should be stronger among popular than unpopular adolescents, as the former have more social power.

1.3 | Social power and aggression among adolescents

Social power in adolescence is often conceptualized as perceived popularity, referring to the influence and visibility of adolescents (Cillessen & Marks, 2011). Though direct aggression is likely to reduce an adolescent's likability (e.g., LaFontana & Cillessen, 2002; Salmivalli et al., 2000), aggression and bullying are positively associated with popularity (de Bruyn et al., 2010; Caravita et al., 2009, 2010; Cillessen & Mayeux, 2004; LaFontana & Cillessen, 1999; Prinstein & Cillessen, 2003). Adolescents rated as popular by their peers are more likely to behave aggressively toward others without suffering a social penalty (LaFontana & Cillessen, 2002).

Although popularity is positively associated with aggression, some studies suggest not all popular adolescents act aggressively. Several studies have found popular and likable adolescents (as opposed to popular and unlikeable adolescents) are less likely to engage in aggressive behaviors and attain their social power through various other means (Cillessen et al., 2014; Hawley & Vaughn, 2003; Lease et al., 2002; Sijtsema et al., 2009). Other studies suggest prioritizing popularity moderates the association of popularity with aggressive behaviors. For example, Cillessen et al. (2014) found adolescents (particularly boys) who prioritized popularity were particularly aggressive. Another study found prioritizing popularity moderated the association between popularity and relational aggression among girls (Shoulberg et al., 2011). Finally, some studies have found the association between popularity and overt aggression is stronger among adolescents who endorse agentic goals and among those with a low endorsement of communal goals (e.g., Kraft & Mayeux, 2018). However, one study found the endorsement of intimacy goals was related to higher overt aggression among "cool" sixth graders (Kiefer & Wang, 2016). The current study aims to contribute to the existing literature in two main ways. First, we investigate the moderating effect of popularity in the associations between values and aggression for the first time. By investigating values, we focus on broad, guiding principles that are relatively stable across situations and over time. Second, by taking a cross-cultural perspective, we aim to empirically examine the interplay between two levels of social power. Popularity reflects social hierarchies within the classroom, while cultural expectations and gender roles reflect power relations at the societal level. We reason that both levels of social power will impact the associations between values and aggression in adolescence.

1.4 | Adolescent aggression: Cultural expectations and gender roles

Studies of adolescent aggression point to the influence of factors beyond intrapersonal goals and values, such as societal power relations, especially normative expectations, and gender roles. Boys typically exhibit more direct or overt physical aggression than girls (Benish-Weisman & McDonald, 2015; Cillessen & Mayeux, 2004; Hawley et al., 2008; Rose et al., 2004). Direct aggression seems to be less normative for girls (Archer & Coyne, 2005) who pay a higher social price for acting in

non-normative ways. However, there is no significant gender difference in indirect aggression (Card et al., 2008; Hawley et al., 2008; Vaillancourt & Hymel, 2006).

These gender differences are likely to be particularly strong in cultures with traditional gender roles, whereby males are expected to be in a dominant social position accompanied by privilege and power. In such settings, male violence serves as a legitimate expression of social dominance and a means of maintaining it. In contrast, female aggressive behaviors are typically considered illegitimate (e.g., Archer & Coyne, 2005; Dobash & Dobash, 1979). Traditional gender role attitudes are often encoded and retrieved as gender-typed social scripts, legitimizing power, and aggressive behavior for boys but delegitimizing them for girls (Byers, 1996; Eaton & Rose, 2011). Consequently, in cultures with traditional gender roles, the moderating effect of popularity on the association between values and aggressive behaviors is likely to be stronger for boys than girls.

Finally, cultural values of egalitarianism versus hierarchy may affect the associations between aggression and popularity. In hierarchical cultures, individuals are socialized to take the hierarchical distribution of roles for granted and show deference to superiors, whereas in egalitarian cultures, individuals are socialized to cooperate with others, feel concerned for their welfare, and act for their benefit as a matter of choice (Schwartz, 2013). Therefore, it may be more legitimate in hierarchical cultures to use aggression to attain and preserve social power positions than in egalitarian cultures, and since popularity is an expression of social power, the association between aggression and popularity may be stronger in hierarchical cultures.

We investigated the moderating effect of popularity on the values-aggression association in three cultural groups: Israeli Arabs, Israeli Jews, and Brazilians. This unique combination of cultural groups allowed us to empirically investigate the moderating effect of popularity, while also considering the potential effects of culture and gender. Past research suggests Israeli culture is more hierarchical, while Brazilian culture is more egalitarian (Schwartz, 2013). Consequently, the association between aggression and popularity may be stronger among Israelis than among Brazilians. In addition, Israeli Arabs hold more traditional gender role attitudes than Israeli Jews or Brazilians (Buda & Elsayed-Elkhouly, 1998; Khoury-Kassabri, 2006; Khoury-Kassabri et al., 2004, 2009; Knafo et al., 2008). Therefore, gender differences may be stronger in the Israeli-Arab sample than in the Brazilian and Israeli Jewish samples.

