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Quinton, Mary; Clarke, Fiona J.; Parry, Benjamin; Cumming, Jennifer

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RESEARCH ARTICLE



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# An evaluation of My Strengths Training for Life™ for improving resilience and well-being of young people experiencing homelessness

Mary L. Quinton | Fiona J. Clarke | Benjamin J. Parry | Jennifer Cumming

School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, UK

## Correspondence

Mary L. Quinton, School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham B15 2TT, UK.  
Email: [m.quinton@bham.ac.uk](mailto:m.quinton@bham.ac.uk)

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## Abstract

This community-based study investigated whether (1) a novel sport psychology informed positive youth development program, My Strengths Training for Life™, improved resilience and well-being and (2) young people differed in outcomes according to demographics (gender, ethnicity, social inclusion, and learning difficulty). A total of 246 young people ( $M$  age = 19.74,  $SD$  = 2.31) living in a large housing service completed questionnaires on demographics, mental skills, and pre and postprogram resilience and well-being. Baseline differences in resilience and well-being existed for ethnicity and learning difficulty status but did not influence MST4Life™ outcomes. There was a significant improvement in resilience and well-being over time, which was associated with mental skills development. Implications apply for policy, program commissioners, and research: (1) novel sport psychology interventions can improve the well-being of disadvantaged youth, and (2) demographics at baseline should be considered in intervention planning and evaluation with this population.

## KEYWORDS

community-based, demographics, disadvantaged youth, mental skills training, positive youth development

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## 1 | INTRODUCTION

Youth homelessness is a pressing societal issue in the United Kingdom. The problem is exemplified not only by high economic costs (Pleace, 2015), but also by this vulnerable group (aged 16–24) contributing to roughly half of those accessing England's homelessness services (Homeless Link, 2017). Young people experiencing homelessness are a heterogeneous population, but face similar and multiple challenges to living successful independent lives as adults, such as being socially integrated in society (Hollaway et al., 2018) and at greater risk of physical and psychosocial problems compared to housed peers (Edidin et al., 2011). Accordingly, the main support needs (outside of their immediate need for housing) reported by homelessness providers about young people accessing their services include not being in education, employment, or training (NEET; 44%), a lack of independent living skills (41%), and poor mental health (35%; Homeless link, 2018).

An additional challenge for these young people is the negative impact of trauma on brain development (Edidin et al., 2011; Roos et al., 2013). Young people's brains undergo different stages of development, from early adolescence (11–13 years), through adolescence (14–17 years), up to young adulthood (18–25 years; Curtis, 2015). Up until the age of 25 years, the brain has not yet reached full maturation (Steinberg, 2014), particularly the prefrontal cortex, associated with emotional control and self-regulation skills (Steinberg et al., 2018). Consequently, the brain has great plasticity during adolescence and young adulthood, which makes this an opportune time to refine and develop these mental skills that are fundamental to managing the aforementioned challenges (Blakemore & Choudhury, 2006; Holland et al., 2017). As trauma (e.g., homelessness and family breakdown) further disrupts this process of neurodevelopment (Roos et al., 2013) and increases the risk of mental and physical ill health later in life (Chapman et al., 2004; Kalmakis & Chandler, 2015), it is essential that targeted interventions help mitigate the negative effects of trauma and support these young people's awareness and development of essential psychosocial and independent living skills.

Research conducted within this population has mostly taken a deficit-based approach by focusing on problems (Cronley & Evans, 2017). This approach instills the belief in young people that they are a series of problems that need "fixing," creating dependency on others rather than encouraging autonomy (Bender et al., 2007). Fortunately, a paradigm shift toward strengths-based interventions and service provision has led to an ethos whereby young people recognize their resilience and develop a better quality of life (Cronley & Evans, 2017; Krabbenborg et al., 2017). Strengths-based interventions are founded on the premise that humans can persist and develop successfully as adults even in the most adverse circumstances (Smith, 2006). By recognizing that young people have great levels of resilience (Rew et al., 2019), strengths-based interventions are designed to build upon existing strengths and promote positive mental well-being (Cooley et al., 2019).

Positive youth development (PYD) is a strengths-based approach that provides young people with positive developmental opportunities within safe but challenging environments to develop new and/or existing skills and positive relationships with adults (Roth & Brooks-Gunn, 2016). A fundamental tenet of the PYD approach is that young people do not have problems to be fixed, but rather resources to be developed (Damon, 2004). The empowering nature of these interventions has resulted in positive outcomes for disadvantaged youth, such as reduced risk behaviors (e.g., substance abuse), improved academic achievement, and improved mental health (e.g., resilience and well-being; Ciocanel et al., 2017; Lerner et al., 2011; Sanders et al., 2015).

Much PYD literature has been underpinned by relational developmental systems theory (RDST; Damon, 2004; Lerner et al., 2011; Overton, 2013). Two core features of RDST are that development is: (1) influenced by the relations between the individual and their context (individual ↔ context relations); and (2) a process of plasticity with potential for change across the life span (Lerner & Callina, 2013). Lerner et al. (2011) proposed that young people's strengths affect how they interact with their environment (ecological assets), which in turn influences developmental outcomes experienced (e.g., from PYD interventions). That is to say, PYD programs create environments in which individual ↔ context relations are mutually beneficial (e.g., opportunities for leadership and community contribution; Lerner et al., 2005). Accordingly, and as hypothesized by RDST, exposure to mutually

beneficial relations will foster adaptive developmental regulations and increase the likelihood that youth will thrive across adolescence (Lerner et al., 2011). However, Lerner et al. (2014) highlighted an underrepresentation of the hardest to reach young people in PYD research and called for research to include those from challenged ecological circumstances, such as young people experiencing homelessness. The limited research conducted with this population has either not been framed within a PYD lens (Schwan et al., 2018; Stuart & Perris, 2017) or has shown limited evidence of effectiveness for developmental outcomes (Kelly, 2019).

The model of Lerner et al. (2011) embeds the five Cs framework (caring, character, connection, competence, confidence, and later, contribution) to explain developmental outcomes that can be achieved for youth thriving (Lerner et al., 2005). However, a core feature of community-based PYD research is that there is a need to consider the specific ecological assets of the research population and subsequently, the most relevant outcomes to assess (Eccles & Gootman, 2002). For example, homelessness research has paid considerable attention to resilience and well-being outcomes (Cronley & Evans, 2017; Hodgson et al., 2015; Moore, 2013), which align well with PYD theory. Resilience is said to occur due to mutually beneficial individual ↔ context relations (Masten, 2001). That is, a young person experiencing homelessness does not solely possess resilience as an individual characteristic, but it is also influenced through their ecological assets (e.g., support from housing services and broader support networks; Krabbenborg et al., 2017). Furthermore, in a study with young people from public housing, Forrest-Bank et al. (2015) devised a model that outlines the link between the five Cs and resilience and well-being. However, scant research has investigated whether these outcomes improve in young people experiencing homelessness due to a PYD intervention. Therefore, the current study extends PYD literature by investigating whether homeless young people's resilience and well-being improved from taking part in a PYD intervention, My Strengths Training for Life (MST4Life)™.

