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EMPIRICAL RESEARCH

The Social Values of Aggressive–Prosocial Youth

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Abstract Recent research has identified youth who utilize both aggressive and prosocial behavior with peers. Although the social values and motivations associated with aggression and prosocial behavior have been well studied, the values of youth who utilize both aggression and prosocial behavior are unknown. The current study identified groups of adolescents based on peer nominations of aggression and prosocial behavior from both Israel ($n = 569$; 56.94 % Arab, 43.06 % Jewish; 53.78 % female) and the United States ($n = 342$; 67.54 % African-American; 32.46 % European-American; 50.88 % female). Self-enhancement, self-transcendence, openness-to-change, and conservation values predicted behavioral group membership. Power values predicted membership in the aggressive group relative to the aggressive–prosocial, prosocial, and low-both groups. For Israeli boys, openness-to-change values predicted membership in the aggressive–prosocial group relative to the prosocial group. The values of aggressive–prosocial youth were more similar to the values of prosocial peers than to aggressive peers, suggesting that motivational interventions for aggressive–prosocial youth should differ in important ways than those for aggressive youth.

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Introduction

Traditionally, aggressive and prosocial behaviors have been considered mutually exclusive; children who are aggressive are commonly contrasted with peers who are prosocial. Aggressive children are more likely to be rejected and victimized by peers, have academic difficulties, and develop later externalizing problems (Rubin et al. 2006). Prosocial children, in contrast, are better liked by peers and form and maintain better interpersonal relationships across development (see Asher and McDonald (2009); Rubin et al. (2013) for reviews). Therefore, it has been thought that these behaviors have distinct implications for adjustment.

Although most research has considered aggressive and prosocial behavior as opposing, recent research has acknowledged that there are youth who utilize both types of behavior with peers (e.g., Hawley 2003; McDonald et al. 2011). Research suggests that aggressive–prosocial youth are similar to prosocial-only peers on several indices of adjustment, but are also similar to aggressive-only youth on others. For example, aggressive–prosocial and prosocial youth are similarly accepted by peers (Hawley 2003) and report similarly high levels of positive affect, agreeableness, conscientiousness, and social competence (Hawley et al. 2002). Additionally, prosocial behavior seems to buffer aggressive youth from becoming less accepted over time (Crick 1996) and may also help aggressive youth to form and maintain friendships high in positive friendship features, like intimacy and companionship (Hawley et al. 2007; McDonald et al. 2011). In contrast, aggressive–prosocial youth are

more similar to aggressive-only youth than they are to prosocial youth on self-reported loneliness, negative affect, and hostility (Hawley et al. 2002) as well as the amount of conflict and aggression in their friendships (Hawley et al. 2007). Thus, this research suggests that aggressive–prosocial youth share similarities with both aggressive and prosocial peers.

What is still unclear from the current literature on aggressive–prosocial youth is what motivates this group of children to use both aggression and prosocial behavior with their peers. Why would a child be aggressive some of the time but prosocial other times? The current study addresses this question by examining how certain values are associated with aggressive and prosocial behavioral profiles. To examine the robustness of these associations, we also address this question in four different cultural/ethnic groups in order to see if values are similarly or differentially related to behavior in different cultural contexts.

Values are concepts or abstract ideas that function as guiding principles in people's lives and vary among individuals in terms of importance (Schwartz 1992). Values can be considered broad trait-like motivations that may be part of the "database" outlined in the Social Information Processing Model (Crick and Dodge 1994). Although values share some similarities with other concepts that are theorized to shape human behavior, like social goals and attitudes, values are unique. Values are guiding principles that direct behavior across situations where *social goals* may be more socially-specific (Samson et al. 2012). Values are also considered more stable across time and situations than are attitudes (Roccas and Sagiv 2010).

Schwartz's (1992) theory describes the structure of values based on the relationships between them. The ten values can be gathered by four higher-order groups organized around two dimensions (Schwartz and Boehnke 2004). Dimension one focuses on the conflict between self-enhancement and self-transcendence. Self-enhancement values, which include power and achievement values, support the pursuit of authority and dominance and the demonstration of superiority over others. Self-transcendence values, including universalism and benevolence values, stress concerns for the well-being and interests of others over self-interest. The second dimension focuses on the conflict between openness-to-change and conservation values. Openness-to-change values, including stimulation, self-direction, and hedonism values, pursue change through the exploration of new ideas and experiences, self-directed choices and actions, and the pursuit of pleasure. Opposite to openness-to-change values are conservation values. The term conservation is used to refer to the preservation of past customs and ideals (Schwartz 2010a). Conservation values include conformity, tradition, and security values, which emphasize the importance of maintaining the status quo, respecting elders and traditions, and maintaining safety and security. Both the distinctiveness of the values and their theoretical structure have been verified and tested in cross-cultural research (e.g., Schwartz and Boehnke 2004) in more than 200 samples from over 70 countries (e.g., Schwartz 1992; Schwartz and Boehnke 2004).