1.5 | The present research

We investigated the moderating effect of popularity on the association between personal value priorities and aggressive behavior among adolescents from three cultural groups. Based on the preceding discussion, we hypothesized that:

Hypothesis 1 *Endorsement of self-enhancement values will be positively associated with aggressive behavior.*

Hypothesis 2 *Positive associations between self-enhancement values and aggression will be stronger among popular than unpopular adolescents.*

Hypothesis 3 *Endorsement of self-transcendence values will be negatively associated with aggressive behavior.*

Hypothesis 4 *Negative associations between self-transcendence values and aggression will be stronger among popular than unpopular adolescents.*

Hypothesis 5 *Gender will have a moderating effect in traditional cultures, so that the moderating effect of popularity on the association between value priorities and aggression will be stronger among boys than girls.*

2 | METHOD

2.1 | Participants

The study included 906 adolescents from three cultures: one group of Brazilian adolescents ($n = 244$; $M_{age} = 13.88$, $SD = 0.51$; 54.1% females) and two ethnic groups from Israel: Jewish adolescents ($n = 250$; $M_{age} = 13.88$, $SD = 0.51$; 47.8% females) and Arabic citizens of Israel ($n = 409$, $M_{age} = 13.7$, SD=0.5, 56.2% females). The Brazilian participants were from six classes in the 8th grade (27%) and 9th grade (73%) of two public schools of Brasilia. The Arab-Israeli participants were from 14 classes in the 8th grade of two public schools in the northern area of Israel. The Jewish-Israeli participants were from 11 classes in the 8th grade of two public schools in the northern area of Israel.

2.2 | Procedure

In Brazil, after the Municipal Educational Board authorized the study, informed consent forms were sent to all parents in both schools. Students whose parents agreed to their participation completed the survey during class hours. Surveys were administered in groups of 20 to 30 students by a member of the Brazilian research team and lasted on average 50 min. In Israel, consent forms were sent home to all 8th grade parents. Students whose parents consented to their participation (over 95%) completed surveys in school under the supervision of a research team member during one group-administered data collection session that lasted 45 min. Participation was voluntary, and all students were assured their responses would remain anonymous. For their participation in Israel, students

received small incentives (novelty pens or pencils). Brazilian students did not receive an incentive to participate.

2.3 | Measures

2.3.1 | Values

Students' values were assessed using the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001). The PVQ has been shown to be suitable for use with adolescents (Benish-Weisman & McDonald, 2015; Knafo et al., 2008). It includes short verbal portraits of 40 people (matched to the respondent's gender) describing the person's goals, aspirations, or wishes, implicitly indicating the importance of a single broad value. For each portrait, participants are asked to rate, on a 6-point Likert-like scale (1 = not like me at all to 6 = very much like me), how much they are similar to the person described. Thus, respondents' own values are inferred from their self-reported similarity to people who are described in terms of particular values.

The relevant items were aggregated into two value groups (Schwartz, 1994). Self-enhancement values were composed of the seven items which highlight the goal of individualistic dominance and self-success. A sample item was: "It is important to her to be in charge and tell others what to do. She wants people to do what she says" ($\alpha_{\text{Brazilians}} = .79$, $\alpha_{\text{Jewish}} = .77$, $\alpha_{\text{Arabs}} = .64$). Self-transcendence values were composed of the 10 items which emphasize concern for other people's welfare and rights; a sample item was: "It's very important to her to help the people around her. She wants to care for their well-being" ($\alpha_{\text{Brazilians}} = .78$, $\alpha_{\text{Jewish}} = .80$, $\alpha_{\text{Arabs}} = .75$). These reliabilities are typically found in studies of values because each value measure covers a conceptually broad construct. Nonetheless, predicted relations of the value scores with such variables as political orientation, attitudes toward immigration, and social involvement support their validity (Schwartz, 2013).

We used the SPSS PROXSCAL program to test the structure of values to determine whether the Schwartz (1992) value model could be applied to the three cultural groups (Bilsky et al., 2011). The analysis indicated that the theoretical model characterized the data very well for all cultural groups (see Appendix A).

2.3.2 | Aggression

We used peer nominations (Cillessen, 2009; McDonald et al., 2015) to assess aggression. We gave children a roster listing the names of their classmates and asked them to circle the names of classmates who fit each criterion. We used the class as a social unit because both Brazilian and Israeli students belong to one "home class," and most group activities involve the whole class (e.g., field trips). Unlike other countries (e.g., the United States), where high school students study different subjects in different classes, in both Israel and Brazil, students make only a few shifts to other classes for specific subjects. Three items assessed direct aggression ("starts fights," "says mean things," "hits and pushes"). Only the names of classmates who had permission to participate in the study were listed on this measure. We then computed a child's score for each behavior item as the proportion of nominations for that item the child received divided by the total number of classmates who could have nominated that child for that item. The final scores for each item were standardized within the class and averaged to create one score for aggression ($\alpha_{\text{Brazilians}} = .86$, $\alpha_{\text{Jewish}} = .79$, $\alpha_{\text{Arabs}} = .90$).

2.3.3 | Perceived popularity

Embedded in the set of peer nominations used to assess behavior was a nomination of peers whom participants perceived to be "popular." Similar to the procedure for peer nominations, participants' scores for this item were computed as the number of nominations a child received for that item divided by the total number of classmates who could have nominated that child for that item. The proportion score was standardized for all participating students within a class and within each school. Standardization is considered an important feature of sociometric data (Cillessen & Borch, 2006). It is necessary to control for group-level differences such as classroom or grade size that will otherwise influence the scores.