In line with a person-centered RDST approach (Overton, 2013), this study also sought to understand how demographics (e.g., gender, ethnicity, social inclusion status, and learning difficulty) influenced the experiences of homeless young people within a PYD program. Research has highlighted the importance of considering individual differences in program outcomes, particularly according to ethnicity (Williams & Deutsch, 2015). Broader literature has identified ethnicity and gender differences in resilience and well-being (Clauss-Ehlers, 2008; Rew et al., 2019; Smith & Silva, 2011; Stewart & Townley, 2018), whilst differences in outcomes according to sociodemographic status has been mixed (Larzelere et al., 2019; Smith & Silva, 2011; Urban et al., 2010). Despite the recent growth in PYD interventions, four clear gaps still exist within this literature: the aforementioned research, (1) was predominantly cross-sectional, and therefore it is unclear how demographics influence program experiences, (2) was not conducted with young people experiencing homelessness, who are a unique, heterogeneous population with bespoke challenges and health inequalities (Edidin et al., 2011), (3) has not investigated learning difficulty as a demographic that may influence program experiences, and (4) has not measured well-being outcomes with this population. To extend the PYD literature, this study investigated whether young people: (1) differed in resilience, well-being, and mental skills experiences based on gender, ethnicity, social inclusion status, and learning difficulty status, and (2) experienced an increase in resilience and well-being after participating in the PYD program.

A common area where PYD is used as a framework is for sport programs aimed at promoting well-being and healthy development (Holt et al., 2017; Jones et al., 2020). Holt et al. (2017) summarize that PYD can be developed through sport implicitly or explicitly (i.e., a focus on life skills activities and their transfer), assuming an appropriate PYD climate exists. These programs offer the chance to develop supportive relationships, provide opportunities to belong, learn social norms, and develop life skills (Fraser-Thomas et al., 2005), and have been shown to improve physical (e.g., coordination), personal (e.g., confidence, perseverance), and social outcomes (e.g., communication and teamwork; Holt et al., 2017), especially for disadvantaged youth (Hermens et al., 2017; Parry et al., 2020a; Pink et al., 2020). Although historically there has been a link between sport psychology and PYD (Fraser-Thomas et al., 2005; Jones et al., 2020), research is yet to investigate the effectiveness of sport psychology informed PYD program on well-being outcomes.

Mental skills training (MST) interventions stemming from sport psychology help athletes optimize their mindset, improving performance and well-being (Holland et al., 2017). Moreover, MST has been applied with hard-to-reach groups, leading to improved outcomes in orphans and young adults with previous gang affiliations (Hanrahan, 2005; Hanrahan & Ramm, 2015). In this sense, MST and PYD demonstrate an adaptable style of working that can be applied in sport and community settings. This adaptability can be attributed to both methods adopting a person-centered and skill-based approach to development; for instance, both recognize the importance of metacognitive processes such as self-regulation (Holland et al., 2017; Lerner et al., 2011). Self-regulation is well recognized in sport psychology and PYD as the foundation for other mental skills, such as goal setting, problem solving, and emotional regulation (Napolitano et al., 2011; Vealey, 2012). However, despite their similarities, MST has not yet been delivered within a PYD framework to promote resilience and well-being in young people experiencing homelessness. Informed by RDST and Lerner et al.'s (2011) proposition that it is the interaction of these strengths with young people's context (e.g., experience in a PYD program) that leads to PYD outcomes, the present study also investigated the relationship between mental skills experiences in MST4Life™ and resilience and well-being outcomes. Based on evidence that suggests strengths-based approaches in youth housing services are closely linked with indicators of positive mental health (e.g., Krabbenborg et al., 2017), MST4Life™'s approach aligning sport psychology and PYD presents a unique theory-informed and evidence-based approach that could be effective in promoting resilience and well-being with this vulnerable population.

MST4Life™ is the first sport psychology, community-based program delivered to young people experiencing or at risk of homelessness. Community psychology has played an important role in homelessness research and aligns well with PYD and strengths-based practice as there is a strong focus on empowerment, building collaborative relationships, and understanding and solving social problems (Hanson & Toro, 2020). Community psychology has advanced homelessness policy and practice by understanding nuances around appropriate research methods, ending homelessness through community interventions and policy, and researching subpopulations, such as young people (Hanson & Toro, 2020). Supported housing is a key setting within the community that helps people who have experienced homelessness to regain stability and progress to independence. In line with Lerner et al.'s (2011) model, supported housing represents an ecological asset that provides a psychologically informed environment (PIE; Cumming et al., 2017), access to resources and individuals, and opportunities for young people to engage in for their development (e.g., MST4Life™). Consequently, this study aimed to demonstrate that a PYD program based in a supported housing setting can be effective in promoting well-being outcomes with young people who have experienced homelessness.

In sum, the purpose of this study was to provide further theoretical and empirical contributions to the PYD literature by investigating whether (1) young people differed in resilience, well-being, and mental skills experiences based on gender, ethnicity, social inclusion status, and learning difficulty status, (2) young people experienced an increase in resilience and well-being after participating in MST4Life™, and (3) mental skills experiences were associated with resilience and well-being. It was hypothesized that all young people would improve their resilience and well-being and develop mental skills by taking part in a psychologically informed PYD program (Sanders et al., 2015), but in particular young people with lower baseline resilience and well-being (e.g., NEET, females) would benefit more due to greater room for improvement (Rew et al., 2019; Sergi et al., 2018; Stewart & Townley, 2018). It was also hypothesized that mental skills (young people's strengths) would be associated with resilience and well-being (PYD outcomes; Lerner et al., 2011). This study makes an original contribution by (1) investigating the effectiveness of a sport psychology informed MST program as a PYD program on resilience and well-being in young people experiencing homelessness; and (2) determining the influence of novel demographics on MST4Life™ outcomes that have not previously been considered in interventions with this population (social inclusion and learning difficulty status). The findings could have important implications for housing services, policymakers, and program commissioners for commissioning and tailoring PYD programs within the community to promote resilience and well-being for disadvantaged young people. It may also have implications for those delivering or evaluating interventions with this typically "hard to reach" group, where there is an onus to ensure inclusivity so participants can benefit equally (Browne et al., 2019).

2 | METHODS

2.1 | Participants

The sample comprised of 246 young people who had experienced homelessness or were at risk of becoming homeless and were living in supported accommodation within a large housing service. Young people ranged in age from 16 to 25 years, with 14.3% within adolescence (16–17 years) and 85.7% in young adulthood (18–25 years; Curtis, 2015), with a *M* age of 19.74 years (*SD* = 2.31). The sample represented a diverse range of young people across different regions in the West Midlands (UK), illustrating the heterogeneous nature of this population. See Table 1 for gender, ethnicity, social inclusion status, and learning difficulty breakdown.