In order to understand the values and motivations that may give rise to aggressive or prosocial behavior, research guided by the SIP Model (Crick and Dodge 1994) has examined the social motivations of children who behave in characteristically aggressive or prosocial ways. This research has revealed that children who endorse self-interest, dominance, and revenge goals in response to hypothetical peer conflicts are more aggressive as rated by peers whereas children who endorse relationship maintaining goals are more prosocial and have more positive relationships with peers (e.g., Asher et al. 2008; Samson et al. 2012). Additionally, research conceptualizing social goals as trait-like motivations finds that communal goals, which emphasize the motivation for closeness and affiliation with others, are associated with prosocial behavior whereas agentic goals, which reflect desires to establish authority, gain resources, and appear confident, are associated with aggressive behavior (Ojanen et al. 2005).

Similar results have been found when considering values. Adolescents high in self-enhancement values, particularly power values, tend to be more aggressive whereas adolescents high in self-transcendence values are typically less aggressive (e.g., Knafo et al. 2008; Menesini et al. 2013). There is also evidence that openness-to-change values are positively related to self-reported aggression whereas conservation values are negatively related with aggression (e.g., Knafo et al. 2008; Benish-Weisman and McDonald under review).

Only one study has examined the motivations of a group of aggressive–prosocial children. Hawley et al. (2002) found that both aggressive–prosocial children and prosocial youth rated the importance of social relationships highly and reported intrinsic motivations, like enjoyment and pleasure, for forming and maintaining peer relationships higher than aggressive-only youth. However, aggressive–prosocial and aggressive-only children reported higher extrinsic motivations for forming and maintaining peer relationships (i.e., to gain popularity, to meet others' expectations) and higher needs for recognition from peers in comparison to prosocial peers.

It should be noted that much research about aggressive–prosocial youth (e.g., Hawley 2003; Hawley et al. 2002, 2007) measures aggression and prosocial behavioral strategies with proactive, agentic (resource attainment) motivations as part of the measurement strategy. For instance, items used to group participants ask reporters about whether children and adolescents bully others *to get what they want* or are nice to others *to get what they want* (italics

added). However, not all aggressive and prosocial behavior is motivated by resource attainment. For example, aggression may be more reactive, motivated by a need to defend the self or deter future harm from peers without trying to attain access to specific resources. In addition, some aggressive behavior could be used as a means of entertainment or to build intimacy with others. For instance, gossip may be a way for adolescents to laugh and have fun together or serve as a means to establish trust and get to know one another better (McDonald et al. 2007). Further, prosocial behavior is more highly correlated with goals of forming and maintaining positive relationships with others than it is with self-interested motivations (e.g., Ojanen et al. 2005). As aggression and prosocial behavior may have multiple motivations we argue that it is important to examine the values that characterize behavioral profiles. The current study categorized children based on their peer-reported aggressive and prosocial behaviors into four behavioral groups. We then examined how adolescents' self-reported values predicted membership in these behavioral groups.

The Current Study

The main goal of the current study was to examine how values predict aggressive and prosocial behavioral profiles. First, we created behavioral groups based on peer nominations of aggression and prosocial behavior and compared the perceived popularity of these groups. The aim of this comparison was to validate that groups are similar to past studies about aggressive–prosocial behavior. Second, we examined how values predicted behavioral group membership. As aggressive–prosocial youth may need more recognition and are motivated to maintain peer relationships to gain popularity (Hawley et al. 2002), we hypothesized that self-enhancement values would predict aggressive-only and aggressive–prosocial behavioral profiles relative to a prosocial-only profile. However, based on past research (e.g., Knafo et al. 2008), we also hypothesized that power values, more than achievement values, would differentiate the groups. Thus, for self-enhancement values, we considered power and achievement values separately. Additionally, based on past studies, we also expected that openness-to-change values may predict aggressive and aggressive–prosocial styles relative to a prosocial-only style (Knafo et al. 2008). Second, as self-transcendence values and conservation values have been negatively associated with aggression and violence (e.g., Knafo et al. 2008) and positively related to self-reported prosocial behavior in adults (e.g., Schwartz 2010a; Caprara et al. 2012), we hypothesized these values would predict prosocial-only and aggressive–prosocial behavior relative to an aggressive-only behavioral style.

We also examined these associations in youth from four different cultural/ethnic groups from two countries: from the southern U.S., European-Americans and African-Americans and, from Israel, Jewish (non-immigrants) and Arab citizens of Israel. In the U.S., African-Americans make up 13–14 % of the total population, but within southern states the portion of the population that is African-American climbs to between 20 and 40 % (U.S. Census Bureau 2014). Close to 76 % of the American population identifies as Christian (U.S. Census Bureau 2012). In Israel, the Jewish, non-immigrant population is the largest ethnic/cultural group, comprising 79.28 % of the Israeli population (Israel Central Bureau of Statistics 2009). Arab citizens of Israel, herein referred to as Arab-Israelis, are Palestinians whose families lived in what is now the State of Israel before its foundation. They comprise 20.2 % of the Israeli population (Israel Central Bureau of Statistics 2009) and a majority of them practice Islam (Horenczyk and Ben-Shalom 2006). These four groups are interesting to consider because within each country the groups live in physical proximity but are relatively segregated in schooling and daily activities (Rabinowitz 2001; Wright et al. 2014).

