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Impact of Political Conflict on Trajectories of Adolescent Prosocial Behavior: Implications for Civic Engagement

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Abstract

Counterbalancing the narrative of youth as either helpless victims or ruthless perpetrators, a new generation of research in conflict settings focuses on their peacebuilding potential, including constructs such as prosocial behaviors and civic engagement. This paper prospectively examines trajectories of adolescent prosocial behaviors (N= 999; Time 1: M=12.18, SD=1.82, overall range 10-20 years old) over six consecutive years in Belfast, Northern Ireland. A dual change model found an initial shallow decrease in prosocial behaviors that dropped more sharply in later adolescence. Exposure to sectarianism related to an accelerated decrease in prosocial behaviors. Trajectories of prosocial behaviors positively related to later social and political engagement. Intervention implications address how to promote youth prosocial behaviors and civic engagement amid protracted political conflict.

Key words: prosocial behavior, youth civic engagement, political violence, intergroup conflict, Northern Ireland, adolescence

Impact of Political Conflict on Trajectories of Adolescent Prosocial Behavior: Implications for Civic Engagement

In settings of political conflict, youth are often portrayed as either helpless victims or ruthless perpetrators (Muldoon, 2013). Addressing a gap in this literature, an emerging area of psychological research focuses on the peacebuilding potential of youth (McEvoy-Levy, 2006; Barber, 2009; Taylor & McKeown, 2017; McKeown & Taylor, 2017), including prosocial behaviors and civic engagement. Yet, research finds mixed effects with political violence relating to both higher (e.g., Blattmann, 2009; Macksoud & Aber, 1996) and lower (e.g., Keresteš, 2006; Taylor et al., 2014) prosocial behaviors. Moreover, existing research is limited to between-person differences in prosocial behaviors. In addition, few studies have investigated other forms of positive youth development amid protracted intergroup conflict, such as civic engagement, which may have wider societal benefits (Barber, 2009). This area of research is needed because participation in civic life has been found to be an indicator of youth agency and to have positive implications for society (Levine & Youniss, 2006; Yates & Youniss, 2006). The current study therefore investigates how the development of prosocial behaviors in adolescence affects later youth civic engagement in a setting of political conflict.

Political Violence and Youth Prosocial Behaviors

Extending the well-established research that has linked experience with political violence to internalizing and externalizing problems (Betancourt, McBain, Newham, & Brennan, 2013; Boxer et al., 2013; Taylor, Merrilees, Goeke-Morey, Shirlow, & Cummings, 2016), there is growing interest in understanding adaptive and agentic responses, such as youth prosocial behaviors, or voluntary acts that benefit another without personal profits or external awards (Bar-Tal, 1976). Altruism born of suffering (Staub & Vollhardt, 2008) is a theory that describes how

when facing threat, individuals may respond with more helping or prosocial behaviors. In settings of political conflict, past research has found that war experiences may strengthen children's altruistic sentiments and actions to help other victims (Macksoud & Aber, 1996). A socio-developmental perspective, however, suggests that young people may adjust their prosocial behaviors over time based on their continued experience with intergroup violence (Bar-Tal, Diamond, & Nasie, 2016). That is, young people who respond with constructive prosocial acts initially, yet continue to face intergroup threat, may learn with age that these helping behaviors may not be effective.

These two perspectives on the impact of experience with intergroup threat on prosocial outcomes reflect conceptual distinctions of how personal and contextual variables influence each other over time (Skinner, Zimmer-Gembeck, Connell, Eccles & Wellborn 1998). On the one hand, Skinner and colleagues (1998) outline a 'launch' model of development as one "in which individual differences in the development of a target outcome are a function of individual differences in the initial level of an antecedent" (p. 30). The launch approach suggests, for example, that early experience with political conflict sets the stage for later trajectories of prosocial behavior. On the other hand, the social context may be important to consider as an over-arching factor in development. Skinner and colleagues label this as an 'ambient' model of development in which "trajectories are determined by the average level of [a factor] while the trajectory is unfolding" (p. 31). More consistent with the socio-developmental perspective, the ambient approach suggests that the average level of experience with intergroup threat should be considered when modeling trajectories of prosocial behavior. Thus, studying both early exposure to, as well as consistent experience with, intergroup threat across development may be necessary to more fully understand how political violence affects youth prosocial behaviors.

Reflecting these conflicting theoretical perspectives, there is mixed empirical evidence on the impact of political conflict on youth prosocial behaviors. On the one hand, previous research has documented positive links between political conflict and youth prosocial behaviors. In Lebanon, children ages 10 to 16 years old who had been separated from their parents or witnessed war-related violence also displayed more prosocial behaviors (Macksoud & Aber, 1996). Among former child soldiers abducted around age 11 in Sierra Leone, those who reported being raped during the conflict, also reported higher levels of prosocial acts at age 17 (Betancourt et al., 2010). These studies suggest that after war exposure, youth may respond constructively through helping behaviors and positive social interactions with others.

On the other hand, reflecting a negative link between political conflict and prosocial behaviors, earlier exposure to stressful war events was related to lower levels of teacher-rated prosocial acts among 11-13 years old in Croatia (Kerestes, 2006). In Northern Ireland, there was a negative link between exposure to intergroup conflict and youth prosocial behaviors both concurrently (Cummings et al., 2010) and one year later (Taylor et al., 2014). Finally, research with child soldiers in Uganda failed to find differences in prosocial behaviors between abducted and non-abducted youth aged 16 to 23 years old (Schulz, Sørensen, & Waaktaar, 2012). These studies suggest that recent and on-going political conflict may restrict youth prosocial behaviors.

Limitations across most of these studies, however, are cross-sectional designs and retrospective assessments of exposure. Moreover, limited longitudinal studies of prosocial behaviors have utilized between-person tests; there is no published research that models within-person changes in adolescent prosocial behaviors in conflict settings. Modeling prospective, within-person trajectories is essential to understanding developmental processes and informing well-timed interventions.

Relying on literature from non-conflict settings may shed light on the trajectories of adolescent prosocial behaviors. Early work by Eisenberg and colleagues suggests that as young people gain socio-cognitive skills, such as perspective taking, and deeper emotional resources, such as empathy, they will be better able to respond in prosocial ways (Eisenberg & Fabes, 1998; Eisenberg, Miller, Shell, McNalley, & Shea, 1991). Prospective studies in the transition from adolescence to adulthood found increases in socio-cognitive skills; however, there was no related increase in helping behaviors (Eisenberg, Cumberland, Guthrie, Murphy, & Shepard, 2005). For normative US samples, Eisenberg et al. (2005) found a decreasing cubric trend across late adolescence, which has been replicated in an Italian sample (Luengo Kanacri, Pastorelli, Eisenberg, Zuffiano, & Caprara, 2013; Luengo Kanacri et al., 2014). Recent research with more diverse samples has also found decreasing levels of prosocial behaviors across adolescence (Carlo, Crocket, Randall, & Roesch, 2007; Kokko, Tremblay, Lacourse, Nagin, & Vitaro, 2006; Nantel-Vivier et al., 2009). Thus, despite greater cognitive and emotional resources, youth may be more selective in responding to those around them, resulting in a decrease in overall prosocial acts across this developmental period (Carlo et al., 2007).