2.3.4 | Control variables

Participants reported age, ethnicity, and gender.

3 | RESULTS

Descriptive statistics and zero-order correlations of gender, age, values, popularity, and aggression are presented in Table 1. As hypothesized, aggression was positively associated with self-enhancement values (Hypothesis 1) and negatively associated with self-transcendence values (Hypothesis 3). There were strong associations between aggression and gender ($r = -.32$, $p < .01$; i.e., boys were more aggressive than girls) and between aggression and popularity ($r = .19$, $p < .01$).

To test the hypothesis that popularity and gender moderate the relationship between values and aggression across cultural groups, we conducted hierarchical regression

TABLE 1 Descriptive statistics and correlations for the study's variables

Variable	Mean	*SD*	Gender	Age	ST	SE	Popularity
Gender							
Age	13.94	.58	−.05				
self-transcendence values	4.26	.45	.10**	.09*			
Self-enhancement values	3.51	.74	−.16	.04	−.51**		
Popularity	.03	1	.07*	.04	−.14**	.05	
Aggression	.01	.81	−.32**	.09*	−.16**	.17**	.19**

Note: Gender, Boys = 0, Girls = 1.

SD, standard deviation; SE, self-enhancement values; ST, self-transcendence values.

*$p < .05$; **$p < .01$.

analyses. Multilevel analysis was not conducted because we had a small sample size at level two which leads to biased parameter estimation (Maas & Hox, 2005). The two values were tested in separate hierarchical regression analyses (one for self-transcendence, the other for self-enhancement) to avoid multicollinearity due to the strong negative relations between opposing values (Schwartz, 1992, 2010). In step one, our predictors were gender (boys = 0, girls = 1), age, value, popularity (z-scored), and two dummy variables representing culture: culture1 (Israeli Jews = 1, Israeli Arabs and Brazilians = 0) and culture2 (Israeli Arabs = 1, Israeli Jews and Brazilians = 0).

In step two, we tested two-way interactions (value × popularity, value × gender, gender × popularity, culture × popularity, culture × gender, culture × value). In step three, we tested three-way interactions (values × popularity × gender, values × culture × gender, culture × popularity × gender). In step four, we tested a four-way interaction (values × popularity × gender × culture). To examine the moderating role of popularity, we probed these interactions using the Process program (Hayes, 2017) to test the significance of the slopes reflecting the relationship between values and direct aggression for three popularity levels (unpopular, middle, popular: the 18th, 50th, and 84th percentiles, respectively).

3.1 | Self-enhancement values

As hypothesized (Hypothesis 1), Self-enhancement values were positively associated with direct aggression ($B = .11$, $p < .01$, see Table 2). Popularity moderated the associations between self-enhancement values and direct aggression ($B = .20$, $p < .01$, see Table 2). As hypothesized (Hypothesis 2), there was a significant and positive association between self-enhancement values and direct aggression for popular adolescents ($B = .23$, $p < .01$), with no effect found for unpopular ($B = .01$, $p = .76$) or mid-range adolescents ($B = .07$, $p = .06$; see Figure 1). There was a significant four-way interaction between self-enhancement values, popularity, gender, culture, and aggression ($B = .58$, $p < .05$, see Table 2). We probed this interaction by conducting a separate regression analysis for each cultural group (see Appendix B). As hypothesized (Hypothesis 5) the moderating effect of popularity on the association between value and aggression was stronger among boys than girls in the traditional culture. For Israeli-Arab adolescents, we found a three-way interaction between self-enhancement values, popularity, and gender ($B = -.44$, $p < .01$). Probing this interaction revealed a significant and positive association between self-enhancement values and direct aggression for popular boys ($B = .83$, $p < .001$) and boys in the mid-range ($B = .37$, $p = .01$). The moderating effect did not emerge for unpopular boys ($B = .14$, $p = .44$) or for girls ($B = -.04$, $p = .65$). The three-way interaction between self-enhancement values, popularity, and gender was insignificant in the Israeli-Jewish sample ($B = -.07$, $p = .62$) and in the Brazilian sample ($B = .02$, $p = .85$).

3.2 | Self-transcendence values

As hypothesized (Hypothesis 2), Self-transcendence values were negatively associated with direct aggression ($B = -.18$, $p < .01$, see Table 3). Popularity moderated the associations between self-transcendence values and direct aggression ($B = -.20$, $p < .01$, see Table 3). As hypothesized (Hypothesis 4), there was a significant negative association between self-transcendence values and direct aggression for popular adolescents ($B = -.46$, $p < .01$), but no effect was found for unpopular ($B = .07$, $p < .32$) or for mid-range adolescents ($B = -.06$, $p < .31$, see Figure 1). There was a significant four-way interaction between self-transcendence values, popularity, gender, and culture (B = .58, $p < .05$, see Table 3). We probed this interaction by conducting a separate regression analysis for each cultural group (see Appendix B). As hypothesized (Hypothesis 5) the moderating effect of popularity on the association between value and aggression was stronger

TABLE 2 Descriptive statistics and correlations for the study's variables by gender and culture