Schwartz and Bardi (2001) emphasize that there are more similarities in the value hierarchy among cultural groups than there are differences. However, college students from the U.S. tend to endorse universalism values at lower levels compared to other cultural groups and tend to endorse self-enhancement values more than the pan-cultural norm. Jewish Israelis also tend to value achievement and self-direction whereas Arab-Israelis tend to endorse conservation values comparatively more (Schwartz 2010b). The goal of the study, however, was not to explore cultural group differences in values but to explore whether values may be differentially related to behavior among these groups. Culture may have an important role in moderating the relationship between values and behavior because behaviors may have different meanings in different cultural contexts (Roccas and Sagiv 2010). An initial examination of this question within an Israeli adolescent population (Arab-Israeli vs. Jewish Israeli adolescents) suggests that differences in these relations are rare and small in magnitude (Knafo et al. 2008). We examined if culture would moderate how values predicted aggressive and prosocial behavioral profiles. We did not have specific hypotheses, however, but addressed this question in an exploratory manner.

Method

Participants

Participants were 911 adolescents from the United States and Israel. The sample comprised 342 adolescents (111

European-American, 231 African-American; 49.12 % male; *M* age = 13.55 years, *SD* = .65) from the southern United States and 569 adolescents (324 Arab-Israeli, 245 Jewish Israeli; 46.22 % male; *M* age = 13.80 years, *SD* = .51) living in urban and suburban areas in the north of Israel. Samples varied in SES; almost 80 % of European-American adolescents reported that their mothers had college degrees, whereas 63 % of Jewish Israeli, 49 % of African-Americans, and 31 % of Arab-Israeli adolescents reported that that their mothers had college degrees. Regarding religious background, 97 % of the Arab-Israeli adolescents reported being Muslim and 97 % of the African-American adolescents and 100 % of the European-American adolescents reported being Christian.

Procedure and Measures

Consent forms were sent home to the parents of all 8th grade students in participating schools. Students whose parents consented to their participation (over 95 %) completed surveys under the supervision of a research team member during group-administered data collection sessions. In Israel, data collection was completed during one session, but in the U.S. data collection was split between two sessions. For their participation, students received small, attractive incentives (novelty pens or pencils).

Values

To assess values, participants completed the Portrait Values Questionnaire (PVQ; Schwartz et al. 2001). The PVQ has been shown to be suitable for use with children and adolescents (e.g., Knafo et al. 2008). The PVQ includes short verbal portraits of 40 people which describe 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 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. As is standard when using the PVQ, we controlled for response tendency by centering each individual's responses around his or her average response to all the questions on the scale (Lindeman and Verkasalo 2005; Schwartz 1992). The following subscale scores were computed after this adjustment.

Self-Enhancement Values

Self-enhancement values emphasize individualistic dominance and self-success and are composed of both *power values* (e.g., "It is important for this person to be in charge and tell others what to do. This person wants people to do what she says"; three items, $\alpha = .59$) and *achievement values* (e.g., "It's very important to this person to show their abilities. This person wants people to admire what they do."; four items, $\alpha = .70$).

Self-Transcendence Values

Self-transcendence values emphasize concerns for other people's welfare and rights (e.g., "It's very important to this person to help the people around him/her. This person wants to care for their well-being;" 10 items, $\alpha = .80$).

Openness-to-Change Values

Openness-to-change values emphasize stimulation and choosing one's own goals (e.g., "Thinking up new ideas and being creative is important to this person. This person likes to do things in their own original way", 10 items, $\alpha = .78$).

Conservation Values

Conservation values stress preserving the status quo, traditions, and protecting security (e.g., "This person believes that people should do what they're told. This person thinks people should follow rules at all times, even when no-one is watching;" 13 items, $\alpha = .82$).

Behavior

Peer nominations (Asher and McDonald 2009) were used to assess aggression and prosocial behavior. In Israel, children were given a roster listing the names of their classmates and were asked to circle the names of classmates who fit each criterion. Unlike in other countries (e.g. United States), where middle school students study different subjects in different classes, Israeli students belong to one "home class" with a teacher assigned as the home class teacher, and group activities often involve the whole class (e.g., field trips) with a few shifts to other classes in specific subjects. In the U.S., participants were given a list of 35 randomly selected names from their grade. For each nomination, participants received a different random list. This method of collecting behavioral nominations has been used in the past in U.S. middle schools, when students start changing classes and interact with a larger peer group. In both countries, only the names of classmates who had permission to participate in the study were listed on this measure.

Aggression

Six items assessed aggression (i.e., "starts fights," "says mean things," and "hits and pushes", "talks about kids

behind their back," "spreads rumors," "gossips or spreads rumors," and "tries to keep certain kids from being in their group"; $\alpha = .88$). An adolescent's score for each behavior item was computed as the number of nominations for that item that 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 all of the participating students within a class and within each school.

Prosocial Behavior

Three items assessed prosocial behavior (i.e., "cooperates," "helpful," "kind"; $\alpha = .83$). Scores were computed in the same manner as for aggression nominations.

Perceived Popularity

Embedded in the set of peer nominations used to assess behavior, participants also nominated peers who they perceived to be "popular." Similar to the procedure for peer nominations, participants' scores for this item were computed as the number of nominations for that item that the child received divided by the total number of classmates who could have nominated that child for that item. The proportion score was standardized within all of the participating students within a class and within each school.