2.2 | Intervention

MST4Life™ is a community-based PYD program (Cumming et al., 2021), codesigned to aid young people in their ability to recognize and use their mental skills to improve self-regulation of thoughts, feelings, and behaviors, and transfer them to other life domains (e.g., EET; Cooley et al., 2019, Parry et al., 2020c). PYD characteristics that fed

TABLE 1 Sample demographics

| Variables                             | Overall (N = 246) |      |
|---------------------------------------|-------------------|------|
|                                       | <i>n</i>          | %    |
| Gender                                |                   |      |
| Female                                | 140               | 56.9 |
| Male                                  | 94                | 38.2 |
| Transgender                           | 3                 | 1.2  |
| Nonbinary                             | 1                 | 0.4  |
| Missing                               | 8                 | 3.3  |
| Social inclusion status               |                   |      |
| EET                                   | 94                | 38.2 |
| NEET looking for work                 | 71                | 28.9 |
| NEET not looking for work             | 29                | 11.8 |
| Unable to work                        | 48                | 19.5 |
| Missing                               | 4                 | 1.6  |
| Ethnicity                             |                   |      |
| White                                 | 138               | 56.1 |
| Black/African/Caribbean/Black British | 54                | 22.0 |
| Mixed/multiple ethnic groups          | 40                | 16.3 |
| Asian or Asian British                | 8                 | 3.3  |
| Missing                               | 6                 | 2.4  |
| Learning disability                   |                   |      |
| Yes                                   | 28                | 11.4 |
| No                                    | 150               | 61.0 |
| Prefer not to say                     | 15                | 6.1  |
| Missing                               | 53                | 21.5 |

Abbreviation: NEET, not in education, employment, or training.

into MST4Life™ activities and delivery style were, (1) needs supportive relationships with caring adults, (2) challenging and meaningful activities, and (3), opportunities to recognize, use, and develop mental skills (Cumming et al., 2021). Through a participatory action research design, a stakeholder consultation with young people and staff from the local housing service informed the guiding principles of MST4Life™: experiential, flexible, young person led, and enjoyable. See Table S1 for a detailed breakdown of how the development and delivery of MST4Life™ maps onto the nine principles of community-based participatory research (Blumenthal & DiClemente, 2013; Israel et al., 1998).

For young people who have experienced homelessness, their developmental stage is not only determined by age but also their life experiences and trauma, meaning that each accommodation site housed young people with a diverse range of needs. MST4Life™ is based upon psychosocial learning outcomes but adopted a flexible approach to adjust to young people's needs. To help tailor the program to these needs, a stakeholder consultation between MST4Life™ facilitators and housing service staff took place before each intervention (e.g., what "level" to pitch intervention content, young people's comfort with group-based sessions, safeguarding background). Together with 1-1 support where required and ongoing conversations with young people and staff as the intervention progressed (see Table S1), these factors helped tailor the intervention to the appropriate level for developmental stage.

The program was delivered between October 2014 and June 2019 at 21 out of the 39 different accommodation sites of a housing service across the West Midlands. This service houses 1500 young people each year, providing a range of services (e.g., prevention and engagement) to help young people regain stability and move on to the independent living. The MST4Life™ program was conducted in the housing service as part of their overall intervention model of psychologically informed wrap-around support for young people (Cumming et al., 2017).

The program was delivered face-to-face to groups of 2–15 young people in 4 waves per year (3 waves in 2017), where three programs were delivered simultaneously per wave, resulting in 18 waves in total. MST4Life™ was delivered over two phases by researchers with predominately sport psychology backgrounds who had completed psychologically informed training courses (e.g., PIE and mental health first aid).

Phase 1 was delivered over 5 (2 sessions per week) or 10 weeks (1 session per week), depending on what suited young people's availability and preferences. Phase 1 consisted of 10 experiential-based sessions, starting with an introductory session to inform participants about the program, start rapport development, build engagement, and have fun through icebreaker activities. The main program content started in Session 2, where baseline measures were taken (Time 1), with Time 2 measures taken in Session 10, meaning there was either a 4- or 9-week gap between data collections depending on the delivery model. Baseline data collection was not considered appropriate in Session 1 due to allowing for rapport development between facilitators and participants. This consideration is particularly important for working with a population who are typically cautious of trusting others. Sessions lasted between 90 min (in-house) and 4 h (community-based), including activities such as a scavenger hunt photo safari, planning and implementing a cake sale on a university campus, and strengths profiling (Cooley et al., 2019, Cumming et al., 2021). The average sample attendance was 5.52 sessions ( $SD = 2.68$ ).

Phase 2 was a 4-day outdoor adventure education residential, including activities such as canoeing, mountain climbing, and high ropes courses. This study focused on evaluating outcomes associated with Phase 1. Phase 2 is not included here due to not all participants being able to attend, an inconsistent gap in time between phases, and difficulties in collecting questionnaire data; this phase is also the focus of other evaluation studies involving qualitative methods (e.g., Parry et al., 2020b, 2020c).

Due to the tailored nature of this intervention in response to the bespoke needs of the housing service, a control group was not included to allow the research to be responsive to the needs of this dynamic, "real world" environment. This approach was justified through literature reporting numerous limitations for using standardized randomized control trials (RCTs) in community-based research, such as not considering contextual characteristics to tailor the intervention to specific needs, not being able to make use of local resources, and requiring homogenous baseline scores (Hawe et al., 2004; Tomlinson et al., 2015).

2.3 | Measures

2.3.1 | Demographics

After providing informed consent, young people were asked to provide information regarding their age, gender, ethnicity, social inclusion, and learning difficulty status (yes, no, or prefer not to say). Young people self-selected their ethnic group from a list in accordance with APA guidelines (APA, 2020). Learning difficulty was defined as not affecting general intelligence (e.g., ADHD or dyslexia; Mental Health Foundation, 2020). For social inclusion status, young people considered EET were in full or part-time education, employment (including self-employed), or training. In line with recommendations to capture variation within the NEET subpopulation (Sergi et al., 2018), young people who were NEET were sub-divided into actively seeking opportunities, not currently looking for opportunities, unable to work, or other (e.g., had physical or mental health condition).

2.3.2 | Resilience

Measured using the 10-item Connor–Davidson resilience scale (CD-RISC; Campbell-Sills & Stein, 2007; Connor & Davidson, 2003), participants rated on a Likert scale of 1 (*not at all true*) to 5 (*true nearly all of the time*) how often over the past month they had felt resilient by responding to 10 items (e.g., “I am able to adapt to change”). Items were averaged to create one resilience measure for each time point. Validity and reliability evidence have been found in support of CD-RISC test scores (Campbell-Sills & Stein, 2007), and the internal reliability in this study was acceptable for both time points (Table 2).