	Culture	Mean		*SD*		Age		ST		*SE*		Popularity	
Variable	**Brazilians**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**
Age		14.29	14.29	.51	.54								
ST values		4.39	4.41	.47	.43	.05	−.01						
SE values		3.64	3.50	.74	.88	.03	.08	−.56**	−.58**				
Popularity		−.22	1.89	.84	1.09	.10	−.04	.11	−.01	−.09	.08		
Aggression		−.02	.02	.55	.67	−.02	.03	.01	−.16	−.05	.19*	−.02	−.04
	Arab Israelis												
Age		13.72	13.69	.52	.49								
ST values		4.14	4.22	.39	.38	−.04	.02						
SE values		3.56	3.27	.59	.67	.07	−.01	−.43**	−.53**				
Popularity		.04	−.00	1.04	.95	.02	.04	−.09	−.17*	−.06	.20*		
Aggression		.56	−.49	.99	.44	.12	−.04	−.21*	−.08	.27**	.13	.19*	.23*
	Jewish Israelis												
Age		13.91	13.83	.58	.51								
ST values		4.12	4.30	.50	.50	−.03	−.01						
SE values		3.72	3.49	.79	.72	−.07	−.11	−.55**	−.51**				
Popularity		.00	.18	1.02	1.01	.23*	.05	−.33**	−.30**	.08	.00		
Aggression		.10	−.15	.94	.63	.23*	−.01	−.23*	−.17	.11	−.03	.49**	.31**

Abbreviations: SE, self-enhancement; ST, self-transcendence.

*$p < .05$; **$p < .01$.

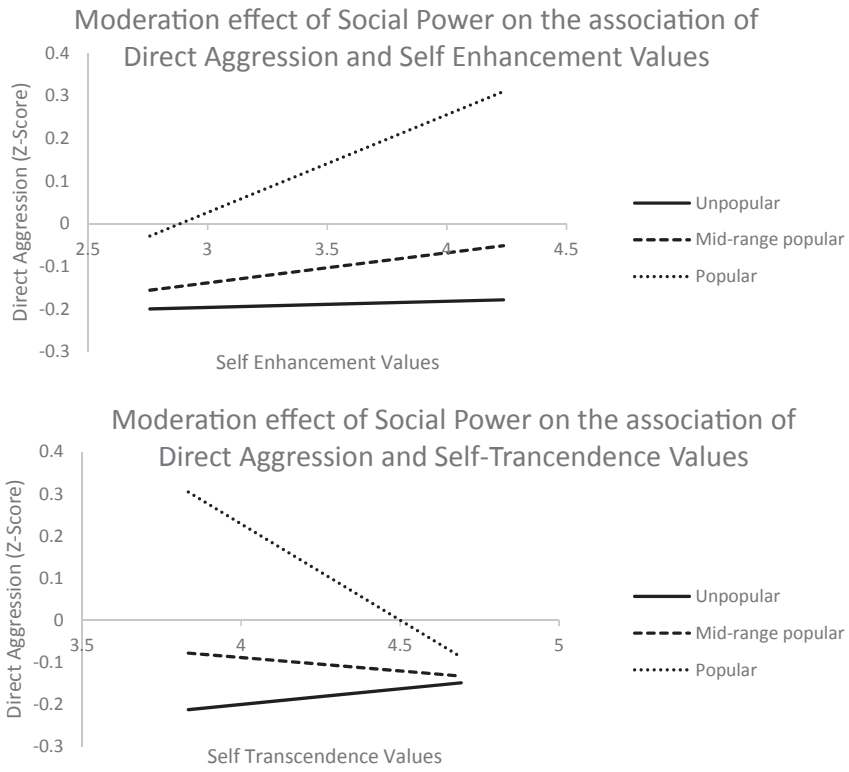

FIGURE 1 Plots of significant moderation effects of social power on the association of direct aggression and high order values (top panel = Self-Enhancement, bottom pannel = Self-Transcendence). Social power (as popularity) measured at three percentiles: 16th percentile (unpopular) marked with a full line, 50th percentile (mid-range popularity) marked with a dashed line, and the 84th percentile (popular) marked with a dotted line

among boys than girls in the traditional culture. For Israeli-Arab adolescents, we found a three-way interaction between self-transcendence values, popularity, and gender ($B = -.56$, $p < .05$). Probing this interaction revealed a significant negative association between self-transcendence values and direct aggression for popular boys ($B = -.96$,

TABLE 3 Hierarchical regression by culture predicting aggression on self-enhancement, age, gender and popularity

Predictor	*B*	*SE B*	*β*	R^2
Step 1				
Gender	−.46	.05	−.29**	.15**
Age	.08	.05	.06	
Self-enhancement	.10	.04	.10**	
Popularity	.16	.03	.21**	
Culture1	.01	.07	.00	
Culture2	−.02	.07	−.01	
Step 2				
SE X Popularity	.10	.04	.47**	.28**
SE X Gender	−.08	.07	−.17	
Gender X Popularity	−.17	.05	−.17**	
C1 X Popularity	.31	.06	.22**	
C2 X Popularity	.12	.06	.10*	
C1 X Gender	−.33	.13	−.15*	
C2 X Gender	−.98	.12	−.54**	
C1 X SE	−.09	.08	−.19	
C2 X SE	.10	.08	.22	
Step 3				
SE X Popularity X Gender	−.14	.07	−.48	.30**
SE X Popularity X C1	−.24	.08	.61**	
SE X Popularity X C2	−.04	.09	−.12	
SE X Gender X C1	−.15	.17	−.24	
SE X Gender X C2	−.44	.17	−.82**	
Gender X Popularity X C1	−.27	.13	−.14*	
Gender X Popularity X C2	−.16	.12	−.09	
Step 4				
SE X Popularity X Gender X C1	−.08	.17	−.14	.31*
SE X Popularity X Gender X C2	−.45	.19	−.90*	

Note: Gender: 0 = boys, 1 = girls. C1: 0 = Brazilians and Israeli Arabs, 1 = Israeli Jews. C2: 0 = Brazilians and Israeli Jews, 1 = Israeli Arabs.