Results

Descriptive Statistics

Means and standard deviations for values by each cultural group are presented in Table 1. ANOVAs conducted to examine cultural group differences in values and effect sizes for these comparisons are found in Table 1. African-American adolescents endorsed power values more than other cultural groups, whereas Arab-Israeli youth endorsed them the least. African-American youth endorsed self-transcendence values less than the other groups. Jewish Israeli youth endorsed conservation values less than other groups.

Behavioral Group Identification

Children were categorized into one of four groups based on peer nominations of aggression and prosocial behavior: an *Aggressive-only* group ($n = 209$; top 33 % on aggression, bottom 67 % on prosocial), a *Prosocial-only* group ($n = 219$; top 33 % on prosocial, bottom 67 % on aggression), an *Aggressive–prosocial* group ($n = 100$; top 33 % on aggression, top 33 % on prosocial), and a group that was low on aggression and prosocial behaviors (*Low-Both; n* = 383; bottom 67 % on aggression and prosocial behavior). To confirm group differences, ANOVA analyses indicated that groups significantly varied on the dimensions of aggression, $F(3, 907) = 577.78$, $p < .001$, and prosocial behavior, $F(3, 907) = 591.78$, $p < .001$ (see Table 2). The Aggressive and Aggressive–prosocial groups were significantly higher on aggression than the Prosocial and Low-Both groups. The Prosocial and the Aggressive–prosocial groups were significantly higher on Prosocial behavior than the Aggressive and Low-Both groups. Chi square analyses indicated that groups were not differentially composed of racial/ethnic groups, $\chi^2 = 15.51$, $p = .08$. Chi square analyses also revealed that groups differed on their gender distribution $\chi^2 = 31.16$, $p < .001$. A greater than expected portion of the Aggressive-only group was male and a larger than expected portion of the Prosocial-only group was female. These gender differences have been found in other studies of prosocial and aggressive behavior (Hawley 2003; Card et al. 2008).

As an additional validation, groups were compared on perceived popularity to examine if groups were similar to groups in previous studies of aggressive–prosocial youth (Hawley 2003). A 4 (behavioral group) × 4 (cultural group) × 2 (gender) ANOVA predicting perceived popularity, revealed a main effect for behavioral group, $F(3, 879) = 97.50$, $p < .001$, partial $\eta^2 = .25$. The Aggressive–prosocial group was highest on perceived popularity for all cultural groups and cultural groups did not differ on the perceived popularity of their Aggressive–prosocial group.[1]

[1] Although the Aggressive–prosocial group was highest in perceived popularity across cultural groups, there was also a significant behavioral group × cultural group interaction, $F(9, 879) = 9.14$, $p < .001$, partial $\eta^2 = .085$. Post-hoc probing using a Bonferroni correction, revealed that for Arab Israelis, the Aggressive–prosocial group ($M = 1.50$, $SD = 1.10$) was more popular than the Prosocial group ($M = .54$, $SD = .95$), which was more popular than the Aggressive group ($M = -.05$, $SD = .73$), which, in turn, was more popular than the Low-Both group ($M = -.47$, $SD = .56$). For the Jewish-Israeli adolescents, the Aggressive–prosocial group ($M = 1.07$, $SD = 1.21$) was similar in popularity to the Aggressive group ($M = .59$, $SD = 1.14$). The Prosocial group ($M = .25$, $SD = .95$) was significantly different than the Aggressive–prosocial group, but was not different than the Aggressive group. The Low-Both ($M = -.25$, $SD = .81$) group was lowest on popularity. For the European-Americans, the Aggressive–prosocial ($M = 1.38$, $SD = .81$) and the Prosocial group ($M = .96$, $SD = .77$) were similar on perceived popularity. The Low-Both group was significantly less popular ($M = -.29$, $SD = .59$) and the Aggressive group was the least popular ($M = -.96$, $SD = .48$). Finally, for the African-Americans, Aggressive–prosocial youth ($M = 1.16$, $SD = .85$) were the most popular, followed by the Prosocial ($M = .53$, $SD = 1.04$) and Aggressive ($M = .15$, $SD = 1.02$) groups, who did not differ from each other, but were both more popular than the Low-Both group ($M = -.56$, $SD = .53$).

Table 1 Cultural group differences in value endorsement

	Arab Israelis	Jewish Israelis	African-Americans	European-Americans	$F(3, 907)$	Partial η^2
SE values						
Power values	2.56 (1.16)[a]	3.02 (1.04)[b]	3.42 (1.10)[c]	3.15 (1.08)[bc]	28.98***	.087
Achievement values	4.21 (.61)	4.32 (.83)	4.22 (.74)	4.23 (.86)	1.30	.004
ST values	4.19 (.39)[a]	4.18 (.49)[a]	3.89 (.49)[b]	4.07 (.53)[a]	22.09***	.068
OP values	4.22 (.46)	4.33 (.52)	4.32 (.56)	4.30 (.61)	2.62	.008
CON values	3.93 (.42)[a]	3.76 (.48)[b]	3.91 (.53)[a]	3.92 (.53)[a]	7.98***	.026

Post-hoc comparisons conducted with a Bonferroni correction. Means within a row with different superscripts indicate significant group mean differences

SE self-enhancement values, *ST* self-transcendence values, *OP* openness-to-change values, *CON* conservation values

