

A multi-level, time-series network analysis of the impact of youth peacebuilding on quality peace

Laura K. Taylor and Celia Bähr

Abstract

Purpose – Over 60% of armed conflicts re-occur; the seed of future conflict is sown even as a peace agreement is signed. The cyclical nature of war calls for a focus on youth who can disrupt this pattern over time. Addressing this concern, the developmental peace-building model calls for a dynamic, multi-level and longitudinal approach. Using an innovative statistical approach, this study aims to investigate the associations among four youth peace-building dimensions and quality peace.

Design/methodology/approach – Multi-level time-series network analysis of a data set containing 193 countries and spanning the years between 2011 and 2020 was performed. This statistical approach allows for complex modelling that can reveal new patterns of how different youth peace-building dimensions (i.e. education, engagement, information, inclusion), identified through rapid evidence assessment, promote quality peace over time. Such a methodology not only assesses between-country differences but also within-country change.

Findings – While the within-country contemporaneous network shows positive links for education, the temporal network shows significant lagged effects for all four dimensions on quality peace. The between-country network indicates significant direct effects of education and information, on average, and indirect effects of inclusion and engagement, on quality peace.

Originality/value – This approach demonstrates a novel application of multi-level time-series network analysis to explore the dynamic development of quality peace, capturing both stability and change. The analysis illustrates how youth peace-building dimensions impact quality peace in the macro-system globally. This investigation of quality peace thus illustrates that the science of peace does not necessitate violent conflict.

Keywords Youth peacebuilding, Quality peace, Education, Engagement, Information, Inclusion, Developmental peace-building model, Time-series network analysis

Paper type Research paper

Introduction

This paper does not ask how to protect 1.8 billion children in conflict-affected countries (Østby *et al.*, 2018a, 2018b). Instead, we show how youth – one-third of the world’s population (World Bank, 2017) – can build peace. Building on the Developmental Peace-building Model (DPM) (Taylor, 2020), the paper explores how youth peacebuilding can change the macro-system; more specifically, how it can advance quality peace. To do so, the paper will first define quality peace and youth peacebuilding, followed by an inter-disciplinary rapid evidence assessment. On this foundation, we will present the DPM, which outlines the ways that youth contribute to quality peace through relational, structural and cultural change. We then review existing empirical studies that support the DPM at the relational and structural levels and present preliminary data on the potential impact of youth peacebuilding on quality peace at the macro-system level over time. As a recent statistical advance, this analysis allows for complex modelling and enables novel insights into the temporality of youth peacebuilding. We conclude with future research steps based on this preliminary evidence.

Laura K. Taylor is based at the Department of Psychology, University College Dublin, Dublin, Ireland. Celia Bähr is based at the Department of Education and Psychology, Freie Universität Berlin, Berlin, Germany.

Received 9 February 2022
Revised 16 March 2022
Accepted 20 March 2022

© Laura K. Taylor and Celia Bähr. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>.

Initial phases of this research were supported by Enterprise Ireland (R21020 to Taylor), which also partially funded Deirdre Moran’s contributions. Authors would also like to thank research assistants Murray Kennedy and Paula Donnelly, as well as the statistical support from Robert Moulder.

Quality peace

The study of peace typically comes after violent conflict (Davenport *et al.*, 2018). More recently, there has been an empirical shift to study quality peace (Joshi and Wallensteen, 2018; Wallensteen, 2015). Quality peace spans Galtung's positive/negative peace distinction (Galtung, 1969), but goes further by incorporating key elements related to stable and durable peace (Lund, 2009). Quality peace is defined as the attitudes, institutions and structures that enable security, dignity and predictability (Institute for Economics and Peace, 2020; Joshi and Wallensteen, 2018; Wallensteen, 2015). This conceptual lens enables studying peacebuilding even in stable democracies. Thus, the science of peace does not necessitate violent conflict (Davenport *et al.*, 2018).

Youth peacebuilding

Challenging a linear approach from peace-making (e.g. negotiations) to peacekeeping (e.g. security) to peacebuilding (e.g. rebuilding), we argue peacebuilding is possible during all conflict phases (Lund, 2009) and can strengthen quality peace in non-conflict affected societies (Davenport *et al.*, 2018). Peacebuilding, defined as constructive engagement addressing the immediate impact and root causes of episodic and structural violence (Lederach, 1996; Varker *et al.*, 2015), is operationalized across two domains:

1. capacities for non-violent conflict transformation; and
2. foundations for sustainable peace and development (United Nations, 2010).

Although often overlooked in scientific research, youth are at the forefront of peacebuilding, and youth peacebuilding occurs across levels of the social ecology (Balvin and Christie, 2020). Investigating youth peacebuilding across the globe bridges the often separated disciplines of peace and conflict studies. Through examining how youth impacts quality peace across different settings, novel insights into diverse aspects of peacebuilding are generated.

Rapid evidence assessment

To better understand the role of young people in peacebuilding, we conducted a rapid evidence assessment (REA). A REA uses a systematic methodology (Varker *et al.*, 2015) to search and critically evaluate a topic, providing a balanced overview of what is known about a particular area of interest (Barends *et al.*, 2017). The topic of youth peacebuilding is relatively understudied, so a REA is an appropriate starting point ahead of a systematic review, yet offers precision and rigor in terms of replication compared to a traditional literature review.

Our REA included the *Annual Review* and top ten journals in political science, sociology, economics, education and psychology over the last 20 years identified six gaps in the literature (Garrity *et al.*, 2020). If one of the ten highest ranked in the 2020 Journal Citation Report returned no papers on youth peacebuilding, then we included to the next highest journal in the list (Supplementary Tables 1–4). This assessment also identified four dimensions of youth peacebuilding – engagement, information, education and inclusion – and spans action across levels (Taylor, 2020), ranging from individual prosocial acts to broader collective action to promote the common good (Taylor and McKeown, 2021).

First, youth remain an understudied demographic. 42% of the world is age 25 or younger (World Bank, 2017); yet, only 3%, 17% and 30% of economics, political science and sociology articles on peace include youth. The 3ie Peacebuilding Evidence Gap Map (International Initiative for Impact Evaluation, 2021), synthesizing 86 impact evaluations in low-to-middle-income-countries reinforces this trend: the “youth” column remains scarce, primarily focused on peace education and victim services.