TABLE 2 Means, SD, and internal reliability at both time points

|                    | Time 1     |                   | Time 2       |                   |
|--------------------|------------|-------------------|--------------|-------------------|
|                    | M (SD)     | Cronbach $\alpha$ | M (SD)       | Cronbach $\alpha$ |
| Resilience         | 3.28 (.77) | .91               | 3.45 (.64)*  | .90               |
| Engagement         | 2.92 (.92) | .80               | 3.29 (.86)** | .83               |
| Perseverance       | 3.20 (.83) | .81               | 3.41 (.85)   | .83               |
| Optimism           | 3.07 (.96) | .84               | 3.33 (.91)*  | .81               |
| Connectedness      | 3.44 (.96) | .79               | 3.58 (.93)   | .80               |
| Happiness          | 2.91 (.88) | .86               | 3.23 (.91)*  | .85               |
| Goal setting       | –          | –                 | 2.95 (.66)   | .78               |
| Effort             | –          | –                 | 3.16 (.65)   | .82               |
| Problem solving    | –          | –                 | 3.13 (.61)   | .80               |
| Time management    | –          | –                 | 2.99 (.66)   | .80               |
| Emotion regulation | –          | –                 | 2.82 (.60)   | .71               |
| Groupwork          | –          | –                 | 3.12 (.54)   | .81               |

\* $p < .05$ .

\*\* $p < .01$ .



### 2.3.3 | Well-being

Measured using the 20-item EPOCH measure of adolescent well-being (Kern et al., 2015), participants rated on a Likert scale of 1 (*almost never/not at all like me*) to 5 (*almost always/very much like me*) how much each statement reflected how they felt. This questionnaire consists of five subscales: engagement (e.g., "I get completely absorbed in what I am doing"), perseverance (e.g., "I finish whatever I begin"), optimism (e.g., "I am optimistic about my future"), connectedness (e.g., "When I have a problem, I have someone who will be there for me"), and happiness (e.g., "I feel happy"). An average score was created for each subscale for each time point. Validity and reliability evidence have been found in support of EPOCH test scores (Kern et al., 2015), and the internal reliability in this study was acceptable for all subscales at both time points (Table 2).

### 2.3.4 | Mental skills experiences

The extent to which participants had the opportunity to learn and use mental skills throughout MST4Life™ was assessed using six subscales of the Youth Experience Survey 2.0 (YES-2; Hansen & Larson, 2005). Participants rated on a Likert scale of 1 (*not at all*) to 4 (*yes, definitely*) how much each statement reflected their experience of MST4Life™, therefore this questionnaire was only administered once (at Time 2). Included subscales were: goal setting (three items, e.g., "I learned to find ways to achieve my goals"), effort (three items, e.g., "I learned to push myself"), problem solving (three items, e.g., "I used my imagination to solve a problem"), time management (three items, e.g., "I learned about setting priorities"), emotion regulation (four items, e.g., "I became better at handling stress"), and groupwork (five items, e.g., "I learned that working together requires some compromising"). An average score was created for each subscale. Validity and reliability evidence have been found in support of YES-2 test scores (Hansen & Larson, 2005), and the internal reliability in this study was acceptable for all subscales (Table 2).

## 2.4 | Procedure

Young people residing at the services' accommodation were recruited by support workers or employability staff. These staff attended the preintervention stakeholder consultation meeting with an MST4Life™ facilitator who informed them on the program background, aims, and intended benefits to help staff better explain the intervention to young people. Recruitment materials (e.g., leaflets and promotional videos) were also provided, which staff used alongside informal conversations to recruit young people onto MST4Life™.

Participants were given information sheets about the research part of MST4Life™ and those willing to participate in the research provided informed consent. Facilitators made it clear that participation was voluntary, therefore participants could withdraw from the research and/or the program at any time, data would be stored confidentially, and any published research would contain changed names. All questionnaires were completed at both time points, except for the demographic information (Time 1 only) and YES-2 (Time 2 only).

## 2.5 | Data screening and analyses

Data were screened following recommendations from Tabachnick and Fidell (2019) and analyzed using SPSS (version 26). Univariate and multivariate outliers were tested by examining  $z$  scores ( $<-3.29$  or  $>+3.29$ ) and the Mahalanobis distance at  $p < .001$ . Pillai's Trace values were reported for MANOVA due to its robustness (Olson, 1976). For repeated measures analyses, Greenhouse Geisser values were reported upon violation of

Mauchly's test of sphericity. To reduce Type 1 error, multiple comparisons were controlled for through the Benjamini–Hochberg method (Benjamini & Hochberg, 1995).

For preliminary analyses, one-way ANOVAs and MANOVAs investigated baseline differences in dependent variables (resilience, well-being, and mental skills) according to demographics (gender, ethnicity, social inclusion, and learning difficulty). Significant differences were then controlled for in the main analyses. For main analyses, a repeated measures ANOVA and a repeated measures MANOVA were conducted to analyze pre to postprogram differences in resilience and well-being. Pearson's correlations were conducted to determine the relationship between study variables.

### 3 | RESULTS

#### 3.1 | Preliminary analyses

##### 3.1.1 | Data screening

There were no errors in data entry and no univariate outliers, but three participants were removed due to multivariate outlier checks.

##### 3.1.2 | Demographic differences in dependent variables

###### *Resilience*

There were significant baseline differences in resilience according to ethnicity,  $F(4, 219) = 4.96$ ,  $p = .001$ ,  $\eta_p^2 = .09$ , observed power = 96%, and learning difficulty,  $F(2, 168) = 11.04$ ,  $p < .001$ ,  $\eta_p^2 = .12$ , observed power = 99%. Post hoc analyses revealed those of a Black/African/Caribbean/Black British ethnicity reported higher baseline resilience ( $M = 3.94$ ,  $SD = .59$ ) than those of a White ethnicity ( $M = 3.36$ ,  $SD = .82$ ;  $p < .001$ ). Additionally, young people with a learning difficulty reported lower baseline resilience ( $M = 2.90$ ,  $SD = .76$ ) compared to those without a learning difficulty ( $M = 3.63$ ,  $SD = .73$ ;  $p < .001$ ). These results remained significant following the Benjamini–Hochberg correction. There were no significant differences according to gender,  $F(3, 214) = 1.51$ ,  $p = .212$ ,  $\eta_p^2 = .02$ , observed power = 40%, or social inclusion status,  $F(3, 217) = 1.43$ ,  $p = .235$ ,  $\eta_p^2 = .02$ , observed power = 38%. Means and standard deviations are reported in Table 2.