Understanding the timing and shape of the development of prosocial behaviors across adolescence, and how those trajectories are influenced by early and continued exposure to risk, is important because prosocial behaviors are related to greater resilience (Haroz, Murray, Bolton, Betancourt, & Bass, 2013) and may help to promote other constructive outcomes among youth in conflict-affected societies (Nasie & Bar-Tal, 2012).

Prosocial Behaviors and Civic Engagement amid Protracted Conflict

Using a social ecological framework (Bronfenbrenner, 1979) highlights a possible connection between prosocial behaviors and another constructive youth outcome: civic

engagement, or political and non-political forms of collective action that aim to improve community well-being and address issues of public concern (Checkoway & Aldana, 2013; Ehrlich, 2000). That is, the personal and relational changes that take place during prosocial acts in interpersonal interactions, such as helping peers, may be positively related to civic engagement, which typically aims to influence broader structural or cultural change (Lederach, 1997). This suggests that the underlying motivations for youth who act prosocially to directly help those around them may, over time, promote youth engagement in social and political aspects of society aimed at indirectly improving the social welfare for others they may never meet. Therefore, it is expected that there would be a significant, positive relation between trajectories of prosocial behaviors and youth civic engagement.

Counterbalancing the narrative of youth as victims or perpetrators, linking prosocial behaviors to youth civic engagement is important because the latter has a number of individual (e.g., improved mental and physical health) and societal (e.g., rebuilding democratic societies after war) benefits (Bužinkić, 2013; Checkoway & Aldana, 2013; Cheung, Lee, Chan, Liu, & Leung, 2004; Piliavin, 2005). Despite the fact that adolescence is a critical period for young people to become productive and engaged members of society (Yates & Youniss, 2006), the research on civic engagement in contexts of political conflict remains limited.

As with prosocial behaviors, there are mixed findings as to the positive or negative impact of experience with political violence on engagement in civic life (Barber & Schluterman, 2009). Personal growth, social meaning, and political activation due to conflict-related violence were associated with greater activism among Palestinian youth (Barber, 2008) and higher levels of community mobilization, voting, leadership, and participation in peace groups in Northern Uganda (Blattmann, 2009). Yet, this positive link is not always found. For example, McCouch

(2009) documented how after the fall of the former Yugoslavia, exposure to political violence predicted lower levels of participation in civic life among young people because of lower social competence and greater negativity about the future. These findings suggest that in order to understand youth civic engagement in settings of protracted conflict, prospective studies with greater attention to potential antecedents, such as prosocial behaviors, are needed.

Current Study in Northern Ireland

The current study aims to first, (a) identify the shape of within-person change in adolescent prosocial behaviors, second, (b) examine how that change is affected by early (i.e., launch) and consistent (i.e., ambient) exposure to sectarianism, and third, (c) explore the influence of those prosocial trajectories on youth civic engagement. The second step replicates the modeling strategy used by Skinner et al. (1998, p. 197); that is, how individual differences in the rate of change of prosocial behaviors are predicted by *initial levels* as well as the *average level* of exposure to sectarianism. The value and feasibility approach to modeling launch and ambient variables has been examined previously in Northern Ireland to test the influence of a protective factor on a negative outcome (Taylor et al., 2016), in contrast to the current paper which investigates the role of a risk factor on a positive outcome. The third step advances understanding around how positive interpersonal interactions (i.e., prosocial behaviors) may be antecedents for behaviors targeting wider societal change (i.e., civic engagement) for adolescents in a post-accord setting.

To address these aims, we will use a prospective, longitudinal data set across six consecutive years in Belfast, Northern Ireland. Belfast is a setting of protracted conflict; although the peace agreement in 1998 has largely resolved the macro-level political disputes among conflicting groups, low-level tensions remain. For example, in the final year of the study, over

900 sectarian incidents were reported to the police (Police Service of Northern Ireland, 2013). As such, youth born after the peace accord are exposed to on-going sectarianism in both sporadic and annual spikes of violence. Some estimates suggest that one in four adolescents will be a victim of verbal sectarian abuse (Jarman, 2005), and in Belfast, three in four adolescents reported recent exposure to community violence (McAloney et al., 2009).

Method

Participants and Procedures

These analyses, part of a broader study on how political violence affects children and families in Belfast, include six annual prospective waves of adolescent data collected from 2007-2012 (Time 1: M = 12.18, SD = 1.82, overall range 10-20 years old; 49% male, 51% female). Inclusion criteria were families from Northern Ireland with a child age 10 to 15 living in the home. By this age, youth are aware of the history of the conflict, may be exposed to greater sectarianism, and have increasing autonomy about how to spend their time (Cairns, 1987; Cummings et al., 2009). Along with mothers (57% female-headed households), the youngest child interested was selected to participate. At Time 3, a supplemental sample was added using the same procedures.

All study areas were interfaced, homogenous neighborhoods of Catholics or Protestants separated by ‘peace walls’ or other physical barriers. Study areas were in the bottom 25% of wards based on the multiple deprivation index in Northern Ireland (Northern Ireland Neighborhood Information Service, 2011). Although political violence is typically higher in interfaced neighborhoods (Balcells, Daniels, & Escriba-Folch, 2016), study areas included a variation in the level of conflict-related violence (Shirlow & Murtagh, 2006). All procedures were approved by the IRB at the University of Notre Dame, protocol #12-11-568 on Children

and Political Violence in Northern Ireland. Families were recruited using stratified sampling by a professional market research firm. All data were collected in the participants' homes through face-to-face interviews lasting approximately 30-45 minutes for youth; families received modest compensation (£20 at Times 1 and 2, £40 at Times 3 and 4, £50 at Times 5 and 6).

The total sample size was 999 families, 15% of whom participated at only one wave, while between 590 and 770 (M = 642, SD = 145) families participated in each wave. Across six years retention was high, averaging 81% between each year of data collection. Between Times 1 and 2, and Times 3 and 4, there were no differences in the study variables between those who returned and those who did not. Between Times 2 and 3, participants with higher prosocial scores ($t(567) = -5.08$, $p < .001$; retained: M = 5.83, SD = 2.76; attrited: M = 7.15, SD = 2.29) and more exposure to political conflict ($t(567) = -3.81$, $p < .001$; retained: M = 2.21, SD = 5.75; attrited: M = 4.72, SD = 9.18) were less likely to return. Between Times 4 and 5, participants with higher prosocial scores were less likely to return ($t(625) = -2.84$, $p < .01$; retained: M = 5.41, SD = 2.83; attrited: M = 6.22, SD = 2.83). Finally, between Times 5 and 6, participants higher in prosocial ($t(590) = -4.57$, $p < .001$; retained: M = 4.97, SD = 3.01; attrited: M = 6.62, SD = 2.59) and exposure to political conflict ($t(573) = -3.67$, $p < .001$; retained: M = 2.47, SD = 6.31; attrited: M = 5.54, SD = 9.05) were less likely to return.