Second, even when youth are mentioned, the focus is often on violence and aggression, while their constructive agency is overlooked (Nordås and Davenport, 2013). The focus is typically on the negative impact of conflict on children's health, education and socio-economic outcomes (Haer, 2019). Falling child mortality rates in the world's poorest countries are offered as an indicator of social progress (Kampf and Stoloro, 2015). Thus, in these fields, children are positioned as an indicator, rather than an agent, of peace.

Although the overlap of peace and youth is higher in academic research on education (75%) and psychology (76%), a recent meta-analysis demonstrates a similar gap (Jahnke *et al.*, 2022): focusing primarily on the negative impact of armed conflict on children and youth. Evidence on family processes, for example, suggests how to protect children from harm (Cummings *et al.*, 2013). Here again, children's agency is overlooked until age 18 when picked up by research on collective action (Roy *et al.*, 2019) and social change (Balvin and Christie, 2020). This reveals the third gap: studying childhood, adolescence or young adulthood in isolation, instead of linking across development.

Fourth, educational and psychological research typically focuses on a single case or country. This evidence suggests that peace education (Bar-Tal and Rosen, 2017), through teachers (Jayusi and Bekerman, 2020), classrooms (Pace and Hemmings, 2007) or desegregated schools (Teeger, 2015), may increase prosocial behaviour (Aber *et al.*, 2017), change children's attitudes towards conflict rivals (Burde *et al.*, 2017) or address structural injustice in stable democracies (Holland, 2012). Yet, cross-cultural research is needed.

The fifth and sixth gaps apply across the entirety of the REA. Most studies measure change within a single level of the social ecology. Multi-level modelling allows for appropriate nesting in longitudinal designs in the science of groups (Christ *et al.*, 2017), but only recently has been applied to youth (Townsend *et al.*, 2020). Finally, the overwhelming focus is on negative peace (Davenport *et al.*, 2018); a more inclusive operationalization, such as quality peace, facilitates comparisons across all countries (Wallensteen, 2015).

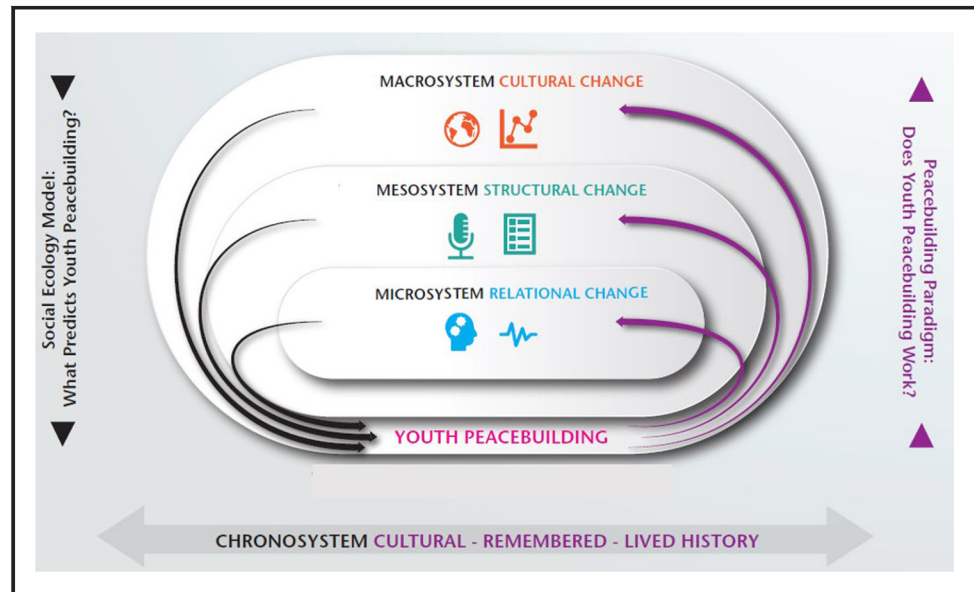
The REA also highlights four important dimensions to understand youth peacebuilding: engagement, information, education and inclusion. Youth exposure to political violence was linked with later political engagement (Blattman, 2009), political representation (Rehfeld, 2011) or voting for social change (McCargo, 2019). Access to information, such as social media or a free press (Bennett and Segerberg, 2012), is linked with youth participation in non-violent protest (Dahlum, 2019). A systematic review found education, broadly operationalized, was linked with less political violence (Østby *et al.*, 2018a, 2018b); moreover, non-violent movements are more successful if they have more university students (Dahlum, 2019). This focus on structural conditions, however, does not account for individual-level predictors of youth peacebuilding. Social divisions plague quality peace (Reidy *et al.*, 2015); it is essential to understand why youth from majority groups work for inclusion and change the status quo (Hässler *et al.*, 2020).

Developmental peace-building model

To systematically understand and study these phenomena, the DPM proposes a framework for understanding youth prosocial behaviours in settings of inter-group conflict, occurring and moving through different socio-ecological levels, as peace-building behaviours (Taylor, 2020). The DPM explicitly distinguishes between different *targets* of prosocial acts, focusing on both traditional conflict rivals with implications for other forms of diversity, such as ethnic minority newcomers (Taylor and Glen, 2020). The DPM also distinguishes among *types* of prosocial acts, in particular, the level of the child's social ecology the benefits aim to change.

The DPM integrates the social ecological framework (Bronfenbrenner, 1986) to study the predictors of youth peacebuilding (Figure 1, down arrows), along with the peace-building

Figure 1 Developmental peace-building model that integrates Bronfenbrenner's social ecological model capturing the influences of different levels (micro-system, meso-system, macro-system) on the child development (arrows in black) and Lederach's peace-building paradigm indicating the types of change (relational, structural and cultural) at different levels that advance peacebuilding (arrows in purple)[1]



paradigm (Lederach, 1996) which outlines the types of social change necessary for quality peace (Figure 1, up arrows). Combined, the DPM specifies pathways and relations among different types of inter-group prosocial acts. For example, how interpersonal prosocial behaviours, such as sharing resources with an individual out-group child occur at the micro-system, while meso-system peacebuilding can be understood as behaviours such as civic engagement or volunteering targeting the collective out-group. At the macro-system, youth engage in peace-building behaviours or activism that is aimed at challenging systemic structures and cultures to benefit the collective good. As noted as a gap in the REA, integration across levels remains a need for the field.