###### *Well-being*

There was a significant multivariate effect for ethnicity, Pillai's Trace = .19,  $F(15, 597) = 2.68$ ,  $p = .001$ ,  $\eta_p^2 = .06$ , observed power = 99%. At the univariate level, results were significant for optimism,  $F(3, 205) = 10.70$ ,  $p < .001$ ,  $\eta_p^2 = .14$ , observed power = 100% and perseverance,  $F(3, 205) = 3.24$ ,  $p = .023$ ,  $\eta_p^2 = .05$ , observed power = 74%. Post hoc analyses revealed those of White ethnicity reported lower baseline optimism ( $M = 2.81$ ,  $SD = .93$ ) than Asian or Asian British ( $M = 3.64$ ,  $SD = 1.05$ ;  $p = .025$ ), Mixed ethnic groups ( $M = 3.47$ ,  $SD = 1.00$ ;  $p < .001$ ), or Black/African/Caribbean/Black British ethnicities ( $M = 3.64$ ,  $SD = .92$ ;  $p < .001$ ). Additionally, those of White ethnicity reported lower baseline perseverance ( $M = 3.32$ ,  $SD = .87$ ) than Mixed ethnic groups ( $M = 3.65$ ,  $SD = .84$ ;  $p = .039$ ) or Black/African/Caribbean/Black British ethnicities ( $M = 3.72$ ,  $SD = .81$ ;  $p = .010$ ). These results remained significant following the Benjamini–Hochberg correction. There were no significant multivariate effects for gender, Pillai's Trace = .10,  $F(15, 585) = 1.33$ ,  $p = .177$ ,  $\eta_p^2 = .03$ , observed power = 82%, social inclusion status, Pillai's Trace = .12,  $F(15, 600) = 1.48$ ,  $p = .106$ ,  $\eta_p^2 = .04$ , observed power = 87%, or learning difficulty, Pillai's Trace = .11,  $F(10, 298) = 1.73$ ,  $p = .074$ ,  $\eta_p^2 = .06$ , observed power = 82%. Means and standard deviations are reported in Table 2.

*Mental skills experiences*

Scores ranged on a 4-point Likert scale from emotion regulation with the lowest value (2.82) to goal-setting, time management, groupwork, problem solving, and effort with the highest value (3.16), representing “quite a bit” on the scale in relation to whether young people perceived they had these experiences in MST4Life™. Means and standard deviations are reported in Table 2.

There were no significant multivariate effects for gender, Pillai's Trace = .19,  $F(21, 207) = .66$ ,  $p = .871$ ,  $\eta_p^2 = .06$ , observed power = 51%, ethnicity, Pillai's Trace = .30,  $F(21, 207) = 1.08$ ,  $p = .375$ ,  $\eta_p^2 = .10$ , observed power = 79%, social inclusion status, Pillai's Trace = .39,  $F(21, 207) = 1.47$ ,  $p = .091$ ,  $\eta_p^2 = .13$ , observed power = 93%, or learning difficulty, Pillai's Trace = .22,  $F(14, 104) = .90$ ,  $p = .561$ ,  $\eta_p^2 = .11$ , observed power = 54%.

## 3.2 | Main analyses

### 3.2.1 | Well-being changes over time

*Resilience*

A significant result for time,  $F(1, 51) = 4.89$ ,  $p = .032$ ,  $\eta_p^2 = .09$ , observed power = 58%, indicated young people reported significantly higher resilience levels at the end of MST4Life™ ( $M = 3.45$ ,  $SD = .64$ ) than at the start ( $M = 3.28$ ,  $SD = .77$ ). These results remained significant following the Benjamini-Hochberg correction. There were no significant results for ethnicity,  $F(3, 51) = 1.00$ ,  $p = .399$ ,  $\eta_p^2 = .06$ , observed power = 26%, or learning difficulty,  $F(2, 51) = 2.66$ ,  $p = .08$ ,  $\eta_p^2 = .10$ , observed power = 51%, and no significant time by ethnicity,  $F(3, 51) = 2.02$ ,  $p = .123$ ,  $\eta_p^2 = .11$ , observed power = 49%, or time by learning difficulty interactions,  $F(2, 51) = 1.63$ ,  $p = .206$ ,  $\eta_p^2 = .06$ , observed power = 33%. Although resilience improved over time, the scores were still around mid-point on a 5-point Likert scale, reflecting between “sometimes true” and “often true,” indicating there is still room to improve resilience. Means and standard deviations are reported in Table 2.

*Well-being*

There was a significant multivariate effect for time, Pillai's Trace = .17,  $F(5, 60) = 2.46$ ,  $p = .043$ ,  $\eta_p^2 = .17$ , observed power = 74%. Univariate analysis revealed this effect was for engagement,  $F(1, 64) = 9.92$ ,  $p = .002$ ,  $\eta_p^2 = .13$ , observed power = 87%, happiness,  $F(1, 64) = 7.10$ ,  $p = .010$ ,  $\eta_p^2 = .10$ , observed power = 75%, and optimism,  $F(1, 64) = 4.47$ ,  $p = .038$ ,  $\eta_p^2 = .07$ , observed power = 55%. At the end of MST4Life™, young people had higher levels of engagement ( $M = 3.29$ ,  $SD = .86$ ), happiness ( $M = 3.23$ ,  $SD = .91$ ), and optimism ( $M = 3.33$ ,  $SD = .91$ ) compared to the start ( $M = 2.92$ ,  $SD = .92$ ,  $M = 2.91$ ,  $SD = .88$ , and  $M = 3.07$ ,  $SD = .96$  respectively). At the multivariate level, there were no significant results for ethnicity, Pillai's Trace = .25,  $F(10, 122) = 1.74$ ,  $p = .079$ ,  $\eta_p^2 = .13$ , observed power = 80%, and no time by ethnicity interaction, Pillai's Trace = .17,  $F(10, 122) = .81$ ,  $p = .623$ ,  $\eta_p^2 = .06$ , observed power = 41%. There were no significant univariate time effects for perseverance,  $F(1, 64) = 1.97$ ,  $p = .166$ ,  $\eta_p^2 = .03$ , observed power = 28%, and connectedness,  $F(1, 64) = .27$ ,  $p = .603$ ,  $\eta_p^2 = .004$ , observed power = 8%. At both time points, scores ranged on a 5-point Likert scale from happiness with the lowest value, followed by engagement, optimism, perseverance, and connectedness with the highest value. Scores were around the mid-point of the scale, reflecting “often” feeling like the statements reflected how they felt. Means and standard deviations are reported in Table 2.

### 3.2.2 | Associations between resilience, well-being, and mental skills

Correlations explored the relationships between resilience, well-being, and mental skills experiences. Correlation matrices for both time points can be found in Tables 3 and 4. At both time points, resilience was positively associated with all well-being subscales.