Measures

Sectarian antisocial behavior. The youth experience with sectarian antisocial behavior (SAB) scale was specifically developed for this context through focus groups (Taylor et al., 2011) and a two-wave pilot test (Goeke-Morey et al., 2009). The 12-item scale asks how frequently over the last three months youth have experienced events such as "stones or other objects thrown over walls" and "name calling by people from the other community." Participants

responded on a scale ranging from 0 = *not in the last 3 months* to 4 = *every day*. Internal consistencies were excellent (Time 1: α=.90, Time 2: α=.95, Time 3: α=.94, Time 4: α=.94, Time 5: α=.94, Time 6: α=.91).

Prosocial behaviors. Youth reports on the prosocial behavior subscale of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) were used. The five items included statements such as "I am helpful if someone is hurt, upset or feeling ill" and "I usually share with others (food, games, pens etc.)" and participants responded if these statements were 0 = *not true* to 2 = *certainly true*. The SDQ has well-established psychometric properties and has been shown to perform well with community samples in the UK (Goodman & Scott, 1999). The internal consistencies were acceptable to good (Time 1: α=.77, Time 2: α=.77, Time 3: α=.68, Time 4: α=.78, Time 5: α=.80, Time 6: α=.85).

Civic engagement. At the final time point, youth reported on the frequency of their involvement in a range of civic activities over the last 12 months, ranging from 0 = *never* to 4 = *always*. The 8 items used combined a questionnaire developed for Northern Ireland (ARK, 2006) and an established measure for civic engagement (Zaff, Boyd, Li, Lerner, & Lerner, 2010). Example of activities included "signed a petition" and "volunteered your time." Consistent with other studies on youth civic engagement in other settings of intergroup conflict (McCouch, 2009), exploratory factor analyses identified two related forms of civic engagement: social (e.g., volunteering, helping at school) and political (e.g., signed a petition, boycotted products) (Author Identifying Citation). Internal consistencies for the two subscales were acceptable to good (social α =.83, political α =.73).

Financial stability. As a control variable, mothers reported on five categorical items that assessed their financial stability, such as if they can "afford to keep the house warm during the

winter," over waves 2 through 6. Higher average scores over this time indicate greater financial stability. All scales can be found in an on-line appendix.

Data Analytic Plan

Launch and ambient risk. For this analysis, SAB was included in two ways, both as a launch and as an ambient risk factor, consistent with the theoretical and empirical approach used by Skinner et al. (1998). Further evidence of the value and feasibility of the conceptual justification outlined and tested by Skinner and colleagues (1998) has been found in more recent empirical work (Taylor et al., 2016). Thus, in the current study, the aim was to examine potential within-person change in SAB. That is, to justify using the ambient-level of SAB averaged across age, the potential systematic within-person change in SAB was investigated. The theoretically-driven time variable of interest is child age; however, for consistency, the following analyses are also examined with wave as the time variable.

First, a latent growth curve (LGC) approach has a number of advantages to modeling within-person change. The LGC in Mplus provides model fit indices, which indicate if the model is a good fit to the data, and uses maximum likelihood, a modern missing data technique that accounts for bias in the estimates assuming the data are missing at random (Enders, 2010) and has advantages over other missing data approaches such as multiple imputation (Allison, 2012), particularly for large samples (Allison, 2015). Therefore, a series of models using manifest indicators of SAB, a frequency variable, were tested to assess systematic within-person change. The LGC analyses using age as the time variable revealed that both linear (RMSEA=.232 [.225, .239]; CFI=.92; TLI=.92; SRMR=.102; Hu & Bentler, 1999) and quadratic (RMSEA=.452 [.446, .458]; CFI=.65; TLI=.71; SRMR=.057) change in SAB were a poor fit to the data. In addition, examining potential change in SAB with wave also found poor model fit for linear

(RMSEA=.140 [.127, .153]; CFI=.62; TLI=.64; SRMR=.157) and quadratic (RMSEA=.092 [.076, .107]; CFI=.88; TLI=.85; SRMR=.116) change. This lack of model fit suggested that both linear and quadratic change in SAB across both age and wave were not good fits to the data. Within this framework, a latent basis model with age as the time variable was also conducted. In this approach, the slope is estimated by fixing the first time point to 0 and final time point to 1; the time points in between are freely estimated. This approach allows for assessment of nonlinear mean change patterns, however, it was also not a good fit to the data (RMSEA=.412 [.405, .419]; CFI=.76; TLI=.73; SRMR=.071). The latent basis model with wave as the time variable did not converge.

A repeated measures ANOVA, like the LGC approach, is designed to test if there is linear change in the data. However, when conducted in SPSS, the repeated measures ANOVA uses list-wise deletion which produce biased estimates if the data are not missing completely at random (MCAR) and does not provide information about model fit. In addition, because age was the time variable of interest, there was systematic missing data because each participant could only have a maximum of six time points across the span of 11 years. This lack of coverage means that a repeated measures ANOVA could not be conducted across the entire age span in SPSS; therefore, two separate repeated measures ANOVA were conducted, the first spanning from 10 to 15 years old and the second from 16 to 20 years old. In each case, Mauchly's Test of Sphericity was significant (ages 10-15: ($\chi 2(14) = 159.97$, $p < .001$); ages 16-20: ($\chi 2(9) = 75.87$, $p < .001$), indicating that this assumption was violated and the results should not be interpreted. This additional analysis supports the LGC findings that suggest that neither the linear nor quadratic models were good fits to the data.

In addition to the primary concern about potential within-person change over time, within-person differences in SAB were also examined. This bivariate approach compared the mean levels of SAB for each age for each person using a series of paired t-tests with a Bonferroni correction for multiple comparisons. Across all age pairs, there was only one significant difference between the means of SAB at ages 15 and 18 ($t(130)=4.42$, $p<.001$; M_{15} = 2.88 (SD = 6.07), M_{18} = .88 (SD = 3.11). That is, there were no differences in the mean levels of SAB across adolescence, except when comparing the exposure of 15 year-olds to the level of exposure of 18-year olds. The online appendix visually depicts these means over age.

Second, the between-person ranking of exposure to sectarianism was fairly stable as indicated by the correlations in SAB across age. That is, the majority of correlations were medium to large correlations (Cohen, 1992) and significant (see table in online appendix). Combined with the paired t-test results, this suggests that there was little variability in the average level of SAB in the sample and that the ranking of individual exposure was fairly stable across age.