Abbreviations: SE, self-enhancement.

*$p < .05$; **$p < .01$.

$p < .001$) and boys in the mid-range ($B = -.46$, $p < .05$). The moderating effect did not emerge for unpopular boys ($B = -.22$, $p = .40$) or girls ($B = -.06$, $p = .50$). The three-way interaction between self-transcendence values, popularity, and gender was insignificant in the Israeli-Jewish sample ($B = -.24$, $p = .12$) and in the Brazilian sample ($B = -.30$, $p = .13$).

4 | DISCUSSION

The findings suggest personal value priorities are more strongly associated with aggressive behavior among popular than unpopular adolescents. As in previous studies (Benish-Weisman & McDonald, 2015; Knafo, 2003; Knafo et al., 2008)) we found the endorsement of self-enhancement (self-transcendence) values was positively (negatively) associated with direct aggression. The study makes a contribution to the literature by showing popularity moderates the associations between values and aggression: while the aggressive behavior of popular adolescents was highly associated with their personal values, the behavior of unpopular adolescents was unrelated to their personal values. The "revealing" effect of social power consistently emerged across samples, with specific variations for gender and culture. These variations indicate that although popularity, as an expression of social power, increases the likelihood of individuals acting according to personal values, the strength of this effect depends on social context (Fast et al., 2012).

The study makes a theoretical contribution to the literature on adolescent aggression. Findings indicate that the aggressive behavior of adolescents with social power, that is, popular adolescents, is highly associated with their personal values. Given the influence popular adolescents can have on their peers and group norms (Laninga-Wijnen et al., 2019), our findings suggest the personal values of popular adolescents should be taken into account in intervention programs aiming to reduce direct aggression in schools. For example, educators and school counselors might promote organizational non-violence by enhancing the leadership of popular students who attribute importance to self-transcendence values (Paluck et al., 2016). Our findings further suggest that the aggressive behaviors of unpopular adolescents are less associated with their personal values. Past studies suggest that low-power decreases attention to the self and increases attention to others (e.g., De Dreu & Van Kleef, 2004; Goodwin et al., 2000; Keltner & Robinson, 1997). Consequently, the aggressive behavior of unpopular adolescents may be particularly influenced by normative expectations. Thus, the moderating effect of school norms on adolescent aggressive behavior (Knafo et al., 2008; Laninga-Wijnen et al., 2017) may be particularly strong among unpopular adolescents.

The study also contributes to the growing body of research demonstrating the enabling effect of power (Chen et al., 2001; Guinote, 2017; Magee & Galinsky, 2008). The findings suggest the effect of power in real-life situations, thus going beyond laboratory examinations. The study's demonstration of an increased value-behavior association furthers the idea that power does not inherently "corrupt" (Overbeck & Park, 2001) but rather empowers value-based individual action. Past research suggests that individuals who endorse

self-enhancement values, particularly power values, are more likely to be drawn to power positions than individuals with self-transcendence values (Arieli et al., 2020). Once social power is attained, individuals who endorse self-enhancement values are more likely to use their power in a selfish manner, while individuals who endorse self-transcendence values are likely to use their power in a pro-social manner (Chen et al., 2001). The reinforcing effects of power values and power positions may account for the associations between social power and aggression in various organizational contexts. Future research could investigate whether considering self-transcendence values in promotion and management development processes may help reduce workplace aggression.

In addition, the study makes a contribution to the literature on personal values. The findings demonstrate that social power strengthens the associations between personal values and aggressive behaviors. Although we focused on adolescent aggression, the revelatory effect of power may be used to examine various value-behavior associations that are often small to moderate (Roccas & Sagiv, 2010; Torelli & Shavitt, 2010). Including popularity or social power as a moderator could contribute to the study of value-based behavior in various domains, including political orientation, organizational behavior, and personal choice (Berson et al., 2008; Caprara et al., 2006; Roccas & Sagiv, 2017). Powerful individuals may be better able to express their values through actual behavior in all of these domains.