Youth peacebuilding in the micro-system

At the micro-system, youth peacebuilding can be considered in interpersonal terms, including prosocial or helping behaviours that are directed at an out-group. From a young age, children display in-group preferences that encourage fewer prosocial behaviours towards people who are different from them. This imbalance can enhance inter-group division and conflict, and there has been a renewed focus in examining how children and youth can overcome these biases and increase their prosocial or peace-building behaviours towards out-groups. The DPM outlines how interpersonal out-group prosocial behaviour occurs within the micro-system, or the child's proximate and day-to-day relations. These acts typically aim to benefit an individual member of the out-group through sharing, comforting or helping. At this level, previous research with children has used a simple sticker sharing task as a measure of out-group prosocial behaviour cross culturally (Bähr *et al.*, 2021; Moran and Taylor, 2021). In this behavioural task, the child can distribute resources to an in-group or out-group member (i.e. conflict rival) (O'Driscoll *et al.*, 2018,

2021). Interpersonal out-group helping may also be measured through questions that assess behavioural intentions within the micro-system. For example, adolescents in conflict-affected areas of Northern Ireland could indicate helping intentions (e.g. help with math) or realistic helping (e.g. sit with them at lunch) towards a new Syrian refugee student in their school (Taylor and McKeown, 2021).

Youth peacebuilding in the meso-system

The DPM highlights two types of youth prosocial peace-building behaviours that occur at the meso-system or structural change. Firstly, youth participate in civic engagement practices such as volunteerism and participation in politics that target a broad community (Taylor *et al.*, 2019). Youth civic engagement includes citizen participation, grassroots organizing, inter-group dialogue and socio-political development (Checkoway and Aldana, 2013). Secondly, youth engage in collective action with the goal of benefitting a particular group in society. These actions can be overtly political or non-political forms of collective action, but both focus on systemic or structural barriers to equality or justice within tangible contexts such as communities and schools (Taylor, 2020). Both of these peace-building behaviours occur at the meso-system level, but may interact with factors in the youth's micro-system. For example, family cohesion is conducive to civic engagement (Taylor *et al.*, 2019) and schools can provide opportunities for fundraising and volunteering (McKeown and Taylor, 2017). Research conducted in Northern Ireland indicates that youth's prosociality in micro-system (i.e. helping, sharing) is linked to later social and political civic engagement at the meso-system (i.e. structural changes that will be beneficial for out-group members they may never meet; Taylor *et al.*, 2018).

Youth peacebuilding in the macro-system: preliminary evidence

Building on initial work that has assessed individual youth action targeting macro-system change, such as signing a petition (Taylor and McKeown, 2021), supporting a peace process (Taylor *et al.*, 2022) or leading nonviolent protest (Dahlum, 2019) such as the Serbian student movement Otpur, the current paper presents preliminary evidence on the impact of national-level youth peacebuilding on quality peace at the macro-system. Addressing gaps in the previous inter-disciplinary study of youth peacebuilding, we compile a preliminary data set that complements previous work on youth as perpetrators (i.e. child soldiers) and positions youth as a *driver* of quality peace, rather than an outcome (e.g. primary school enrolment).

The four dimensions of youth peacebuilding identified in the REA (education, engagement, information and inclusion) will be assessed. For example, a recent systematic review found that *education* can reduce political violence (Østby *et al.*, 2018a, 2018b). Broader theoretical work supports this claim, outlining how education promotes critical thinking, particularly in divided societies (Bar-Tal *et al.*, 2020). Moreover, schools and universities are incubators for civic identities and practices (Bar-Tal *et al.*, 2020) and forging networks for mobilisation. Relatedly, youth *engagement* in official structural change (e.g. voting) and civic engagement is assessed. This dimension most closely links with the existing cutting-edge psychological research (McKeown and Taylor, 2017). *Information* (e.g. access to free press and digital communication) is also key for youth peace-building potential (Elgizouli *et al.*, 2021). Social movement literature has found that access to these forms of information, particularly among young people such as the 2019 peaceful revolution in Sudan (Elgizouli *et al.*, 2021) can facilitate constructive social change. Finally, *inclusive* elements of youth peacebuilding (i.e. gender, ethnicity) map onto broader cultural transformation goals. That is, majority groups must work to change the status quo (Hässler *et al.*, 2020).

We address the gaps identified by the REA through a central research question: How do youth peace-building dimensions and quality peace vary within and across countries and

over time? A new, preliminary data set and complementary statistical analyses highlight the potential insight and utility of this approach.

Method

Preliminary data set

Building on the REA, we have created a preliminary data set that integrates existing variables for quality peace and each peace-building dimension for the period of 2011–2020 for 193 UN member states, though the availability of data for each country differs across existing data sets.

Quality peace

As a comprehensive, longitudinal measure of the attitudes, institutions and structures that enable security, dignity and predictability, the Social Progress Index ([Social Progress Imperative, 2020](#)) from 2011 to 2020 for 165 countries was included. The SPI includes a total score for each country and each year that span a range of indicators conceptually grouped into basic human needs (e.g. nutrition and medical care, water and sanitation, shelter and personal safety), foundations of well-being (e.g. access to knowledge, access to information and communication, health and wellness, environmental quality) and opportunity (e.g. personal rights, personal freedom and choice, inclusiveness, access to advanced education). Scores range from 0 to 100, with higher values indicating more quality peace.

Education

The Varieties in Democracy data ([Varieties of Democracy, 2021](#)) average years of education among citizens over 15 years old ($n = 135$) was used to assess education over time. This variable reflects the broader role of education in terms of critical thinking and school as an incubator of civic identities ([Bar-Tal et al., 2020](#)). Higher values indicate a greater number of years of education among the young adult population.

Engagement

VDem was also the source of the engagement variable over time ([Varieties of Democracy, 2021](#)). The civil society participation index was used ($n = 172$), a variable that ranges from 0 to 1 for a given country/year, with higher scores indicating greater engagement. The VDem adopts a broad conceptualization of civil society, though not only including non-governmental organisations, professional associations, interest groups, labour unions and charities but also spiritual organisations engaged in civic or political activities and social movements ([Michael et al., 2020](#)). The index is aggregated using four variables: women's participation in civil societies; consultation of civil societies by policymakers; voluntary nature and extend of public participation; and the degree to which of civil societies impact legislative candidate nomination.

Information

Access to information was assessed using the composite pillar for Free Flow of Information from the Positive Peace Index (PPI; [Institute for Economics and Peace, 2020](#)). These data are available for 163 countries through 2019 based on the publicly released data. This pillar includes three indicators: freedom of the press, individuals using the internet (% of the population) and quality of information. The overall information variable ranges from 0 to 5, and in our data, higher values are coded as greater access and quality.