**TABLE 3** Correlation matrix for Time 1 variables and YES-2 scores

| Variable               | 1.     | 2.     | 3.     | 4.     | 5.     | 6.   |
|------------------------|--------|--------|--------|--------|--------|------|
| 1. Resilience          | –      |        |        |        |        |      |
| 2. Engagement          | .36*** | –      |        |        |        |      |
| 3. Perseverance        | .63*** | .51*** | –      |        |        |      |
| 4. Optimism            | .62*** | .45*** | .61*** | –      |        |      |
| 5. Happiness           | .55*** | .58*** | .54*** | .70*** | –      |      |
| 6. Connectedness       | .38*** | .41*** | .35*** | .45*** | .59*** | –    |
| 7. Goal setting        | .06    | .32**  | .17    | .26*   | .11    | .20  |
| 8. Effort              | –.13   | .12    | .02    | –.01   | –.10   | –.12 |
| 9. Problem solving     | .08    | .34**  | .08    | .23    | .17    | .10  |
| 10. Time management    | –.04   | .17    | .04    | .11    | –.01   | .003 |
| 11. Emotion regulation | .17    | .21    | .09    | .27*   | .09    | .04  |
| 12. Groupwork          | .27*   | .30**  | .18    | .32**  | .18    | .24* |

\* $p < .05$ .

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

**TABLE 4** Correlation matrix for all Time 2 variables

| Variable               | 1.     | 2.     | 3.     | 4.     | 5.     | 6.   | 7.     | 8.     | 9.     | 10.    | 11.    |
|------------------------|--------|--------|--------|--------|--------|------|--------|--------|--------|--------|--------|
| 1. Resilience          | –      |        |        |        |        |      |        |        |        |        |        |
| 2. Engagement          | .49*** | –      |        |        |        |      |        |        |        |        |        |
| 3. Perseverance        | .53*** | .55*** | –      |        |        |      |        |        |        |        |        |
| 4. Optimism            | .52*** | .57*** | .63*** | –      |        |      |        |        |        |        |        |
| 5. Happiness           | .62*** | .77*** | .51*** | .66*** | –      |      |        |        |        |        |        |
| 6. Connectedness       | .39*** | .43*** | .52*** | .59*** | .60*** | –    |        |        |        |        |        |
| 7. Goal setting        | .09    | .43*** | .31**  | .35**  | .22    | .19  | –      |        |        |        |        |
| 8. Effort              | .12    | .23*   | .20    | .28*   | .02    | .08  | .65*** | –      |        |        |        |
| 9. Problem solving     | .21    | .40*** | .21    | .28*   | .27*   | .14  | .59*** | .57*** | –      |        |        |
| 10. Time management    | .15    | .28*   | .20    | .31**  | .15    | .07  | .70*** | .74*** | .64*** | –      |        |
| 11. Emotion regulation | .22*   | .33**  | .17    | .35**  | .14    | –.02 | .63*** | .62*** | .54*** | .70*** | –      |
| 12. Groupwork          | .26*   | .32**  | .24*   | .41*** | .26*   | .29* | .58*** | .55*** | .51*** | .55*** | .59*** |

\* $p < .05$ .

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

More specifically, at Time 2, higher levels of engagement and optimism were associated with greater perceptions of experiencing all mental skills. Groupwork was the only mental skill significantly associated with resilience and all well-being subscales. Other mental skills varied in which dependent variables they were associated with, indicating this variety of mental skills was beneficial for enhancing different aspects of well-being. For

example, greater experiences of effort were associated with higher engagement and optimism, whereas greater use of emotion regulation was associated with higher scores of engagement, optimism, and resilience.

At Time 1, there were also significant positive associations between baseline dependent variables and mental skills experienced as reported at the end of MST4Life™. For example, higher baseline resilience scores were associated with greater use of groupwork and emotion regulation skills, respectively.

## 4 | DISCUSSION

The purpose of this study, as part of a larger evaluation, was to investigate whether (1) young people differed in resilience, well-being, and mental skills experiences based on gender, ethnicity, social inclusion, and learning difficulty, (2) young people experienced an increase in resilience and well-being after participating in MST4Life™, and (3) mental skills were associated with resilience and well-being. Although research has investigated whether certain characteristics (e.g., gender and ethnicity) influence outcomes from programs with non-disadvantaged and disadvantaged youth (Roth & Brooks-Gunn, 2016; Ullrich-French & Cole, 2017), to our knowledge this is the first study to date to (1) investigate the effectiveness of a PYD, sport psychology informed MST program on resilience and well-being in young people experiencing homelessness, and (2) assess differences in outcomes experienced from a community-based PYD program based on social inclusion and learning difficulty status. This study also extends the community psychology literature by demonstrating that MST4Life™ can be delivered in a supported housing setting. This novel contribution supports the involvement of housing support organizations in enhancing the well-being of young people experiencing homelessness, illustrating that in line with the principles of community psychology, this program can be implemented outside of clinical services (Hanson & Toro, 2020).

This evaluation showed an overall improvement in resilience and aspects of well-being over the MST4Life™ program. Without intervention, these constructs have been shown to worsen over time for this group (Hodgson et al., 2015). Resilience scores were greater than comparative scores of housed peers (e.g., Hartley, 2012), which is unsurprising given literature documenting high resilience levels of young people experiencing homelessness (Cronley & Evans, 2017). Moore (2013) posits that young people's resilience can only develop when the balance between risk and protective factors is manageable. From a PYD angle, resilience is said to occur due to mutually influential individual ↔ context relations (Masten, 2001). Together, this study suggests that MST4Life™ within the broader context of the housing service provides a suitable environment for developing resilience.

Another key ingredient for improving resilience in young people experiencing homelessness is optimism (Stewart & Townley, 2018), which together with engagement and happiness, improved during MST4Life™. However, post-program well-being was lower than comparative scores in secondary school students (Halliday et al., 2019). The present study used a multi-dimensional well-being scale, which indicated components of well-being changed in different ways from taking part in MST4Life™; information that would have been missed with a unidimensional scale (e.g., Warwick Edinburgh mental well-being scale). Consistent with the strengths-based belief that everyone has the capacity to develop strengths (Smith, 2006), these novel results provide support for the first sport psychology informed PYD program for improving resilience and well-being in young people experiencing homelessness. Importantly, these mental qualities are also the foundation for independent living, which is significant as a lack of independent living skills is one of the top three support needs of this population (Homeless link, 2018). Therefore, organizations, practitioners, and communities working with young people experiencing homelessness should ensure they do not solely focus on "hard outcomes" (e.g., engagement in EET), but rather provide wrap-around support, such as with a PIE approach (Johnson & Haigh, 2010).