Finally, by taking a cross-cultural perspective, we were able to empirically examine the interplay between two levels of social power. Popularity reflects social hierarchies within the classroom. Cultural expectations and gender roles reflect power relations at the societal level. Our findings suggest that although popularity increases the likelihood of adolescents acting according to their personal values at the individual level, the strength of this effect depends on power relations at the societal level. Gender played a significant role in the Israeli-Arab sample, with the moderating effect of popularity on the association between self-enhancement values and aggression stronger for boys than girls. These findings suggest cultural expectations and gender roles influence the moderating effect of popularity. In cultures with more traditional gender role attitudes, males are expected to be in a dominant social position (e.g., Dobash & Dobash, 1979). Consequently, aggressive behaviors are often considered more legitimate for boys than girls (Byers, 1996; Eaton & Rose, 2011). Boys in traditional cultures may be freer from social and cultural pressures related to aggression and therefore more likely to act according to their personal values as their popularity rises. For girls in traditional cultures, however, the effect of cultural and societal expectations may be so strong that it overcomes the effects of popularity. In cultures with more egalitarian gender role attitudes, such as Brazil, both boys and girls may be freer from social and cultural pressures. It may be more legitimate for both girls and boys to act according to their personal values, and the revealing effect of power at the personal level is likely to emerge for both genders.

5 | LIMITATIONS AND FUTURE RESEARCH

This research focused on the revealing effect of power, indicating that popular adolescents are more likely to express their values in their aggressive behaviors. However, past studies suggest adolescents can also use aggression to attain and preserve their social power (e.g., Cillessen & Mayeux, 2004). Thus, popularity and values may not only influence aggressive behavior, but also be influenced by it. This bidirectional process cannot be disentangled using cross-sectional data. Future research could employ a longitudinal design able to capture changes in popularity, values, and aggression over time.

Previous research also indicates that adolescents who are both likable and popular may engage in aggressive acts depending on the context (de Bruyn et al., 2010; Hawley & Vaughn, 2003). Some popular adolescents show sophisticated behavior, combining both aggression and prosocial behavior in a contingent manner. Future research could investigate the value profile (Ungvary et al., 2018) of these popular individuals, seeking to understand the links between their personal values and contingent behavior.

Another limitation was the study's focus on direct aggression (Benish-Weisman & McDonald, 2015). This indicator is more commonly reported among boys (Rose et al., 2004), while indirect aggression has been shown to be equally expressed by both genders (Hawley et al., 2008). Future research could investigate the moderating effect of power using indicators of indirect aggression.

Finally, we investigated only three cultural groups, focusing on gender role attitudes and cultural hierarchy versus egalitarianism. Future studies may expand the number of cultures examined and investigate the effect of other cultural dimensions, such as tightness-looseness (Gelfand et al., 2006, 2011). Tight cultures have many strong norms and low tolerance for deviant behavior. Consequently, they might apply stronger normative pressures, weakening (or strengthening) some associations between personal values and behaviors (Roccas & Sagiv, 2010). Loose cultures have weaker social norms and a high tolerance of deviant behavior and may, therefore, allow greater individual variations (Gelfand et al., 2006).

Overall, the study presents strong cross-cultural evidence that popularity moderates the associations between personal values and aggression and makes both theoretical and practical contributions to the study of aggressive behavior among adolescents.

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APPENDIX A

We assessed the structure of relations among the ten values and their locations around the circular motivational continuum with confirmatory non-metric multidimensional scaling analyses—MDS (Borg et al., 2013). For this analysis, we used the SPSS 2.0 MDS Proxscal program, with ordinal proximity transformations, Euclidian distance measures, and *Z*-score transformations of values. To derive an overall structure, we ran the MDS analysis on the pooled within-sample covariance matrixes of the three samples. We also specified a starting configuration based on the theorized circular structure of values (Bilsky et al., 2011). Figure A1 presents the MDS analysis of the ten values for the whole sample. Each labeled point in the plot represents a value index based on the PVQ.

We then used AMOS 22.0 to specify a multilevel CFA model for the measure of the values, with respondents nested within samples, at both the within-sample and between-sample levels of analysis. The factors covaried within each level of analyses. To reduce the number of estimated parameters, we constrained the factor loadings to be equal across levels of analysis and did not estimate factor means. This model produced acceptable fit indices, CFI = .89, TLI = .88, RMSEA = .040 (Lo90 = .038; Hi90 = .048; pclose < .001), with all items loading on their respective factors with standardized estimates > .5. Any multilevel measurement model without random slopes assumes invariance of within-level relationships across clusters (Selig et al., 2008), so our

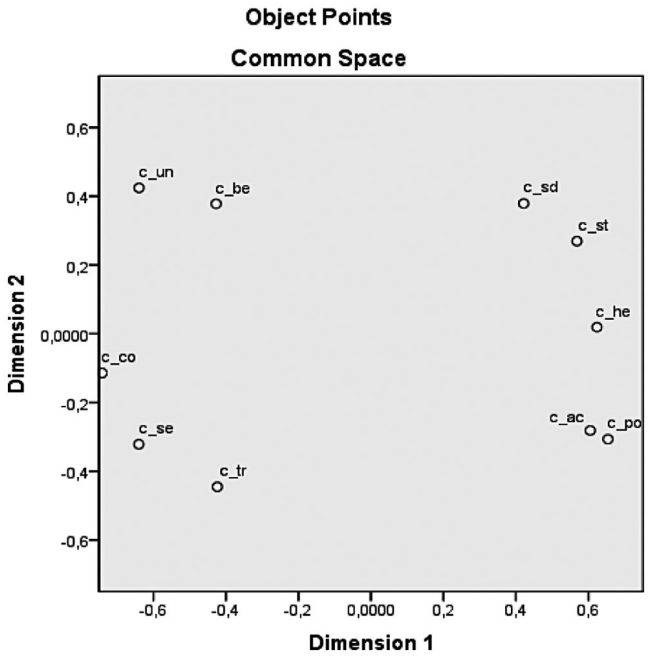

FIGURE A1 Bidimensional projection of the MDS ($N = 906$), Stress-1 = .115, DAF = .98, and TCC = .99