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

Table 2 Descriptive statistics by behavioral group composition

	Entire sample $N = 911$ (%)	Low-Both $n = 383$ (%)	Prosocial $n = 219$ (%)	Aggressive $n = 209$ (%)	Aggressive–prosocial $n = 100$ (%)	χ^2
Male	47.3	52.2	31.1	56.5	45.0	31.16***
European-American	12.2	12.3	15.1	11.5	7.0	15.51
African-American	25.4	24.0	23.3	31.1	23.0	
Arab Israeli	35.6	37.6	34.7	34.9	31.0	
Jewish Israeli	26.9	26.1	26.9	22.5	39.0	
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	Partial η^2
Aggression	.02 (.79)	−.43 (.27)[b]	−.44 (.27)[b]	1.00 (.76)[a]	.71 (.57)[a]	.654
Prosocial behavior	.11 (.87)	−.41 (.46)[b]	1.10 (.60)[a]	−.41 (.49)[b]	1.03 (.52)[a]	.663
SE values						
Power values	2.97 (1.16)	2.82 (1.15)[a]	2.79 (1.10)[a]	3.44 (1.13)[b]	3.00 (1.07)[a]	.049
Achievement values[†]	4.24 (.74)	4.19 (.74)	4.26 (.71)	4.35 (.75)	4.22 (.76)	.008
ST values	4.10 (.48)	4.16 (.46)[a]	4.16 (.44)[a]	3.93 (.49)[b]	4.07 (.53)[ab]	.038
OP values[†]	4.28 (.52)	4.21 (.51)	4.24 (.53)	4.40 (.50)	4.38 (.51)	.024
CON values	3.88 (.47)	3.93 (.46)[a]	3.91 (.49)[a]	3.77 (.47)[b]	3.85 (.36)[ab]	.018

Means within a row with different letter superscripts indicate significant group mean differences, based on post hoc contrasts using a Bonferroni correction

SE self-enhancement values, *ST* self-transcendence values, *OP* openness-to-change values, *CON* conservation values

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

[†] Contrasts are not shown for achievement or openness-to-change values because of significant interactions with cultural group

Predicting Group Membership from Values

Based on the theoretical orientation that values would predict behavior (Bardi and Schwartz 2003), hierarchical multinomial logistic regression models were used to examine whether adolescents' values (as the predictor variable) were associated with their behavior profiles (as the criterion variable). One model was run for each value or value dimension of interest, for a total of five models. In step 1, gender and cultural group were entered in the model, overall model χ^2 (12) = 51.60, $p < .001$, with gender being a significant predictor, χ^2 (3) = 36.52, $p < .001$ but cultural group remaining only marginally significant, χ^2 (9) = 16.73, $p = .05$. In step 2, the gender X cultural group interaction was added which was also a significant predictor of behavioral group membership, χ^2 (9) = 35.99, $p < .001$. More Arab-Israeli boys were in the Aggressive group and more Arab-Israeli girls were in the Low-Both group than expected by chance. In step 3, the value of interest was added, and in step 4 the value × gender and the cultural group × value

interactions were added. The three-way interaction of gender × cultural group × value predicting group membership was also explored in step 5 (see Table 3). As the dependent categorical variable consisted of four categories, the log odds of membership of being in the Aggressive–prosocial group were calculated relative to each of the other groups (see Table 4). We also include the log odds of membership contrasting the other three groups to one another in each section below. To aid in interpretation, 4 (behavioral group) × 4 (cultural group) × 2 (gender) ANOVAs were also conducted so that the post hoc group contrasts, which illustrate mean group differences, could be included in Table 2. Figure 1 also illustrates mean differences in values by behavioral group.

Self-Enhancement Values

The multinomial logistic regression examining how power values predicted to behavioral group found a significant effect for power values that was not moderated by gender or cultural group. As seen in Table 4, an increase in power values decreased the odds of being in the Aggressive–prosocial group relative to the Aggressive group. Similarly, follow-up contrasts found that power values increased the odds of being in the Aggressive group relative to the Low-Both group, OR = 1.68, 95 % CI [1.42, 2.00], and relative to the Prosocial group, OR = 1.62, 95 % CI [1.34,1.96].

The multinomial logistic regression examining how achievement values predicted behavioral groups found a significant effect for achievement values but this main effect was moderated by cultural group. Separate multinomial regression analyses were conducted for each cultural group, revealing that achievement values predicted group membership for African-American and European-American adolescents but did not differentiate behavioral groups for Israeli adolescents. For African-American adolescents, an increase in achievement values increased the likelihood of being in the Aggressive–prosocial group relative to the Low-Both group, OR = 1.99, 95 % CI [1.01, 3.92]. Achievement values also increased the odds of being in the Aggressive group relative to the Low-Both group, OR = 1.84, 95 % CI [1.15, 2.94]. For European-American adolescents, a one *SD* increase in achievement values increased the likelihood of being in the Aggressive group, OR = 3.54, 95 % CI [1.65, 7.62], and Prosocial group, OR = 2.32, 95 % CI [1.20, 4.48], relative to the Low-Both group.

Self-Transcendence Values

Self-transcendence values significantly predicted group membership beyond the effects of gender and cultural group and gender and cultural group did not significantly moderate this effect. As indicated in Table 4, increases in ST values decreased the likelihood of being in the Aggressive–prosocial group relative to the Low-Both group. Follow-up comparisons also revealed that increases in self-transcendence values increased the likelihood of being in the Prosocial, OR = 2.51, 95 % CI [1.60, 3.92], and Low-Both, OR = 3.12, 95 % CI [2.08, 4.65], groups relative to the Aggressive group.