In line with the third purpose of this study, mental skills were associated with resilience and well-being. Opportunities to practice mental skills can lead to feelings of competence and developing more enduring mental qualities, crucial for leading to enhanced well-being (Holland et al., 2017). However, YES-2 scores in this study were lower than a comparative PYD study with housed peer students (Gomes & Marques, 2012). It is noteworthy

that some mental skills were also associated with baseline well-being, which may imply that those with greater well-being entering a program may experience more benefits and seek out more opportunities to develop skills as a result. This finding resonates with PYD theory, where the individual strengths that a young person exhibits (e.g., intentional self-regulation) help them obtain the most out of their environment (Lerner et al., 2011; Urban et al., 2010). As MST4Life™ involved many self-regulation opportunities (e.g., planning how to achieve goals, decision making, seeking support), it is likely that alongside working with housing service staff to support learning outside of MST4Life™, these opportunities helped align young people's strengths with the resources in their contexts, leading to adaptive development (Mueller et al., 2011). As part of the larger evaluation of MST4Life™, qualitative analyses explored this proposition and found that MST4Life™ fostered psychosocial development, intentional self-regulation, and longer-term positive behavioral change (Parry et al., 2020b). Researchers and program commissioners should monitor characteristics at baseline, ensuring that additional support is provided (e.g., motivational interviewing) for those with lower baseline scores to ensure equal opportunities to develop these valuable mental skills.

The development of mental skills is particularly important for these young people and their stage of development. These mental skills are still being refined as the brain is not yet fully developed (Steinberg, 2014). As trauma (e.g., homelessness) can further disrupt this process (Roos et al., 2013), MST4Life™ provided valuable opportunities for these young people to practice mental skills within a psychologically informed environment (Cumming et al., 2017). A limitation of this study was the heterogeneity in the age group (16–25), spanning adolescence and young adulthood (Curtis, 2015). However, this strengths-based intervention took an inclusive approach to participation which aligned with stakeholders' wishes. To reduce this barrier, preintervention meetings with staff and young people were held to tailor MST4Life™ to young people's needs. Curtis (2015) stated that inconsistencies in terminology for developmental stages have contributed to confusion when planning programs. Future research with young people experiencing homelessness (up to 25 years) should pay close attention to developmental stage, but also the influence of trauma on development and work closely with stakeholders (e.g., support workers) on appropriate tailoring of support to young people's bespoke needs.

Baseline characteristics did not influence the outcomes experienced from MST4Life™, but demographic differences showed a pattern for Black/African/Caribbean/Black British ethnicities or those without a learning difficulty to report higher resilience, optimism, and perseverance at baseline than young White people or those with a learning difficulty. However, ethnicity findings should be interpreted cautiously as Black individuals may experience greater mental health inequalities than White individuals (King, 2019), and findings might indicate that these young people are more resilient due to experiencing greater hardship and oppression (Assari, 2018). Furthermore, baseline differences in resilience by learning difficulty status is a novel contribution and suggests that it will be important to consider this characteristic for equal program experiences (Browne et al., 2019). Importantly, as there were no demographic differences in resilience or well-being at the end of MST4Life™, it suggests that the needs supportive environment and PIE approach of facilitators overcame these differences and helped foster young people's well-being to be closer to that of their housed peers. Regardless, young people experiencing homelessness already face inequalities in comparison to housed peers (Edidin et al., 2011), and this study further shows the importance for researchers, policymakers, and program commissioners to recognize that when starting programs, demographics and baseline well-being of this heterogeneous population need to be factored into program planning and evaluation (Clarke et al., 2020).

Although this study contributes to important gaps in the PYD literature by demonstrating that these demographics at baseline do not influence MST4Life™ well-being outcomes, more research is needed that considers other characteristics within this heterogeneous population, such as care leavers, mental health background, pregnant or young parents, and physical disabilities. Future research would also benefit from investigating the influence of intersectionality: how multiple characteristics interact to influence outcomes. For example, there is an overrepresentation of Black individuals with a mental health disorder in the UK (King, 2019) and it is unclear how these young people specifically respond to PYD programs. This suggestion is supported by phenomenological variant of ecological systems theory (Spencer et al., 1997; Velez & Spencer, 2018), which posits that similar groups

(e.g., ethnicity) will perceive their experiences in different ways, depending on their broader social and contextual influences. Although a strength of this study was breaking down ethnicity categories (i.e., rather than grouping “BAME” young people), a limitation was not considering heterogeneity within these categories and young people's other intersections in the data collection. Recommendations for future research to explore how ethnicity and other intersections operate within sport-based PYD programs include a more nuanced qualitative approach and using critical race theory to underpin more socially responsible research (Kochanek & Erickson, 2020; Williams & Deutsch, 2015).

This study made an original contribution to PYD literature by implementing a sport psychology informed program with young people experiencing homelessness and demonstrating its effectiveness for improving resilience and well-being. This study took a person-centered developmental approach (Overton, 2013), focusing on the individual part of the system (i.e., rather than the context and their interaction). However, as Overton (2013) states, this study should be integrated back into the broader individual ↔ context system perspective (Lerner & Callina, 2013). As part of a larger evaluation of MST4Life™, Parry et al. (2020b) found that adaptive developmental regulations were created in Phase 2 of MST4Life™ through mutually beneficial relations between ecological assets (e.g., needs supportive climate) and young people's strengths (mental skills developed in Phase 1), which resulted in promotion of the five Cs and a change in attitudes and intentions to make positive contributions back to their communities. Together with an independent economic evaluation demonstrating that MST4Life™ increases the likelihood of young people entering EET by 30 percentage points (Jabbour & Siu, 2019), our evaluation studies demonstrate the effectiveness of MST4Life™ for young people experiencing homelessness.

Despite the favorable results of this study, it is important to acknowledge the limitations of the nonexperimental approach and lack of a comparison group. For example, the possibility of a placebo effect, positive outcomes due to increased contact time, or self-selection effects due to the voluntary nature of the intervention. However, the nonexperimental approach was aligned with stakeholders' preferences and the community-based nature of this study and was favorable over the disadvantages of RCTs (e.g., low ecological and external validity; Brady & O'Regan, 2009). Although the present study cannot speak to the mechanisms of the intervention, a qualitative realist evaluation of MST4Life™ alleviates some concerns of the nonexperimental approach, providing support for the intervention itself eliciting positive outcomes, and detailing the mechanisms involved (Parry et al., 2020c). Future research should endeavor to further test these mechanisms and conduct more experimental research with young people experiencing homelessness, but should consider existing recommendations (Brady & O'Regan, 2009) and strike a balance between rigorous research that also considers the context and bespoke needs of participants.

In conclusion, this study provides evidence that young people experiencing homelessness can improve their resilience and mental well-being and develop mental skills, regardless of demographic characteristics, from taking part in a community-based PYD program, MST4Life™. However, as baseline differences in resilience and well-being did exist, important implications apply for policy and research, highlighting that young people's characteristics and intersections should be considered in program planning and evaluation. This study also found that the opportunity to practice mental skills is associated with greater well-being, highlighting the effectiveness of using a sport psychology informed MST program with this group; with implications for housing services and program commissioners to consider this novel approach for improving the resilience and well-being of this disadvantaged and heterogeneous population.