Inclusion

The PPI pillar related to Acceptance of the Rights of Others includes a variable on group grievance (Institute for Economics and Peace, 2020). The Group Grievance Indicator, provided by the Fragile State Index (2018), focuses on divisions between different groups mostly based on social or political characteristics. As with the PPI, the data for this variable range from 0 to 5 and are available for 163 countries. For this variable, higher scores indicate greater grievance, so in turn, less inclusion.

Results

The central research question, how do youth peace-building dimensions and quality peace vary within and across countries and over time, was tackled using time-series network analysis.

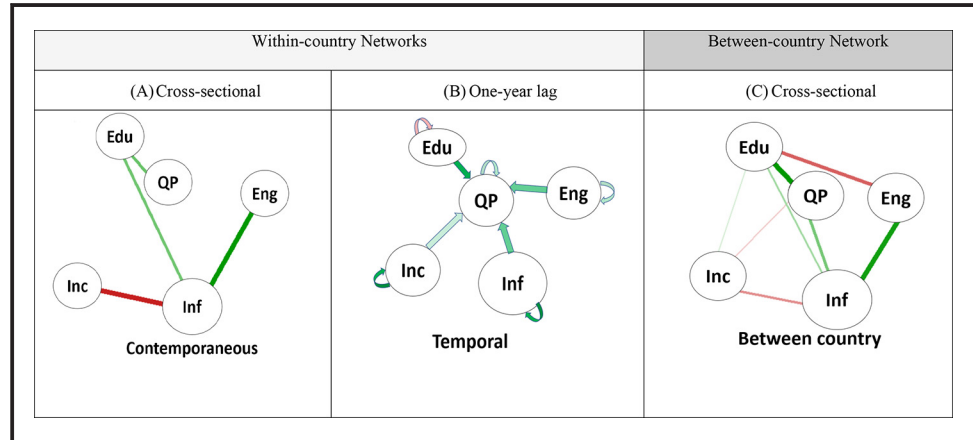
The network approach is a multi-level way to model complex sets of relations across constructs, through simultaneously modelling multiple links across constructs. Furthering that approach is to examine how those networks may change over time. The time-series network analysis offers insight into the within- and between-country relations both within a given year, and as they unfold over time. This novel analytical approach has been developed that adequately incorporates a multi-level approach to time-series data to estimate the random and fixed effects (Epskamp *et al.*, 2018). In this approach, three key elements can be estimated: the within-country *contemporaneous* and *temporal* networks, as well as the *between-country* network (Epskamp *et al.*, 2018). The three networks uniquely identify emergent, dynamical systems (Borsboom and Cramer, 2013) in longitudinal data and have the potential to highlight causal pathways (Epskamp *et al.*, 2018). For a given country, the contemporaneous network estimates the positive or negative association between nodes (i.e. variables) within a year, while the lagged effects from one year to another are estimated by the temporal network. The simulation study developing this new approach suggests that the number of countries used in this analysis is in the mid-to-upper range, and the number of proposed measurements (years) is adequate for this method (10 time points). For this analysis, multiple imputation was used for the relevant constructs and the models were estimated using *m*VAR in R (4.0.4).

Figure 2 depicts the three multi-level networks for the four youth peace-building dimensions and quality peace. Each of the constructs is noted as a “node” while the associations among them are represented by lines (cross-sectional; Panels A and C) and arrows (one-year time lag; Panel B). The colour, intensity and thickness of the “edges” (i.e. line or arrow) indicate the direct and strength of the association; red is used for negative links, while green is used for positive links. However, as inclusion is assessed through group grievance, for this variable, green arrows and lines indicate a negative association. The darker and thicker the line, the stronger the association. Any associations not depicted were non-significant.

The within-country *contemporaneous* network (Panel A) shows a positive, direct link from *education* (i.e. average years of education among citizens over 15 years old) to quality peace. There is a positive link from education to *information*, and information to *engagement* within a given year during this period. This may suggest an indirect relationship from these two constructs to quality peace, through education. Finally, information is negatively linked with inclusion, assessed by group grievance; greater information is associated with less group grievance within a given country and year. In other words, information and inclusion are actually positively linked.

The within-country *temporal* network (Panel B) reveals that each of the four dimensions relate to quality peace one year later. The stability, or autoregressive, relations for each construct are largely positive except for education. For education, the negative autoregressive arrow suggests that for a given country, the average level of education

Figure 2 Multi-level time-series networks estimating the random and fixed effects *m*/VA. The within-country contemporaneous and temporal networks (one-year lag) are depicted in panels A and B, respectively, followed by the between-country network in panel C. Nodes: QP = quality peace, youth peace-building dimensions of education (Edu), engagement (Eng), information (Inf) and inclusion (Inc); note, inclusion was operationalized as group grievance (so higher values indicate less inclusion). Edges: green = positive, red = negative; saturation and thickness of the edges indicates the strength of the effect; non-significant edges omitted. Associations are represented by lines for the cross-sectional investigations (A and C) and by arrows for the within-country *temporal* network (B)



decreases from one year to the next. In terms of the lagged associations over time, surprisingly, inclusion, assessed by higher group grievance is more quality peace for a given country. It is possible that the lack of inclusion motivates actions towards quality peace over time. Perhaps more as expected for the other three dimensions, higher levels of *education*, *engagement* and *information* all relate to greater quality peace a year later within a given country.

These two within-country networks are complemented by the *between-country* network, or more traditional way to model associations; this network reveals the average associations across countries for each of the peace-building dimensions and with quality peace. In terms of the direct associations among the four dimensions, countries that are higher in education are lower in engagement, higher in information, and there is a weak positive link to inclusion. Countries that are higher in engagement are also higher in information. Countries that have greater information have higher levels of inclusion (less group grievance). In terms of the direct associations to quality peace, there are positive links with both education and information, and a small negative link with inclusion (e.g. countries that have greater grievance, and thus lower levels of inclusion, have lower quality peace).

In summary, addressing how youth peace-building dimensions and quality peace vary within and across countries and over time, the between-country network found significant direct effects of *education*, *inclusion* and *information*, on average, and indirect effects of *inclusion* and *engagement*, on quality peace. While the within-country contemporaneous network shows positive links for *education*, the temporal network shows significant one-year lagged effects for *all four dimensions* on quality peace.