Openness-to-Change Values

As shown in Table 3, openness-to-change values significantly predicted group membership beyond the effects of gender and cultural group, but this main effect was moderated by cultural group and gender. Separate multinomial regression analyses were conducted for each gender within each cultural group. These analyses revealed main effects of openness-to-change values for Arab-Israeli, Jewish Israeli, and European-American boys. For Arab Israeli boys, openness-to-change values increased the likelihood of being in the Aggressive–prosocial group relative to the Low-Both, OR = 10.53, 95 % CI [2.53, 43.48] and the Prosocial groups, OR = 5.74, 95 % CI [1.10, 30.30]. Openness-to-change values also increased the likelihood of being in the Aggressive group relative to the Low-Both group, OR = 3.10, 95 % CI [1.14, 8.40]. For Jewish Israeli boys, openness-to-change values increased the likelihood of being in the Aggressive–prosocial group, OR = 8.77, 95 % CI [2.14, 35.71], or the Aggressive group, OR = 9.52, 95 % CI [2.51, 37.04], relative to the Prosocial group. For European-American boys, openness-to-change values predicted membership in the Aggressive group relative to the Low-Both group, OR = 7.63, 95 % CI [1.72, 33.33].

Conservation Values

The multinomial logistic regression for conservation values indicated a main effect for conservation values predicting behavioral group membership which was not moderated by gender or cultural group. Although conservation values did not differentiate the Aggressive–prosocial group from any other groups, follow-up contrasts revealed that conservation values increased the likelihood of being in the Low-Both, OR = 2.20, 95 % CI [1.51, 3.26], and the Prosocial groups, OR = 1.93, 95 % CI [1.26, 2.95], relative to the Aggressive group. Conservation values did not predict differential group membership between the Low-Both, Prosocial, and Aggressive–prosocial groups.

Discussion

Aggressive–prosocial youth have been found to be a unique and interesting group. In many ways, they look similarly

Table 3 Likelihood ratio tests for values, and their interactions with gender and cultural group predicting behavioral group membership

	SE values		ST values	OP values	CON values
	Power χ^2	Achievement χ^2	χ^2	χ^2	χ^2
Step 3					
Value	40.86***	9.07*	35.05***	24.08***	17.73**
Step 4					
Value × gender ($df = 3$)	5.27	2.88	4.17	4.25	1.07
Value × cultural group ($df = 9$)	10.92	18.93*	14.51	15.55	13.74
Step 5					
Value × cultural group × gender ($df = 9$)	16.47	6.23	9.31	17.04*	3.74

SE self-enhancement values, *ST* self-transcendence values, *OP* openness-to-change values, *CON* conservation values

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

Table 4 Odds ratios for each value predicting membership in the aggressive–prosocial group relative to the other groups

	Low-Both		Prosocial		Aggressive	
	OR	95 % CI	OR	95 % CI	OR	95 % CI
SE values						
Power values	1.19	.97–1.47	1.15	.92–1.45	.71**	.56–.89
Achievement values	1.11	.82–1.49	.88	.64–1.22	.78	.55–1.08
ST values	.51**	.30–.84	.63	.36–1.08	1.59	.92–2.70
OP values	2.13***	1.52–3.03	1.92**	1.32–2.86	1.11	.69–1.79
CON values	.74	.45–1.21	.85	.51–1.42	1.64	.97–2.78

All analyses controlled for cultural group, gender, and the cultural group × gender interaction. ORs greater than one indicate that increases in that value increased the likelihood of membership in the Aggressive–prosocial group relative to the group indicated, whereas values less than one indicate that increases in that value decreased the odds of membership in the Aggressive–prosocial group relative to the group indicated

SE self-enhancement values, *ST* self-transcendence values, *OP* openness-to-change values, *CON* conservation values

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

adjusted to their prosocial peers. They are well-accepted and popular (Hawley 2003) and seem to form friendships high in positive features (Hawley et al. 2007; McDonald et al. 2011). Yet, in other ways, they look more similar to aggressive peers on negative affect and hostility (Hawley et al. 2002) and their friendships are characterized by more conflict and aggression (Hawley et al. 2007). The goal of this study was to examine the values of aggressive–prosocial youth, which past research has neglected, and to see whether values were related to aggressive and prosocial profiles similarly among four cultural groups.

The results of the study revealed that values predicted group membership more often when distinguishing aggressive from aggressive–prosocial youth. Aggressive–prosocial adolescents differed from aggressive peers on power values, endorsing these values less than aggressive youth. In comparison, aggressive–prosocial adolescents endorsed power, self-transcendence, and conservation values at levels similar to their prosocial peers. This leads to the question: if the values of aggressive–prosocial youth are similar to those of their prosocial peers, what may explain their aggressive behavior? We suggest three possibilities.