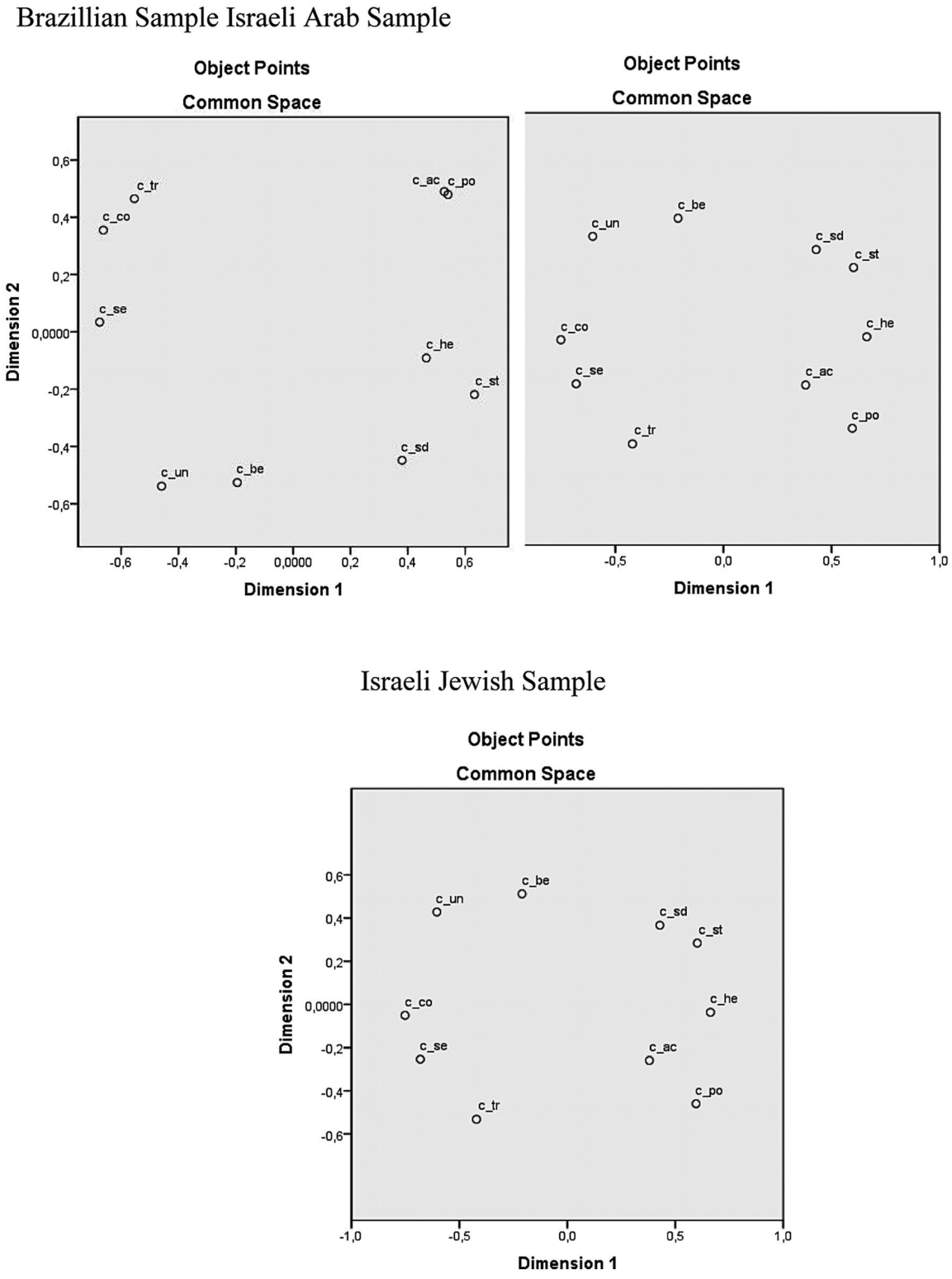

FIGURE A2 Bidimensional projection of the MDS for each sampled population

model indicates the invariance of factor loadings—i.e., metric equivalence—is tenable (Little et al., 2007).

We assessed if the three independent samples had the same ordering as the motivational continuum proposed by the theory with multidimensional scaling analyses—MDS. As advised by Bilsky et al. (2011), we used ordinal proximity