Discussion

The REA identified gaps in the interdisciplinary study of youth peacebuilding, along with four key dimensions. Building on that assessment, the current paper builds on evidence of

youth peacebuilding at the micro-system and meso-system levels, to present novel findings on the impact on quality peace at the macro-system level using a preliminary data set covering 193 UN member countries for the period from 2011 to 2020. Consistent with the DPM, the analyses reveal both within- and between-country associations over time between the youth peace-building dimensions of education, engagement, information and inclusion, on quality peace across both conflict and non-conflict affected countries. This paper takes a new approach to studying this phenomenon, that places youth agency at the centre, rather than thinking about youth as a “risk” factor for conflict. Importantly, the analyses include non-conflict affected countries, demonstrating the utility of understanding quality peace as a continuum (Davenport *et al.*, 2018).

Previous research has identified education as an important construct for peace. Education can promote critical thinking and civic development (Bar-Tal and Rosen, 2017), and a recent systematic review found that across different operationalizations of education, higher levels were linked with less political violence (Østby *et al.*, 2018a, 2018b). The time-series network analyses paint a complementary picture assessing the average education of the population over 15 years old. In each of the three networks, the contemporaneous, temporal and between-country, education is positively associated with quality peace. These preliminary analyses demonstrate the important role that education can play in promoting quality peace cross-nationally and over time.

Focusing on the constructive and transformational power of youth peacebuilding, levels of engagement were also related to greater quality peace across the analytical approaches. The time-series network approach found that engagement was indirectly associated with quality peace in the contemporaneous network and had significant positive lagged effects one year later in the temporal network. Teasing apart the between-country effects also revealed only an indirect association between engagement and quality peace.

Complementing these findings, information is a key peace-building dimension that theoretically should relate to quality peace. For example, an educated citizenry should be able to assess good quality information, while engagement is often mobilised and maintained through access to digital media and communication. The time-series networks revealed: an indirect effect on quality peace through education in the contemporaneous network and a significant lagged effect over time within-country. Finally, there is also a significant positive relationship in the between-country network; that is, countries that are higher in information are also higher in quality peace.

Finally, recognizing the importance of addressing structural injustice, not just episodic or violent outbreaks of aggression or violence, the inclusion dimension of youth peacebuilding was assessed in this novel data set. There is no contemporaneous, within-country association between inclusion and quality peace; but, higher grievance (less inclusion) is negatively linked with information. For the one-year lagged effects in the temporal within-country networks, inclusion was negatively related to higher quality peace (i.e. greater grievance was linked with higher quality peace a year later within a given country). Finally, there is a weak, negative effect in the between-country network; countries with higher group grievances (less inclusion) have lower quality peace on average.

Limitations and future research

This paper develops a “proof of concept” for the development of a global, youth peace-building indicator using existing frameworks and cross-national data. The analyses explore the central research question on how youth peace-building dimensions and quality peace vary within and across countries and over time, demonstrating dynamic and shifting relations. The REA revealed that children and youth are positioned as indicators, rather than agents, of peace and conflict. However, REAs lack the scale and thoroughness of a larger scale systematic review or meta-analysis (Jahnke *et al.*, 2022), the latter can also estimate

effect sizes to provide additional insight on the link from youth peacebuilding to quality peace.

This new approach, however, is limited in similar ways as other cross-national data sets in terms of missing data and potentially obscuring subnational change or regional variation. Future research would further refine this preliminary dataset by focusing specifically on the “youth” element within each dimension. Data available on youth is scarce; building on recent work related to nonviolent social change, collecting information on youth-led civil societies could further understanding of their contributions to quality peace (Dahlum, 2019).

Based on the availability of data, we would also aim to expand the time period; going beyond a decade of data on the key dimensions would help to explore potential historic change or generational patterns. We may look to complement this “bird’s eye” approach with individual case studies for specific countries (Chenoweth and Stephan, 2011), in particular, that could help tease apart the impact of exogenous shocks. Selecting individual case studies could also offer novel insights into the question whether the impact of the four youth peace-building dimensions varies across countries. The cost of youth peace-building activities may differ tremendously: For instance, compared to non-repressive settings, protesters knew that joining the Sudan revolution could have far-reaching personal consequences (Elgizouli *et al.*, 2021). The type of conflict could guide the selection of individual case studies for qualitative approaches covering diverse settings or serve as a moderating variable in further quantitative investigations. Finally, to identify potential threats to endogeneity, we will also explore the potential data available for an instrumental variable test (Gartzke and Jo, 2009) or sensitivity analyses to selection and bias (Blattman and Annan, 2010).

Our preliminary evidence has far-reaching practical implications. The findings support funding for all four dimensions, given that each directly and indirectly fosters quality peace. Global policy of the past decade mirrors the shift towards recognizing youth as potential peacebuilders, such as the three Youth, Peace and Security resolutions adopted since 2015 (United Nations Security Council, 2015, 2018, 2020). Those resolutions and the Sustainable Development Goals (SDG) include policy related to the four youth peace-building dimensions. For instance, the SDGs aim to foster *inclusion* (SDG 10.2), provide inclusive *education* (SDG 4), ensure public access to *information* (SDG 16.10) as well as guarantee inclusive, *participatory* and representative decision-making at all levels (SDG 16.7). UNSCR 2050 (2015) not only recognizes the significance of disengagement but also emphasises the importance of youth engagement in peace processes. Furthermore, this resolution urges member states to support peace education (e.g. policy point 11). The importance of inclusion is recognized in UNSCR 2535 (2020). However, these three Youth, Peace and Security resolutions fail to fully recognize the importance of access to information. As Elgizouli and colleagues (2021) demonstrated, access to digital communication (e.g. WhatsApp) is crucial for youth peacebuilding. Thus, additionally to funding inclusive education and participation opportunities for youth, investigating in open internet and free press is crucial.

Conclusion

This project offers the first systemic, global analysis to explore how youth peace-building dimensions impact quality peace in the macro-system. Supporting the theoretical framework of the DPM, the preliminary findings indicate that the four peace-building dimensions – education, engagement, information and inclusion – influence quality peace over time, across both conflict and non-conflict affected countries (Taylor, 2020). These insights from the preliminary data indicate the potential of this framework to enhance our understanding of how youth peacebuilding can impact cultural change at scale. Future directions will build on these preliminary findings to explore the impact of youth peacebuilding over time and across countries.

Note

1. Bronfenbrenner, *Ecology of human development*; Lederach, *Preparing for peace*; Lederach, *The Moral Imagination*; Taylor, 'The Developmental Peacebuilding Model'.