Given that there were no satisfactory within-person models of SAB that fit the data, and that the paired t-test suggested there were largely no significant differences across age, these findings suggests that rather than trying to model systematic change in SAB, the average SAB could be a reasonable proxy for ambient risk during this developmental period. Thus, both the initial youth report of SAB (i.e., launch) and the average SAB across all available ages (i.e., ambient) were included. Consistent with how Skinner et al. (1998, p. 96) operationalized the ambient variable into a statistical model, the average of the SAB across the six waves of data was calculated. Using this analytic approach is advantageous because it matches the developmental model to two theoretically-meaningful conceptualizations of risk (Grimm, 2007); moreover, this

approach has been used in more recent empirical tests (Taylor et al., 2016). Alternative approaches, such as modeling SAB as a time-varying covariate, may be appropriate if the research question was specifically about understanding and/or controlling for the link between experience of sectarianism and prosocial behavior at each age. Testing this approach will be included in the sensitivity analyses below.

Modeling change with age. There have been recent advances in techniques to assess change with longitudinal data (Ferrer & McArdle, 2010; McArdle, 2009). Traditionally, change over time has been assessed with either the auto-regressive (AR) models, which calculate *proportional* change in the strength of the relation between measurement occasions, or LGC models, which assess *systematic* change assuming a true underlying trajectory that can be estimated with manifest indicators at discrete time points. *Dual change score* (DCS) model combines the strengths of these two approaches to more accurately assess longitudinal change patterns (Ferrer & McArdle, 2010). That is, DCS models are LGC fitted with AR paths, integrating the two traditional forms of modeling change. In this approach, observed scores are partitioned into true (i.e., latent) scores and error variances; the latent scores, in turn, predict the following time point and the residual represents the latent change between those two latent variables. Thus, the DCS model combines proportional (AR) and systematic (LGC) change; an individual score is the result of both time-varying proportional change and underlying systematic growth (Grimm et al., 2012).

Results

Table 1 presents the means, standard deviations and bivariate correlations. Given attrition analyses, the primary model was estimated with maximum likelihood, which accurately

estimates parameters under the assumption that data are missing at random (MAR). All analyses used age as the time variable and were conducted in Mplus.

The DCS model fit the data well (RMSEA=.028 [.020, .036]; CFI=.97; TLI=.97; SRMR=.063). Figure 1 depicts the average trajectory in which the proportional change was positive and significant (β=.74 to 1.4, p<.001) and the systematic change/latent slope was negative with age (β=-3.54, p<.001).[1] Together, these parameters indicated that the average trajectory followed an initial shallow decrease in prosocial behaviors that had a sharper decrease in later adolescence (Figure 2). Although girls were higher in initial prosocial behaviors at age 10 (β=.23, p<.001), no significant gender differences in the shape of change were found. The control variable of financial stability was related to lower initial intercepts (β=-.10, p<.05) and more positive slopes (β=.21, p<.01) of prosocial behavior.

With regard to the impact of SAB, replicating the launch and ambient modeling approach of Skinner et al. (1998), the intercepts of prosocial behavior were positively related to exposure to SAB at Time 1 (β=.07, p<.05); however, the average SAB was related to an accelerated decrease in prosocial behaviors at the 'trend' level (β=-.08, p=.07). That is, this estimate falls above the standard cut-off used to reject the null hypothesis (Amrhein, Korner-Nievergelt, & Roth, 2017); however, given that the p curve is a distribution, this finding is being reported at the statistical trend level (p<.10). Moreover, although this is a relatively small effect, one standard deviation increase in average SAB related to approximately an additional .20 decrease in prosocial behavior over time. Thus, higher levels of average experience with sectarianism across adolescence related to sharper decreases in prosocial behaviors with age.

[1] Standardized regression coefficients are reported. In some instances, these coefficients are greater than 1, which is not inconsistent for all measurement and structural relations (Deagan, 1978; Jöreskog, 1999).

Supporting the hypothesis that, over time, youth prosocial interpersonal interactions may relate to other forms of social involvement, analyses found that trajectories of prosocial behaviors positively predicted later civic engagement. Higher initial levels and more positive slopes of prosocial behavior predicted greater social and political civic engagement (social: β_{intc}=.54, p<.05, β_{slope}=.76, p<.001; political: β_{intc}=.47, p<.01, β_{slope}=.49, p<.01).

A sensitivity analysis was conducted that also examined the potential relation between SAB at each age with prosocial behaviors. The alternative model used the DCS to model prosocial behaviors above, but instead included SAB as a time-varying covariate for prosocial behaviors at each age, rather than as a launch and ambient risk factor. Using the AIC, BIC and sample-size adjusted BIC (SABIC), the alternative model was a worse fit to the data than the original model (Original: AIC=18,162.79, BIC=18,271.70, SABIC=18,195.50; Alternative: AIC=19,280.59, BIC=19,398.96, SABIC=19,319.56). Moreover, while the average effect of SAB on prosocial behavior within each age was non-significant in the alternative model, the general pattern of substantive findings was similar (i.e., initial shallow decrease in prosocial behaviors that accelerated with time, positive link from prosocial trajectory estimates to social and political civic engagement). Therefore, the original model was retained.

Discussion

This paper prospectively modeled the impact of exposure to political violence on trajectories of prosocial behaviors across adolescence in a setting of protracted conflict. Following the three study aims, using six time points, the DCS model found an average decline in prosocial behaviors that accelerated with age. Combining a launch and ambient approach to modeling risk associated with SAB (Skinner et al., 1998; Taylor et al., 2016), analyses found despite an initial positive relation between SAB and prosocial behaviors, overall exposure to

sectarianism was an inhibitory factor. Supporting a social ecological approach, trajectories of prosocial behaviors predicted later social and political civic engagement; that is, interpersonal and relational changes (i.e., prosocial behaviors) led to behaviors targeted at broader societal changes (i.e., civic engagement). Finally, although girls were higher than boys at initial levels of prosocial behaviors, there was no difference in their change and no lingering relation of gender to either form of civic engagement.

First, there was an average decline in youth reports of prosocial behaviors, which is consistent with more recent studies of within-person trajectories of such behaviors across adolescence and into emerging adulthood in normative and diverse samples (Carlo et al., 2007; Eisenberg et al., 2005; Kokko et al., 2006; Luengo Kanacri et al., 2013; Luengo Kanacri et al., 2014; Nantel-Vivier et al., 2009). The DCS model found that after an initial shallow decrease, there was an acceleration of the decline in the later adolescent years. The steeper decrease in prosocial behaviors after age 16 may be related to the fact that, in this context, youth are no longer obliged to attend school after this age; this suggests that programs may need to reach adolescents outside of formal schooling. Targeting youth before the decline in order to sustain prosociality across the adolescent years may be an important goal of future interventions.