First, for some, openness-to-change values might explain aggression, especially if they use aggression as a means to have fun and entertain themselves and their friends (see McDonald et al. 2007 for an illustration). For some subsamples, namely Arab and Jewish Israeli boys, aggressive–prosocial behavior were distinguished from prosocial behavior by openness-to-change values. Openness-to-change values are characterized by placing importance on self-direction, stimulation, sensation-seeking, and hedonism and are often endorsed more by adolescents than by adults (Schwartz et al. 2001). We found that Israeli boys who endorsed openness-to-change values were more likely to be either aggressive or aggressive–prosocial than they

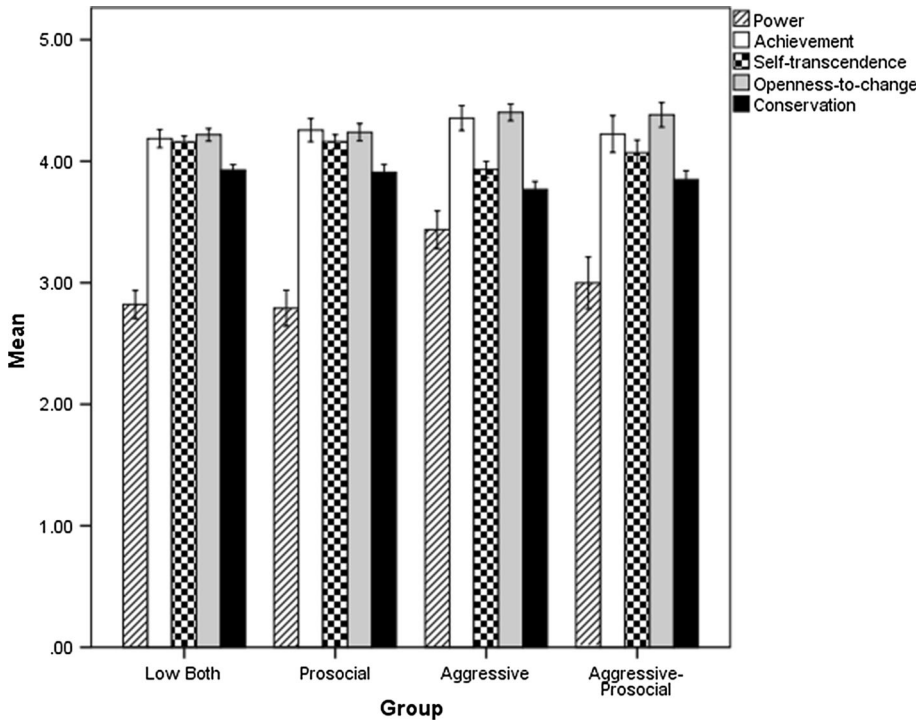

Fig. 1 Value Endorsement for Each Behavioral Group

were to be prosocial alone. These results suggest that placing a lot of importance on making your own choices, trying new things, and having fun may be characteristic of aggressive–prosocial behavior, at least for some groups.

Second, similar to past research (Hawley 2003), the aggressive–prosocial youth identified in this study were also perceived popular by their peers. Thus, it may be that the aggressive behavior of adolescents who are both aggressive and prosocial is driven more by their popularity than by their values. Cillessen and Mayeax (2004), in their longitudinal study of popularity and aggression, found that perceived popularity predicted increases in relational aggression over time more often than aggression predicted increases in status. Others find that popularity and aggression, especially relational aggression, seem to have a bidirectional relationship, with each contributing to the other over time (e.g., Puckett et al. 2008; Rose et al. 2004). It may also be that popularity, values, and behavior interact over time. For example, Ojanen and Findley-Van Nostrand (2014) recently found that social goals moderated how popularity and aggression were related across time. For example, popularity predicted increases in aggression for youth who endorsed agentic goals at high levels. Similarly, aggression predicted increases in popularity for youth who endorsed agentic goals at high levels. Thus, further examination of the longitudinal relationships among values, behavior, and popularity may be especially interesting in future studies. We also suggest that longitudinal studies following the group of adolescents who are both aggressive and prosocial will be very fruitful, as longitudinal studies of this kind have yet to be done.

Third, it is possible that the aggressive behavior of aggressive–prosocial youth can also be explained as a transitory phenomenon of adolescence. Perhaps, these youth will mature out of their aggressive behavior as they get older (for a parallel model see Moffitt 1993) or disengage from peers and groups who may have influenced their aggression during adolescence (Cohen and Prinstein 2006). Implicit to this explanation is the possibility that these adolescents have yet to fully explore and form an identity. Thus, the predictive utility of values for these adolescents may be weaker than for other groups or their behavior may become more aligned with their values as they grow older. Future longitudinal research that follows aggressive–prosocial youth over time should examine if their prosocial values remain consistent, while their aggressive behaviors decrease, as they move into adulthood.

Other group differences in values are also important to note, especially in relation to power values. Membership in the aggressive group was predicted by power values relative to all other groups. This is significant and aligns with past research on how aggression is correlated with power values (e.g., Knafo et al. 2008), social goals, like dominance and revenge goals (Asher et al. 2008), and more general self-interested goals (e.g., Samson et al. 2012). Our findings clearly support this past research.

Of note, however, was the relatively low internal reliability of the power scale ($\alpha = .59$) compared to the other

scales. Lower alphas are expected when scales are shorter and in our study the power scale was only composed of three items. In addition, past research using the PVQ has found that reliability on the three item subscales may get as low as 0.57 (e.g., Knafo et al. 2008). Further, power values have a conceptually broad definition, including items about both wealth and authority (Schwartz et al. 2001). Thus, we were not discouraged with the relatively lower internal reliability of this scale.