References

- Aber, J.L., Tubbs, C., Torrente, C., Halpin, P.F., Johnston, B., Starkey, L., Shivshanker, A., Annan, J., Seidman, E. and Wolf, S. (2017), "Promoting children's learning and development in conflict-affected countries: testing change process in the democratic republic of the Congo", *Development and Psychopathology*, Vol. 29 No. 1, pp. 53-67.
- Bähr, C., Dautel, J.B., Maloku, E., Razpurker-Apfeld, I., Shamo-Nir, L., Humer, J.T., Misoska, A.T. and Taylor, L.K. (2021), "Helping kids! Cross-cultural research on children's prosocial behavior in societies transitioning to peace", in Lopéz Lopéz, W. and Taylor, L.K. (Eds), *Transitioning to Peace: Contributions of Peace Psychology around the World*, Springer, Cham, pp. 287-303.
- Balvin, N. and Christie, D.J. (2020), *Children and Peace: From Research to Action*, Springer, Cham.
- Barends, E. Rousseau, D.M. and Briner, R.B. (2017), "CEBMA guideline for rapid evidence assessments in management and organizations (version 1.0)", *CEBMA Center for Evidence Based Management*, available at: <https://cebma.org/wp-content/uploads/CEBMA-REA-Guideline.pdf> (accessed 8 January 2022).
- Bar-Tal, D. and Rosen, Y. (2017), "Peace education in societies involved in intractable conflicts: direct and indirect models", *Review of Educational Research*, Vol. 79 No. 2, pp. 557-575.
- Bar-Tal, D., Vered, S. and Fuxman, S. (2020), "Between open-minded critical thinking and closed-minded allegiance: educational tensions in societies involved in intractable conflict", *Political Psychology*, Vol. 42 No S1, pp. 3-28.
- Bennett, W.L. and Segerberg, A. (2012), "The logic of connective action", *Information, Communication & Society*, Vol. 15 No. 5, pp. 739-768.
- Blattman, C. (2009), "From violence to voting: war and political participation in Uganda", *American Political Science Review*, Vol. 103 No. 2, pp. 231-247.
- Blattman, C. and Annan, J. (2010), "The consequences of child soldiering", *Review of Economics and Statistics*, Vol. 92 No. 4, pp. 882-898.
- Borsboom, D. and Cramer, A.O. (2013), "Network analysis: an integrative approach to the structure of psychopathology", *Annual Review of Clinical Psychology*, Vol. 9 No. 1, pp. 91-121.
- Bronfenbrenner, U. (1986), "Ecology of the family as a context for human development: research perspectives", *Developmental Psychology*, Vol. 22 No. 6, pp. 723-742.
- Burde, D., Kapit, A., Wahl, R.L., Guven, O. and Skarpeteig, M.I. (2017), "Education in emergencies: a review of theory and research", *Review of Educational Research*, Vol. 87 No. 3, pp. 619-658.
- Checkoway, B. and Aldana, A. (2013), "Four forms of youth civic engagement for diverse democracy", *Children and Youth Services Review*, Vol. 35 No. 11, pp. 1894-1899.
- Chenoweth, E. and Stephan, M. (2011), *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict*, Columbia University Press, New York.
- Christ, O., Hewstone, M., Schmid, K., Green, E.G., Sarrasin, O., Gollwitzer, M. and Wagner, U. (2017), "Advanced multilevel modeling for a science of groups: a short primer on multilevel structural equation modeling", *Group Dynamics: Theory, Research, and Practice*, Vol. 21 No. 3, pp. 121-134.
- Cummings, E.M., Taylor, L.K., Merrilees, C.E., Goetze-Morey, M.C., Shirlow, P. and Cairns, E. (2013), "Relations between political violence and child adjustment: a four-wave test of the role of emotional insecurity about community", *Developmental Psychology*, Vol. 49 No. 12, pp. 2212-2224.
- Dahlum, S. (2019), "Students in the streets: education and nonviolent protest", *Comparative Political Studies*, Vol. 52 No. 2, pp. 277-309.
- Davenport, C., Melander, E. and Regan, P.M. (2018), *The Peace Continuum: What It is and How to Study It*, Oxford University Press, Oxford.
- Elgizouli, U.K., Hussain, A. and Moss, S.M. (2021), "'Chanting at 1pm revolution time': collective action as communal coping in the Sudan revolution", in Lopéz Lopéz, W. and Taylor, L.K. (Eds), *Transitioning to Peace: Contributions of Peace Psychology around the World*, Springer, Cham, pp. 153-173.