TABLE A1 MDS Configuration

Sample	Stress-1	DAF	TCC
Brazil (n = 244)	.13	.98	.99
Israeli Arab (n = 250)	.10	.98	.99
Israeli Jewish (n = 409)	.15	.97	.98

transformations, Euclidian distance measures, z-score transformations of values, and a custom initial configuration of 20 points around a circle to estimate the two-dimensional structure. The initial custom configuration specifies a priori where an item should start, based on its theoretical location around the circle. This allowed us to test whether the theoretical ordering was mirrored in the MDS representation (i.e., the items fall into the expected place in the MDS space) for the ethnic groups in Figure A2. Table A1 presents the results of each sample. Because the MDS is an absolute metric model, i.e., the Euclidean distances obtained from the calculated space of representation correspond as closely as possible to the distances observed in the original dissimilarity matrix, no ***p-value*** is associated with the tests (Shye et al., 1994). These results indicate that the projection represents the covariance matrix underlying it. As proposed by Borg et al. (2013), we used Kruskal's stress measure (***Stress I*** in SPSS) as a measure of fit. Stress measures the loss of information when data are represented in a two-dimensional space. A perfect MDS solution has ***Stress I*** = 0, indicating the distances in the MDS configuration characterize the data exactly. We compared the observed stress to the expected stress values for a random ranking of MDS using ten items (***Stress*** = .225; Spence & Ogilvie, 1973), defining a stress value clearly lower than the stress of random rankings as a good fit (Borg et al., 2012). As shown in Table A1, the configuration produced a ***Stress I*** value, considerably lower than the expected stress for a random configuration. Therefore, the stress values indicated that the MDS configuration characterized the data very well for all cultural groups.

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APPENDIX B

TABLE B1 Hierarchical regression by culture predicting aggression on self-transcendence, age, gender and popularity

Predictor	*B*	*SE B*	*B*	R^2
Step 1				
Gender	−.47	.05	−.30**	.15**
Age	.08	.05	.06	
Self-transcendence	−.18	.06	−.10**	
Popularity	.16	.03	.20**	
C1	−.02	.07	−.01	
C2	−.07	.07	−.05	
Step 2				
ST X Popularity	−.20	.05	−1.09**	.28**
ST X Gender	.02	.11	.04	
Gender X Popularity	−.14	.05	−.13**	
C1 X Popularity	.22	.07	.15**	
C2 X Popularity	.04	.06	.03	
C1 X Gender	−.31	.13	−.14*	
C2 X Gender	−.99	.12	−.54**	
C1 X ST	.08	.14	.19	
C2 X ST	−.11	.14	−.28	
Step 3				
ST X Popularity X Gender	.18	.11	.73	.29
ST X Popularity X C1	.06	.13	.17	
ST X Popularity X C2	−.02	.16	−.05	
ST X Gender X C1	.16	.28	.31	
ST X Gender X C2	.57	.28	1.33*	
Gender X Popularity X C1	−.15	.14	−.08	
Gender X Popularity X C2	−.05	.13	−.03	
Step 4				
ST X Popularity X Gender X C1	.54	.26	1.13*	.30*
ST X Popularity X Gender X C2	.86	.32	2.10**	

Note: Gender 0 = boys, 1 = girls. C1 0 = Brazilians and Israeli Arabs, 1 = Israeli Jews. C2 0 = Brazilians and Israeli Jews, 1 = Israeli Arabs.

Abbreviations: ST, self-transcendence

*$p < .05$; **$p < .01$.

TABLE B2 Hierarchical regression by culture predicting aggression on self-enhancement, age, gender and popularity

	Brazilian			Israeli Jewish			Israeli Arab		
Predictor	***B***	***SE B***	***β***	***B***	***SE B***	***β***	***B***	***SE B***	***β***
Step 1									
Gender	.06	.08	.05	−.32	.11	−.19**	−.94	.08	−.54**
Age	.00	.07	.00	.13	.1	.09	.07	.08	.04
Self-enhancement	.08	.05	.11	.03	.07	.03	.17	.06	.13**
Popularity	−.02	.04	−.04	.32	.05	.40**	.11	.04	.13**
Step 2									
SE X Popularity	.18	.05	1.08**	−.05	.07	−.22	.13	.07	.54*
SE X Gender	.13	.10	.41	−.04	.14	−.10	−.34	.13	−.68**
Gender X Popularity	−.03	.08	−.04	−.31	.10	−.28**	−.18	.08	−.15*
Step 3									
SE X Popularity X Gender	.02	.11	.10	−.07	.14	−.22	−.44	.14	−1.27**

Note: Gender 0 = boys, 1 = girls.

Abbreviation: SE, self-enhancement.

*$p < .05$; **$p < .01$.

TABLE B3 Hierarchical regression by culture predicting aggression on self-transcendence, age, gender and popularity

	Brazilian			Israeli Jewish			Israeli Arab		
Predictor	***B***	***SE B***	***β***	***B***	***SE B***	***β***	***B***	***SE B***	***β***
Step 1									
Gender	.05	.08	.04	−.31	.11	−.18**	−.98	.08	−.56**
Age	.01	.07	.01	.13	.10	.09	.07	.08	.04
Self-transcendence	−.11	.09	−.08	−.11	.11	−.07	−.2	.1	−.09†
Popularity	−.02	.04	−.03	.31	.05	.38**	.11	.04	.13**
Step 2									
ST X popularity	−.20	.10	−1.44*	−.17	.07	−.83*	−.21	.12	−1.00†
ST X gender	−.26	.18	−.93	−.03	.22	−.08	.30	.21	.74
Gender X Popularity	−.02	.09	−.03	−.24	.11	−.21*	−.13	.08	−.11†
Step 3									
ST X Popularity X Gender	−.30	.20	−1.78	.24	.15	.90	.57	.24	1.99*

Note: Gender 0 = boys, 1 = girls.

Abbreviation: ST, self-transcendence.

†$p < .1$; *$p < .05$; **$p < .01$.