Second, regarding the impact of political violence on prosocial behaviors, the innovative use of Skinner et al. (1998) launch and ambient approach helped to resolve inconsistencies in other research. That is, the current findings may help to make sense of previously mixed findings. Although SAB was positively related to the intercept, the impact of average SAB was related to greater decreases in the trajectories of prosocial behaviors with age. This dual effect may suggest that by age 10, youth have socio-emotional and cognitive resources to respond in prosocial ways to adversity posed by intergroup conflict. However, on average, prolonged

experiences with sectarianism across the adolescent years accelerated the decline in prosocial responses. This finding may suggest that prolonged exposure to sectarianism erodes prosocial behaviors over time (Bar-Tal et al., 2016). However, it should be noted that the relatively small effect of average SAB on the trajectory of prosocial behaviors was not significant at the standard cut-off of $p<.05$, but only significant at the trend level. By modeling SAB as both a launch and ambient risk factor (Taylor et al., 2016), this paper highlights the importance of not only measuring conflict-related stress, but also continued conflict experiences even after formal peace processes, to better understand child development.

Third, this study expands the understanding of adaptive outcomes and youth agency by studying both prosocial behaviors and civic engagement. Higher initial levels and less steep declines, or those with more positive slopes in prosocial behaviors positively, predicted more social and political engagement. That is, youth who could maintain adaptive prosocial responses with age and in the face of on-going sectarianism were more likely to participate in ways such as volunteering (i.e., social engagement) as well as signing petition (i.e., political engagement). This suggests that focusing on promoting and maintaining prosocial behaviors may have longer term benefits for youth civic engagement which can contribute to rebuilding society after conflict.

Despite the prospective nature of the design, this study is not without limitations. First, in four of the six waves, attrition was related to study variables; however, because these variables were included in the model, maximum likelihood is able to accurately estimate parameters given that the data are MAR. Second, civic engagement was only assessed in the last time point as a stage-salient extension of prosocial behaviors. Additional research could aim to better understand civic engagement in this context (Banaji, 2008). Third, to understand civic engagement and the

changes in prosocial behaviors over time, a greater number of family-level variables could also be investigated (Taylor et al., in press). Fourth, future research could also investigate how prosocial trajectories may relate to other developmental outcomes such as aggression (Taylor et al., 2016) and delinquency (Cummings et al., 2016). Along these lines, investigating potential reciprocal and bidirectional effects in which the decline in prosocial behaviors with age is related to greater risk exposure would be a fruitful future direction (Cummings et al., in press). Fifth, matching the model selection to the developmental research questions (Grimm, 2007), the current analyses conceptualized and modeled SAB as both a launch and ambient risk factor. An alternative model was also tested that included SAB as a time-varying covariate for prosocial behaviors; however, this model did not fit data as well as the original model. Future research may continue to explore within-age, cross-sectional links between exposure to sectarianism and youth outcomes (Taylor et al., 2016; Cummings et al., 2013). Sixth, the ambient risk of SAB did not reach traditional statistical significance (Pritschet, Powell, & Horne, 2016); future research should aim to replicate the findings of the current study. Seventh, complementing individual exposure to risk (i.e., SAB), future research could also consider more distal forms of crime (Cummings et al., 2013) and their geographic proximity to youth (Sharkey, 2010). Finally, to compensate for potential biases due to self-reported measures, future research could also integrate other reporters of prosocial behaviors since past research has found some discrepancies in the nature of change in these reports (e.g., Kerestes, 2006; Carlo et al., 2007).

These results have implications for future interventions that aim to go beyond reducing psychopathology related to political conflict. In Belfast, this study suggests that interventions should be targeted (a) before the sharper decline in prosocial trajectories, (b) around areas with higher average levels of possible exposure to sectarian antisocial behavior, and (c) toward youth

who may be more likely to experience such risk. The findings highlight the importance of promoting interpersonal prosocial behaviors, which may to in turn foster youth social and political civic engagement in a setting of protracted conflict.

References

Allison, P. (2012). Handling Missing Data by Maximum Likelihood, SAS Global Forum 2012, Statistics and Data Analysis, Paper 312-2012. Retrieved from https://statisticalhorizons.com/wp-content/uploads/MissingDataByML.pdf

Allison, P. (2015, May 15). Statistical Horizons. Maximum Likelihood is Better than Multiple Imputation: Part II. Retrieved from https://statisticalhorizons.com/ml-is-better-than-mi

Amrhein V, Korner-Nievergelt F, Roth T. (2017). The earth is flat (p > 0.05): significance thresholds and the crisis of unreplicable research. *PeerJ*, *5*, e3544. doi.org/10.7717/peerj.3544

ARK. (2006) Young Life and Times Survey, 2004 [computer file]. ARK www.ark.ac.uk/ylt [distributor], January 2006. Retrieved from www.ark.ac.uk/nilt

Balcells, L., Daniels, L., & Escriba-Folch, A. (2016). Does segregation work to prevent ethnic violence? Not in Northern Ireland. *Journal of Peace Research, 53* (1), 33-48. doi: 10.1177/0022343315610399

Banaji, S. (2008). The trouble with civic: a snapshot of young people's civic and political engagements in twenty-first-century democracies. *Journal of Youth Studies, 11*(5), 543-560. doi: 10.1080/13676260802283008

Barber, B. K. (2013). Annual research review: The experience of youth with political conflict—Challenging notions of resilience and encouraging research refinement. *Journal of Child Psychology and Psychiatry, 54*, 461-473. doi: 10.1111/jcpp.12056

Barber, B. K. (2009). *Adolescents and war: How youth deal with political violence*. New York, NY: Oxford University Press.

Barber, B. K., & Schluterman, J. M. (2009). Adolescents and political violence: A review of the empirical literature. In B. K. Barber (Ed.), *Adolescents and war: How youth deal with political violence* (pp. 35-61). New York, NY, US: Oxford University Press.

Barber, B. K. (2008). Contrasting portraits of war: Youths' varied experiences with political violence in Bosnia and Palestine. *International Journal of Behavioural Development, 32*(4), 298–309. doi: 10.1177/0165025408090972

Bar-Tal, D. (1976). *Prosocial behavior: Theory and research*. Washington, DC: Hemisphere Publishing Corp.

Bar-Tal, D., Diamond, A., & Nasie, M. (2016). Political socialization of young children in intractable conflicts. *International Journal of Behavioral Development*. doi: https://doi.org/10.1177/0165025416652508

Betancourt, T. S., Brennan, R. T., Rubin-Smith, J., Fitzmaurice, G. M., & Gilman, S. E. (2010). Sierra Leone's former child soldiers: A longitudinal study of risk, protective factors and mental health. *Journal of the American Academy of Child and Adolescent Psychiatry*, *49*, 606–615. doi: 10.1016/j.jaac.2010.03.008

Betancourt, T.S., McBain,R., Newham, E.A., & Brennan, R.T. (2013). Trajectories of internalizing problems in war-affected Sierra Leonean youth: examining conflict and postconflict factors. *Child Development, 84*(3), 455-470. doi: 10.1111/j.1467-8624.2012.01861.x

Blattmann, C. (2009). From violence to voting: War and political participation in Uganda. *American Political Science Review*, *103*, 231–247. doi: 10.1017/S0003055409090212

Boxer, P., Rowell, L., Dubow, E. F., Landau, S. F., Gvirsman, S. D., Shikaki, K., & Ginges, J. (2013). Exposure to violence across the social ecosystem and the development of

aggression: A test of ecological theory in the Israeli–Palestinian conflict. *Child Development, 84*, 163–177. doi: 10.1111=j.1467-8624.2012.01848.x

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bužinkić, E. (2013). Croatian youth corner: Youth participation and civic education from practitioners' eyes. In R.V. Roholt, M. Baizerman, & R.W. Hildreth (Eds.), *Civic youth work: Cocreating democratic youth spaces* (pp. 139-147). Chicago, IL, US: Lyceum Books.