In addition to group differences in power values, we also found that self-transcendence values predicted membership in the low-both group relative to the aggressive–prosocial group. Past research has found negative associations between aggression and self-transcendence values (e.g., Knafo et al. 2008; Menesini et al. 2013), however research examining self-transcendence values and prosocial behavior in adolescence is lacking. Thus, it may be that self-transcendence values are more predictive of the absence of aggression than the presence of prosocial behavior in this age group. Prosocial behavior is more normative than is aggression, meaning that there is strong situational pressure to act prosocially. Bardi and Schwartz (2003) suggested that, for behaviors that are heavily influenced by norms, the influence of internal factors, like values, would be weaker. Thus, we suggest that the influence of values on prosocial behavior is likely to be weaker than the influence of values on aggression. This may explain why self-transcendence values seem to be more predictive of (a lack of) aggression than prosocial behavior in our study.

Another goal of the study was to examine how robustly values predicted behavioral profiles by examining these associations cross-culturally. Adolescents from different cultural groups endorsed values at different levels. For instance, African-American adolescents endorsed power values more and self-transcendence values less compared to the other groups. In addition, Jewish Israeli youth endorsed conservation values less than other groups. Past research in Israel has found that Arab adolescents may be more traditional in their beliefs than Jewish Israeli adolescents, who in comparison tend to be more self-interested (Schwartz 2010b). However, our comparison of African-American and European-American adolescents' values is new and, thus, we recommend that these differences be interpreted with caution. We also suggest that these value differences be replicated with adolescents from different regions of the U.S. who may vary in religiosity, political orientation, and SES, as these variables have been found to predict value endorsement within other cultural groups (Schwartz et al. 2001).

Although there were cultural differences in how values were endorsed, three of the five values predicted behavioral profiles similarly no matter the cultural group. Thus, even if groups endorsed values at different levels, our work suggests more cross-cultural similarities than differences in how values and behavior were related, similar to past comparisons with adolescents (Knafo et al. 2008). However, the four groups used in the current article were not exhaustive or representative of a wide array of cultural values. As mentioned above, future studies should continue to examine these questions in other cultural groups.

A strength of the article was the use of a peer nomination method to identify groups of children based on aggressive and prosocial behavior. Most of the studies that have examined aggressive–prosocial youth, with the exception of Hawley (2003) and McDonald et al. (2011), have primarily used self-reports or teacher-reports of aggression and prosocial behavior to identify groups (e.g., Hawley 2003; Hawley et al. 2002). Further, many of the past studies of values and behavior have used self-reports of behavior, which may inflate relations due to shared method variance. That significant behavioral group differences were found using peer nominations strengthens the validity of our findings.

Finally, the results of our cross-sectional analysis of how values predict aggressive and prosocial behavior generally support Social Information Processing Theory (Crick and Dodge 1994). We conceptualize values to be part of the "database," as specified in Crick and Dodge (1994), which may directly affect behavior. A child high in power values may be likely to pursue aggression to gain dominance or gain access to resources. Values may also be indirectly related to behavior through interpretations or through social goals. For example, a child high in power values may be more likely to interpret another child's aggressive behavior as trying to achieve dominance, whereas a child low in power values may be less likely to make that interpretation. This interpretational bias is likely to affect how youth respond to peers' behaviors. It is also likely that values affect situational goal selection as well; a child who is high in self-transcendence values may be more likely to pursue relationship maintenance goals than a child who is lower in these values and, in turn, be more likely to act prosocially to peers. Further, it may be that behavior predicts value endorsement, as would be consistent with self-perception theory (Bem 1967). According to this theory, people observe their behavior and make conclusions about their own values based on their behavior. Altogether, there are numerous ways in which values may affect or be affected by behavior. Longitudinal work will be necessary to better tease out these causal relationships.

Conclusion

Values distinguish aggressive–prosocial adolescents from their aggressive peers. Thus, understanding these motivational patterns could help educators and interventionists to

better tailor programs that increase prosocial behavior and decrease hostile interactions among peers. Our research suggests that interventions may be planned differently for aggressive versus aggressive–prosocial youth. For aggressive adolescents, it may be important to focus on increasing self-transcendence and conservation values and decreasing power values. For aggressive–prosocial youth interventions may instead focus on other therapeutic tools such as increasing self-awareness, to promote congruence between their self-transcendence values and their behavior. For example, private self-consciousness has been shown to increase the negative association between self-transcendence values and aggression, especially for boys (Benish-Weisman and McDonald under review). It may be that discussions that help these youth acknowledge and become mindful of their self-transcendence values would decrease their aggressive behavior.

Finally, past research has shown that value discrepancies exist between adolescents and adults (Benish-Weisman et al. 2013), especially in diverse contexts (Knafo and Schwartz 2001). Although our study revealed only a few cross-cultural differences, it is important for interventionists to consider that the relations between values and behavior may vary across cultures and within educational settings (Roccas and Sagiv 2010). Therefore, we suggest that interventions should be culturally sensitive; interventionists should consider their values as well as the target group's values and how both affect interpretations and goals during social interactions (Pedersen 2000). In sum, a motivational approach to understanding behavior can prove useful for understanding complex or even contradicting behaviors such as those of aggressive–prosocial adolescents.

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