- Epskamp, S., Waldorp, L.J., Möttus, R. and Borsboom, D. (2018), "The Gaussian graphical model, cross-sectional and time-series data", *Multivariate Behavioral Research*, Vol. 53 No. 4, pp. 453-480.
- Fragile State Index. (2018), "C3: group grievance", available at: <https://fragilestatesindex.org/indicators/c3/> (accessed 8 January 2022).
- Galtung, J. (1969), "Violence, peace, and peace research", *Journal of Peace Research*, Vol. 6 No. 3, pp. 167-191.
- Garrity, C., Gartlehner, G., Kamel, C., King, V.J., Nussbaumer-Streit, B., Stevens, A., Hamel, C., and Affengruber, L. (2020), "Cochrane rapid reviews", available at: https://methods.cochrane.org/rapidreviews/sites/methods.cochrane.org.rapidreviews/files/public/uploads/cochrane_rr_-_guidance-23mar2020-final.pdf (accessed 8 January 2022).
- Gartzke, E. and Jo, D.J. (2009), "Bargaining, nuclear proliferation, and interstate disputes", *Journal of Conflict Resolution*, Vol. 53 No. 2, pp. 209-233.
- Haer, R. (2019), "Children and armed conflict: looking at the future and learning from the past", *Third World Quarterly*, Vol. 40 No. 1, pp. 74-91.
- Hässler, T., Ullrich, J., Bernardino, M., Shnabel, N., Laar, C.V., Valdenegro, D., Sebben, S., Tropp, L.R., Visintin, E.P., González, R. and Dittmann, R.K. (2020), "A large-scale test of the link between intergroup contact and support for social change", *Nature Human Behaviour*, Vol. 4 No. 4, pp. 380-386.
- Holland, M.M. (2012), "Only here for the day: the social integration of minority students at a majority white high school", *Sociology of Education*, Vol. 85 No. 2, pp. 101-120.
- Institute for Economics and Peace. (2020), "Positive peace index/global peace index 2020: measuring peace in a complex world", available at: www.economicsandpeace.org/wp-content/uploads/2020/08/GPI_2020_web-1.pdf (accessed 8 January 2022).
- International Initiative for Impact Evaluation. (2021), "Evidence for peacebuilding evidence gap map", available at: <https://gapmaps.3ieimpact.org/evidence-maps/building-peaceful-societies-evidence-gap-map> (accessed 8 January 2022).
- Jahnke, S., Borger, K.A. and Beelmann, A. (2022), "Predictors of political violence outcomes among young people: a systematic review and meta-analysis", *Political Psychology*, Vol. 43 No. 1, pp. 111-129.
- Jayusi, W. and Bekerman, Z. (2020), "Yes, we can! Palestinian-Israeli teachers in Jewish-Israeli schools", *Journal of Teacher Education*, Vol. 71 No. 3, pp. 319-331.
- Joshi, M. and Wallensteen, P. (Eds) (2018), *Understanding Quality Peace: peacebuilding after Civil War*, Routledge, London.
- Kampf, R. and Stoler, N. (2015), "Computerized simulation of the Israeli-Palestinian conflict, knowledge gap, and news media use", *Information, Communication & Society*, Vol. 18 No. 6, pp. 644-658.
- Lederach, J.P. (1996), *Preparing for Peace: conflict Transformation across Cultures*, Syracuse University Press, New York, NY.
- Lund, M.S. (2009), "Conflict prevention: theory in pursuit of policy and practice", in Bercovitch, J., Kremenyuk, V. and Zartman, I.W. (Eds), *The SAGE Handbook of Conflict Resolution*, Sage, Thousand Oaks, CA, pp. 287-308.
- McCargo, D. (2019), "Southeast Asia's troubling elections: democratic demolition in Thailand", *Journal of Democracy*, Vol. 30 No. 4, pp. 119-133.
- McKeown, S. and Taylor, L.K. (2017), "Intergroup contact and peacebuilding: promoting youth civic engagement in Northern Ireland", *Journal of Social and Political Psychology*, Vol. 5 No. 2, pp. 415-434.
- Michael, C. Henrik, K.C. Jan, T. David, A. Michael, B. Steven, F.M. Adam, G. and Allen, H. (2020), "V-Dem codebook v10, varieties of democracy (V-Dem) project", Gothenburg, available at: www.v-dem.net/static/website/img/refs/codebookv111.pdf (accessed 30 January 2022).
- Moran, D. and Taylor, L.K. (2021), "Outgroup prosocial behaviour among children and adolescents in conflict settings", *Current Opinion in Psychology*, Vol. 44, pp. 69-73.
- Nordås, R. and Davenport, C. (2013), "Fight the youth: youth bulges and state repression", *American Journal of Political Science*, Vol. 57 No. 4, pp. 926-940.
- O'Driscoll, D., Taylor, L.K. and Dautel, J.B. (2018), "Intergroup resource distribution among children living in segregated neighborhoods amid protracted conflict", *Peace and Conflict: Journal of Peace Psychology*, Vol. 24 No. 4, p. 464.

- O'Driscoll, D., Taylor, L.K. and Dautel, J.B. (2021), "Essentialist beliefs affect children's outgroup empathy, attitudes and prosocial behaviours in a setting of intergroup conflict", *International Journal of Psychology*, Vol. 56 No. 1, pp. 151-156.
- Østby, G., Urdal, H. and Dupuy, K. (2018a), "Does education lead to pacification? A systematic review of statistical studies on education and political violence", *Review of Educational Research*, Vol. 89 No. 1, pp. 46-92.
- Østby, G., Rustad, S.A. and Tollefsen, A.F. (2018b), "Children affected by armed conflict, 1990-2017", *Conflict Trends*, Vol. 10, pp. 59-69.
- Pace, J.L. and Hemmings, A. (2007), "Understanding authority in classrooms: a review of theory, ideology, and research", *Review of Educational Research*, Vol. 77 No. 1, pp. 4-27.
- Rehfeld, A. (2011), "The concepts of representation", *American Political Science Review*, Vol. 105 No. 3, pp. 631-641.
- Reidy, C.M., Taylor, L.K., Merrilees, C.E., Ajduković, D., Biruški, D.Č. and Cummings, E.M. (2015), "The political socialization of youth in a post-conflict community", *International Journal of Intercultural Relations*, Vol. 45, pp. 11-23.
- Roy, A.L., Raver, C.C., Masucci, M.D. and DeJoseph, M. (2019), "If they focus on giving us a chance in life we can actually do something in this world': poverty, inequality, and youths' critical consciousness", *Developmental Psychology*, Vol. 55 No. 3, pp. 550-561.
- Social Progress Imperative. (2020), "Social progress index", available at: www.socialprogress.org/download (accessed 8 January 2022).
- Taylor, L.K. (2020), "The developmental peacebuilding model (DPM) of children's prosocial behaviors in settings of intergroup conflict", *Child Development Perspectives*, Vol. 14 No. 3, pp. 127-134.
- Taylor, L.K. and Glen, C. (2020), "From empathy to action: can enhancing host-society children's empathy promote positive attitudes and prosocial behaviour toward refugees?", *Journal of Community & Applied Social Psychology*, Vol. 30 No. 2, pp. 214-226.
- Taylor, L.K. and McKeown, S. (2021), "Adolescent outgroup helping, collective action, and political activism in a setting of protracted conflict", *International Journal of Intercultural Relations*, Vol. 85, pp. 37-46.
- Taylor, L.K., Merrilees, C.E., Baird, R., Goeke-Morey, M.C., Shirlow, P. and Cummings, E.M. (2018), "Impact of political conflict on trajectories of adolescent prosocial behavior: Implications for civic engagement", *Developmental Psychology*, Vol. 54 No. 9, pp. 1785-1794.
- Taylor, L.K., Townsend, D., Merrilees, C.E., Goeke-Morey, M.C., Shirlow, P. and Cummings, E.M. (2019), "Adolescent civic engagement and perceived political conflict: the role of family cohesion", *Youth & Society*, Vol. 51 No. 5, pp. 616-637.
- Taylor, L.K., O'Driscoll, D., Merrilees, C.E., Goeke-Morey, M., Shirlow, P. and Cummings, E.M. (2022), "Trust, forgiveness, and peace: the influence of adolescent social identity in a setting of intergroup conflict", *International Journal of Behavioral Development*, Vol. 46 No. 2, pp. 1-11.
- Teeger, C. (2015), "Ruptures in the rainbow nation: how desegregated South African schools deal with interpersonal and structural racism", *Sociology of Education*, Vol. 88 No. 3, pp. 226-243.
- Townsend, D., Taylor, L.K., Merrilees, C.E., Furey, A., Goeke-Morey, M.C., Shirlow, P. and Mark Cummings, E. (2020), "Youth in Northern Ireland: linking violence exposure, emotional insecurity, and the political macrosystem", *Monographs of the Society for Research in Child Development*, Vol. 85 No. 4, pp. 7-123.
- United Nations (2010), "Terminology", available at: <https://peacekeeping.un.org/en/terminology> (accessed 8 January 2022).
- United Nations Security Council (2015), "Resolution 2250", available at: [www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/2250\(2015\)&referer=/english/&Lang=E](http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/2250(2015)&referer=/english/&Lang=E) (accessed 8 January 2022).
- United Nations Security Council (2018), "Resolution 2419", available at: [https://undocs.org/en/S/RES/2419\(2018\)](https://undocs.org/en/S/RES/2419(2018)) (accessed 8 January 2022).
- United Nations Security Council (2020), "Resolution 2535", available at: www.youth4peace.info/UNSCR2535 (accessed 8 January 2022).
- Uppsala Conflict Data Program (2021), "UCDP dataset", available at: <https://ucdp.uu.se/downloads/> (accessed 8 January 2022).