Cairns, E. (1987). *Caught in crossfire: Children in Northern Ireland.* Belfast, United Kingdom: Appletree Press.

Carlo, G., Crocket, L.J., Randall, B.A., & Roesch, S.C., (2007). A latent growth curve analysis of prosocial behavior among rural adolescents. *Journal of Research on Adolescence, 17*(2), 301-324. doi: 10.1111/j.1532-7795.2007.00524.x

Checkoway, B., & Aldana, A. (2013). Four forms of youth civic engagement for diverse democracy. *Children and Youth Services Review, 35*(11), 1894-1899. doi: 10.1016/j.childyouth.2013.09.005

Cheung, C. Lee, T., Chan, W., Liu, S., & Leung (2004). Developing civic consciousness through social engagement among Hong Kong youths. *The Social Science Journal, 41*(4), 651-660. doi: 10.1016/j.soscij.2004.08.006

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159.

Cummings E.., Taylor, L.K., Du, H., Merrilees C.E., Goeke-Morey, M.C., Shirlow, P. (in press). Examining bidirectional pathways between political violence and child adjustment over time in Northern Ireland. *Journal of Clinical Child and Adolescent Psychology*.

Cummings, E.M., Taylor, L.K**.**, Merrilees, C.E., Goeke-Morey, M.C., & Shirlow, P. (2016). Emotional insecurity in the family and community and youth delinquency in Northern Ireland: A person-oriented analysis across five waves. *Journal of Child Psychology and Psychiatry, 57*(1), 47-54.doi: 10.1111/jcpp.12427

Cummings, E.M., Merrilees, C.E., Taylor, L.K**.,** Shirlow, P., Goeke-Morey, M., & Cairns, E. (2013). Longitudinal relations between sectarian and non-sectarian community violence and child adjustment in Northern Ireland. *Development and Psychopathology*, 25, 615–627. doi: 10.1017/S0954579413000059

Cummings, E. M., Schermerhorn, A. C., Merrilees, C. M., Goeke-Morey, M. C., Shirlow, P., & Cairns, E. (2010). Political violence and child adjustment in Northern Ireland: Testing pathways in a social ecological model including single- and two-parent families. *Developmental Psychology*, *46*, 827–841. doi: 10.1111/j.1467-8624.2011.01720.x

Cummings, E. M., Goeke-Morey, M. C., Schermerhorn, A. C., Merrilees, C. E., & Cairns, E. (2009). Children and political violence from a social ecological perspective: Implications for research on children and families in Northern Ireland. *Clinical Child and Family Psychology Review*, *12*, 16–38. doi: 10.1007/s10567-009-0041-8

Deegan, J. (1978). On the occurrence of standardized regression coefficients greater than one. *Educational and Psychological Measurement, 38*, 873-888. doi: 10.1177/001316447803800404

Ehrlich, T. (2000). *Civic responsibility and higher education*. Phoenix, AZ: Oryx.

Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In N. Eisenberg (Ed.), W. Damon (Series Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 701-778). New York: Wiley.

Eisenberg, N., Miller, P. A., Shell, R., McNalley, S., & Shea, C. (1991). Prosocial development in adolescence: A longitudinal study. *Developmental Psychology, 27*, 849-857. doi: 10.1037/0012-1649.27.5.849

Eisenberg, N., Cumberland, A., Guthrie, I.K., Murphy, B.C., & Shepard, S.A. (2005). Age changes in prosocial responding and moral reasoning in adolescence and early adulthood. *Journal of Research on Adolescence, 15*(3), 235-260. doi: 10.1111/j.1532-7795.2005.00095.x

Enders, C.K. (2010). *Applied missing data analysis*. New York, NY: Guildford Press.

Ferrer, E., & McArdle, J.J. (2010). Longitudinal modeling of developmental changes in psychological research. *Current Directions in Psychological Science, 19*, 149-154. doi: 10.1177/0963721410370300

Jöreskog, K.G. (1999, June 22). *How large can a standardized coefficient be?* Mplus FAQs. Retrieved from http://www.ssicentral.com/lisrel/techdocs/HowLargeCanaStandardizedCoefficientbe.pdf

Goeke-Morey, M. C., Cummings, E. M., Ellis, K., Merrilees, C. E., Schermerhorn, A. C., Shirlow, P., & Cairns, E. (2009). The differential impact on children of inter- and intra-community violence in Northern Ireland. *Peace and Conflict: Journal of Peace Psychology, 15*, 367–383. doi:10.1080=10781910903088932

Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*, 581–586. doi: 10.1111/j.1469-7610.1997.tb01545.x

Goodman, R., & Scott, S. (1999). Comparing the strengths and difficulties questionnaire and the child behavior checklist: is small beautiful? *Journal of Abnormal Psychology, 27*, 17–24. doi: 10.1023/A:1022658222914

Grimm, K.J., Yang, A., McArdle, J.J., Zonderman, A.B., & Resnick, S.M. (2012). Recent changes leading to subsequent changes: Extensions of multivariate latent difference score models. *Structural Equation Modeling, 19*(2), 268-292. doi: 10.1080/10705511.2012.659627

Grimm, K.J. (2007). Multivariate longitudinal methods for studying developmental relationships between depression and academic achievement. *International Journal of Behavioral Development, 31*(4), 328–339. doi: 10.1177/0165025407077754

Haroz, E.E., Murray, L.K., Bolton, P., Betancourt, T.S., & Bass, J.K. (2013). Adolescent resilience in Northern Uganda: The role of social support and prosocial behavior in reducing mental health problems. *Journal of Research on Adolescence, 23*(1), 138-148. doi: 10.1111/j.1532-7795.2012.00802.x

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1–55. doi: 10.1080/10705519909540118

Schultz, J.H., Sørensen, P. M., & Waaktaar, T. (2012). Ready for school? Trauma exposure and mental health in a group of war-affected Ugandan adolescents re-attending school. *Scandinavian Journal of Educational Research, 56*(5), 539-553. doi: 10.1080/00313831.2011.621132

Jarman, N. (2005). *No longer a problem? Sectarian violence in Northern Ireland*. Belfast: Institute of Conflict Research.