Varieties of Democracy (2021), "VDem datasets", available at: www.v-dem.net/data.html (accessed 8 January 2022).

Varker, T., Forbes, D., Dell, L., Weston, A., Merlin, T., Hodson, S. and O'Donnell, M. (2015), "Rapid evidence assessment: increasing the transparency of an emerging methodology", *Journal of Evaluation in Clinical Practice*, Vol. 21 No. 6, pp. 1199-1204.

Wallensteen, P. (2015), *Quality Peace: peacebuilding, Victory and World Order*, Oxford University Press, Oxford.

World Bank (2017), "How is the world's youth population changing?", available at: <https://blogs.worldbank.org/opendata/chart-how-worlds-youth-population-changing> (accessed 8 January 2022).

Appendix

Supplementary tables for the rapid evidence assessment (REA)

Table A1 Rapid evidence assessment of top-ranked political science journals		
<i>Journal</i>	<i>Search for "peace"</i>	<i>Peace papers including youth, child* , adolescent*</i>
<i>American Journal of Political Science</i>	209	30
<i>American Political Science Review</i>	437	93
<i>Journal of European Public Policy</i>	175	21
<i>The Journal of Politics</i>	389	65
<i>Comparative Political Studies</i>	300	46
<i>Journal of Democracy</i>	564	120
<i>JCMS: Journal of Common Market Studies</i>	355	41
<i>British Journal of Political Science</i>	126	18
<i>Annual Review of Political Science</i>	47	6
<i>West European Politics</i>	149	27

Note: *Indicates the stem used for a search string

Table A2 Rapid evidence assessment of top-ranked sociology journals		
<i>Journal</i>	<i>Search for "peace"</i>	<i>Peace papers including youth, child* , adolescent*</i>
<i>Annual Review of Sociology</i>	33	12
<i>American Sociological Review</i>	63	32
<i>Annals of Tourism Research</i>	31	1
<i>Sociological Methods & Research</i>	19	6
<i>Information, Communication & Society</i>	120	42
<i>Socio-Economic Review</i>	19	3
<i>Sociology of Education</i>	6	6
<i>American Journal of Sociology</i>	147	37
<i>Population and Development Review</i>	73	39
<i>Sociological Theory</i>	49	12

Note: *Indicates the stem used for a search string

Table A3 Rapid evidence assessment of top-ranked economics journals

Journal	Search for "peace"	Peace papers including youth, child*, adolescent*
<i>Quarterly Journal of Economics</i>	15	2
<i>Econometrica</i>	10	2
<i>The American Economic Review</i>	93	1
<i>The Journal of Political Economy</i>	31	1
<i>Journal of Economic Growth</i>	11	1
<i>Journal of Financial Economics</i>	1	0
<i>Journal of Economic Perspectives</i>	69	2
<i>Review of Economic Studies</i>	9	0
<i>Annual Review of Economics</i>	8	0
<i>American Economic Journal. Macroeconomics</i>	8	0

Note: *Indicates the stem used for a search string

Table A4 Rapid evidence assessment of top-ranked education journals

Journal	Search for "peace"	Peace papers including youth, child*, adolescent*
<i>Review of Educational Research</i>	21	17
<i>Internet and Higher Education</i>	1	0
<i>Sociology of Education</i>	6	5
<i>Educational Researcher</i>	26	16
<i>Journal of Educational Psychology</i>	6	5
<i>American Educational Research Journal</i>	20	16
<i>Educational Research Review</i>	0	0
<i>Education Finance and Policy</i>	0	0
<i>Journal of Teacher Education</i>	36	34
<i>The Journal of Higher Education</i>	15	5

Note: *Indicates the stem used for a search string

About the authors

Laura K. Taylor (PhD) is an Assistant Professor in the School of Psychology, University College Dublin, Ireland. She has a dual PhD in psychology and peace studies. As PI of the Helping Kids! lab, her is framed by an intergroup developmental approach to study risk and resilience processes for youth in settings of protracted conflict. Laura's work has implications for youth outcomes, such as aggression, prosocial behaviours and social identity, as well as broader psychosocial processes, such as shared education and intergroup relations, which may fuel or constrain violent conflict. Towards this end, she studies how and why violence affects behaviours and attitudes related to conflict transformation, primarily during adolescence. Laura K. Taylor is the corresponding author and can be contacted at: laura.taylor@ucd.ie

Celia Bähr is pursuing two masters: Psychology with a focus on Clinical Psychology and Psychotherapy at Freie Universität Berlin and Communication in Social and Economic Contexts at Berlin University of Arts. Her bachelor thesis examines forgiveness and reconciliation in post-conflict Cambodia. During her Erasmus at University College Dublin her interest in political psychology deepened through an internship with Laura Taylor. Alongside Laura Taylor, she published an ISPP-blog article on the positive effect Shared Education initiatives have beyond the classroom and contributed a co-authored chapter to *Transitioning to Peace* (López López and Taylor) on cross-cultural research on prosocial behaviour of children in post-conflict settings.