Keresteš, G. (2006). Children's aggressive and prosocial behavior in relation to war exposure: Testing the role of perceived parenting and child's gender. *International Journal of Behavioral Development*, *30*, 227–239. doi: 10.1177/0165025406066756

Kokko, K., Tremblay, R.E., Lacourse, E., Nagin, D.S., & Vitaro, F. (2006). Trajectories of prosocial behavior and physical aggression in middle childhood: Links to adolescent school dropout and physical violence. *Journal of Research on Adolescence, 16*(3), 403-428. doi: 10.1111/j.1532-7795.2006.00500.x

Lederach, J. P. (1997). *Building peace: Sustainable reconciliation in divided societies*. Washington, D.C.: United States Institute of Peace Press.

Levine, P. & Youniss, J. (eds.) (2006, February). *Youth civic engagement: An institutional turn.* Circle Working Paper 45. Retrieved from http://civicyouth.org/PopUps/WorkingPapers/WP45LevineYouniss.pdf

Macksoud, M. S., & Aber, J. L. (1996). The war experiences and psychosocial development of children in Lebanon. *Child Development*, *67*, 70–88.

McAloney, K., McCrystal, P., Percy, A., & McCartan, C. (2009). Damaged youth: Prevalence of community violence exposure and implications for adolescent well-being in post-conflict Northern Ireland. *Journal of Community Psychology, 37*, 635–648. doi: 10.1002/jcop.20322

McArdle, J.J. (2009). Latent variable modeling of differences and changes with longitudinal data. *Annual Review of Psychology, 60*, 577-605. doi: 10.1146/annurev.psych.60.110707.163612.

McCouch, R. J. (2009). The effects of wartime violence on young Bosnians' postwar behaviors: Policy contours for the reconstruction period. In B. K. Barber (Ed.), *Adolescents and*

war: How youth deal with political violence (pp. 177–204). New York, NY: Oxford University Press.

McEvoy-Levy, S. (ed.) (2006). *Troublemakers or peacemakers? Youth and post-accord peace building*. Notre Dame, IN: University of Notre Dame Press.

McKeown, S. & Taylor, L.K. (2017). Intergroup contact and peacebuilding: Promoting youth civic engagement in Northern Ireland. *Journal of Social and Political Psychology*, *5*(2), 415–434. doi:10.5964/jspp.v5i2.769

Muldoon, O. (2013). Understanding the impact of political violence in childhood: A theoretical review using a social identity approach. *Clinical Psychology Review, 33*, 929-939. doi: 10.1016/j.cpr.2013.07.004

Nantel-Vivier, A., Kokko, K., Caprara, G.V., Pastorelli, C., Gerbino, M.G., Paciello, M., Cote, S., Pihl, R.O., Vitaro, F., & Tremble, R.E. (2009). Prosocial development from childhood to adolescence: a multi-informant perspective with Canadian and Italian longitudinal studies. *Journal of Child Psychology and Psychiatry, 50*(5), 590-598. doi: 10.1111/j.1469-7610.2008.02039.x.

Nasie, M., & Bar-Tal, D. (2012). Sociopsychological infrastructure of an intractable conflict through the eyes of Palestinian children and adolescents (1996-2007). *Peace and Conflict: Journal of Peace Psychology, 28*(1), 3-20. doi: 10.1037/a0026861

Northern Ireland Neighborhood Information Service. (2011). Multiple deprivation rankings by Ward. Retrieved from http://www.ninis.nisra.gov.uk/v

Piliavin, J.A. (2005). Feeling good by doing good: Health consequences of social service. In A. M. Omoto (Ed.), *Processes of community change and social action* (pp. 29-50). Claremont, CA, US: Psychology Press.

Police Service of Northern Ireland. (2013). Police reported crime in Northern Ireland. Retrieved from http://www.ninis2.nisra.gov.uk/public/Theme.aspx?themeNumber=131&themeName¼CrimeþandþJustice

Pritschet, L., Powell, D., & Horne, Z. (2016). Marginally significant effects as evidence for hypotheses: Changing attitudes over four decades. *Psychological Science*, *27*(7), 1036-1042. doi:10.1177/0956797616645672

Sharkey, P. (2010). The acute effect of local homicides on children's cognitive performance. *PNAS, 107*(26), 11733–11738. doi: 10.1073/pnas.1000690107

Shirlow, P., & Murtagh, B. (2006). *Belfast: Segregation, violence and the city*. London, UK: Pluto Press.

Skinner, E. A., Zimmer-Gembeck, M. J., & Connell, J. P., Eccles, J. P., & Wellborn, J. G. (1998). Individual differences and the development of perceived control. *Monographs of the Society for Research in Child Development*, 63(2/3), i+iii+v-vi+1-231.

Staub, E., & Vollhardt, J. (2008) Altruism born of suffering: The roots of caring and helping after victimization and other trauma. *The American Journal of Orthopsychiatry*, *78*, 267–280. doi: 10.1037/a0014223

Taylor, L.K., Townsend, D., Merrilees, C.E., Goeke-Morey, M.C., Shirlow, P., & Cummings, E.M. (in press). Adolescent civic engagement and perceived political conflict: The role of family cohesion. *Youth & Society*. doi: 10.1177/0044118X17697236

Taylor, L.K., & McKeown, S. (2017). Youths' peacebuilding potential: Intergroup contact and civic participation amongst a post-accord generation in Northern Ireland. In K. Niven, S. Lewis, & C. Kagan (Eds.), *Making a difference with psychology* (pp. 56-62). London, UK: Richard Benjamin Trust.

Taylor, L.K., Merrilees, C.E., Goeke-Morey, M.C., Shirlow, P., & Cummings, E.M. (2016). Trajectories of adolescent aggression and family cohesion: The potential to perpetuate or ameliorate political conflict. *Journal of Clinical Child and Adolescent Psychology*, *45*(2), 114-28. doi: 10.1080/15374416.2014.945213

Taylor, L.K., Merrilees, C.E., Goeke-Morey, M.C., Shirlow, P., Cairns, E., & Cummings, E.M. (2014). Political violence and adolescent outgroup attitudes and prosocial behaviors: Implications for positive intergroup relations. *Social Development*, *23*(4), 840-859. doi: 10.1111/sode.12074

Taylor, L. K., Merrilees, C. E., Campbell, A., Shirlow, P., Cairns, E., Goeke-Morey, M. C., . . . Cummings, E. M. (2011). Sectarian and nonsectarian violence: Mothers' appraisals of political conflict in Northern Ireland. *Peace and Conflict: Journal of Peace Psychology*, *17*, 343–366. doi: 10.1080=10781919.2011.610199

Yates, M. & Youniss, K.J. (Eds.) (2006). *Roots of civic identity: International perspectives on community service and activism in youth*. New York, NY, US: Cambridge University Press.

Zaff, J., Boyd, M., Li, Y., Lerner, J.V., & Lerner, R.M. (2010). Active and engaged citizenship: Multi-group and longitudinal factor analysis of an integrated construct of civic engagement. *Journal of Youth and Adolescence, 39*, 736-750. doi: 10.1007/s10964-010-9541-6

Table 1

Means, standard deviations and bivariate correlations (N=999)

		M (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Girl	48% Female, 52% Male																
2	Fin_Stab	2.36 (0.99)	.012	-														
3	PRO_10	6.75 (2.54)	.203**	-.049	-													
4	PRO_11	6.19 (2.73)	.274**	-.094	.591**	-												
5	PRO_12	6.37 (2.64)	.205**	-.017	.662**	.572**	-											
6	PRO_13	6.06 (2.73)	.204**	.044	.708**	.631**	.677**	-										
7	PRO_14	5.83 (2.72)	.208**	.036	.657**	.577**	.627**	.665**	-									
8	PRO_15	5.83 (2.81)	.186**	.038	.626**	.590**	.601**	.624**	.660**	-								
9	PRO_16	5.43 (2.83)	.222**	.013	n/a	.641**	.578**	.615**	.588**	.635**	-							
10	PRO_17	4.92 (3.01)	.154**	.106	n/a	n/a	.459**	.601**	.469**	.551**	.716**	-						
11	PRO_18	4.68 (3.15)	.116	.099	n/a	n/a	n/a	.617**	.610**	.584**	.613**	.737**	-					
12	PRO_19	4.33 (3.20)	.257**	.346**	n/a	n/a	n/a	n/a	.649**	.468**	.536**	.589**	.657**	-				
13	PRO_20	4.02 (2.97)	.200	.254*	n/a	n/a	n/a	n/a	n/a	.452**	.412**	.488**	.500**	.758**	-			
14	SAB_1	3.04 (5.77)	-.056	.039	.119	.085	.105	.042	.020	.073	.035	.035	-.057	.054	-.115	-		
15	SAB_AVE	3.79 (6.02)	.006	.021	.068	.049	.126*	-.040	.011	-.016	.048	.045	-.022	.088	-.002	.671**	-	
16	CIV_SOC	3.24 (3.12)	.079	.110**	.080	-.058	.023	.100	.002	.068	.122*	.199**	.201**	.176*	.316*	-.069	-.057	-
17	CIV_POL	0.60 (1.53)	.005	.112**	.090	.009	.110	.121*	.073	.058	.089	.116*	.240**	.245**	.484**	.013	.022	.502***

Note: PRO_10 = youth report of prosocial behaviors at age 10; SAB_1 = initial exposure to sectarian antisocial behavior; SAB_AVE = average exposure to sectarian antisocial behavior over all available ages; CIV_SOC = social civic engagement subscale; CIV_POL = political civic engagement subscale; Fin_Stab = financial stability. *p <.05; **p <.01; ***p <.001

Figure 1. Dual change score (DCS) model of youth report of prosocial behaviors from age 10 (PRO_10) to 20 (PRO_20), controlling for the impact of gender (girl) and exposure to sectarian antisocial behavior at time 1 for the intercept (SAB_1) and average exposure over time (SAB_AVE). The model reveals a positive auto-regressive effect (Δd) and a negative estimated slope. Controlling for financial stability (Fin_Stab), both the latent intercept (intc) and slope predict more social (CIV_SOC) and political (CIV_POL) engagement (*N*=999, RMSEA=.028 [.020, .037]; CFI=.97; TLI=.97; SRMR=.063). *Note*: ^{T} $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

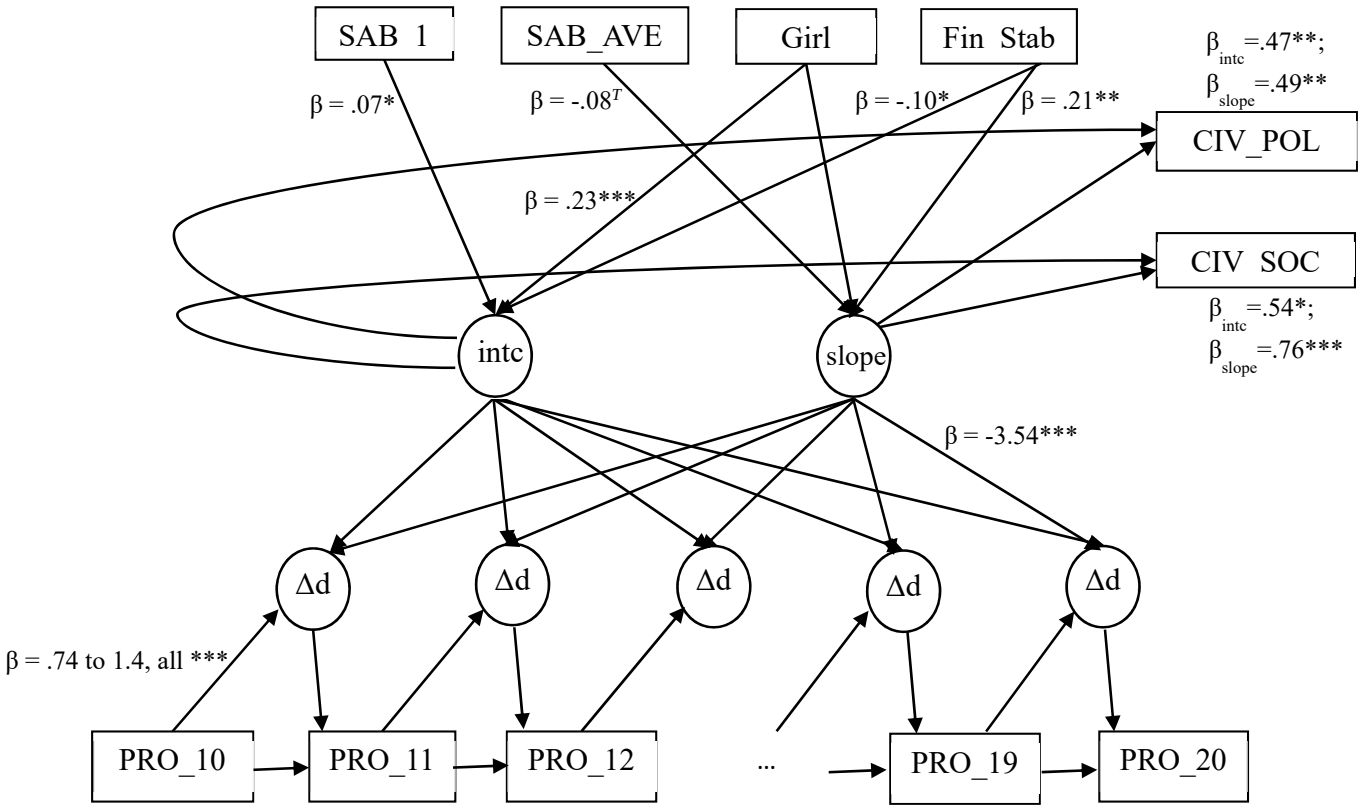

Figure 2. Plot of the estimated average trajectory of prosocial behaviors by age (range 10-20 years old) for adolescents in interfaced areas of Belfast. Dotted lines indicate 95% confidence intervals.