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## CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.



## ETHICS STATEMENT

Ethical approval was granted by the University of Birmingham's ethics committee and informed consent was obtained from all participants

## PEER REVIEW STATEMENT

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## ORCID

Mary L. Quinton  <http://orcid.org/0000-0002-0636-6957>

Fiona J. Clarke  <http://orcid.org/0000-0002-5244-0767>

Benjamin J. Parry  <http://orcid.org/0000-0002-1173-4814>

Jennifer Cumming  <http://orcid.org/0000-0001-5655-7842>

## REFERENCES

- APA (2020). *Racial and ethnic identity*. <https://apastyle.apa.org/style-grammar-guidelines/bias-free-language/racial-ethnic-minorities>
- Assari, S. (2018). Health disparities due to diminished return among Black Americans: Public policy solutions. *Social Issues and Policy Review*, 12(1), 112–145. <https://doi.org/10.1111/sipr.12042>
- Bender, K., Thompson, S. J., McManus, H., Lantry, J., & Flynn, P. M. (2007). Capacity for survival: Exploring strengths of homeless street youth. *Child and Youth Care Forum*, 36, 25–42. <https://doi.org/10.1007/s10566-006-9029-4>
- Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society*, 57, 289–300. [https://www.jstor.org/stable/2346101?seq=1#page\\_scan\\_tab\\_contents](https://www.jstor.org/stable/2346101?seq=1#page_scan_tab_contents)
- Blakemore, S. J., & Choudhury, S. (2006). Development of the adolescent brain: implications for executive function and social cognition. *Journal of child psychology and psychiatry*, 47(3–4), 296–312. <https://doi.org/10.1111/j.1469-7610.2006.01611.x>
- Blumenthal, D. S. & DiClemente, R. J., (Eds.). (2013). *Community-based participatory health research: Issues, methods, and translation to practice*. Springer Publishing Company.
- Brady, B., & O'Regan, C. (2009). Meeting the challenge of doing an RCT evaluation of youth mentoring in Ireland: A journey in mixed methods. *Journal of Mixed Methods Research*, 3(3), 265–280. <https://doi.org/10.1177/1558689809335973>
- Browne, L. P., Gillard, A., & Garst, B. A. (2019). Camp as an institution of socialization: Past, present, and future. *Journal of Experiential Education*, 42(1), 51–64. <https://doi.org/10.1177/1053825918820369>
- Campbell-Sills, L., & Stein, M. (2007). Psychometric analysis and refinement of the Connor-Davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, 20, 1019–1028. <https://doi.org/10.1002/jts.20271>
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82(2), 217–225. <https://doi.org/10.1016/j.jad.2003.12.013>
- Ciocanel, O., Power, K., Eriksen, A., & Gillings, K. (2017). Effectiveness of Positive Youth Development interventions: A meta-analysis of randomized controlled trials. *Journal of Youth and Adolescence*, 46, 483–504. <https://doi.org/10.1007/s10964-016-0555-6>
- Clarke, F. J., Parry, B. J., Quinton, M. L., & Cumming, J. (2020). *Mental skills training commissioning and evaluation toolkit*. University of Birmingham.
- Clauss-Ehlers, C. S. (2008). Sociocultural factors, resilience, and coping: Support for a culturally sensitive measure of resilience. *Journal of Applied Developmental Psychology*, 29, 197–212. <https://doi.org/10.1016/j.appdev.2008.02.004>
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression & Anxiety*, 18, 76–82. <https://doi.org/10.1002/da.10113>
- Cooley, S. J., Quinton, M. L., Holland, M. J. G., Parry, B. J., & Cumming, J. (2019). The experiences of homeless youth when using strengths profiling to identify their character strengths. *Frontiers in Psychology*, 10, <https://doi.org/10.3389/fpsyg.2019.02036/>
- Cronley, C., & Evans, R. (2017). Studies of resilience among youth experiencing homelessness: A systematic review. *Journal of Human Behavior in the Social Environment*, 27, 291–310. <https://doi.org/10.1080/10911359.2017.1282912>
- Cumming, J., Skeate, A., & Anderson, G. (2017). *St Basils psychologically informed environments—Meeting the emotional and psychological needs of young homeless people*. <https://www.housinglin.org.uk/>



- Cumming, J., Whiting, R. J., Parry, B. J., Holland, M. J. G., Cooley, S. J., & Quinton, M. L. (2021). *The My Strengths Training for Life™ program: Rationale, logic model, and description of a strengths-based intervention for homeless young people*. Manuscript in preparation.
- Curtis, A. C. (2015). Defining adolescence. *Journal of adolescent and family health*, 7(2), 1–39. <https://scholar.utc.edu/jafh/vol7/iss2/2>
- Damon, W. (2004). What is positive youth development? *The Annals of the American Academy*, 591, 13–24. <https://doi.org/10.1177/0002716203260092>
- Eccles, J. S., & Gootman, J. A. (Eds.). (2002). *Community programs to promote youth development*. National Academy Press.
- Edidin, J., Ganim, Z., Hunter, S., & Karnik, N. (2011). The mental and physical health of homeless youth: A literature review. *Child Psychiatry & Human Development*, 43, 354–375. <https://doi.org/10.1007/s10578-011-0270-1>
- Forrest-Bank, S. S., Nicotera, N., Anthony, E. K., & Jenson, J. M. (2015). Finding their Way: Perceptions of risk, resilience, and positive youth development among adolescents and young adults from public housing neighborhoods. *Children and Youth Services Review*, 55, 147–158. <https://doi.org/10.1016/j.childyouth.2015.05.015>
- Fraser-Thomas, J. L., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education & Sport Pedagogy*, 10(1), 19–40. <https://doi.org/10.1080/1740898042000334890>
- Gomes, A. R., & Marques, B. (2012). Life skills in educational contexts: Testing the effects of an intervention program. *Journal of Educational Studies*, 39, 156–166. <https://doi.org/10.1080/03055698.2012.689813>
- Halliday, A., Kern, M. L., Garrett, D. K., & Turnbull, D. A. (2019). Understanding factors affecting positive education in practice: An Australian case study. *Contemporary School Psychology*, 24, 128–145. <https://doi.org/10.1007/s40688-019-00229-0>
- Hanrahan, S. J. (2005). Using psychological skills training from sport psychology to enhance the life satisfaction of adolescent Mexican orphans. *Athletic Insight*, 7, 7–13.
- Hanrahan, S. J., & Ramm, M. D. L. F. (2015). Improving life satisfaction, self-concept, and happiness of former gang members using games and psychological skills training. *Journal of Sport for Development*, 3(4), 41–47. <https://jsfd.org/>
- Hansen, D. M., & Larson, R. (2005). *The Youth Experience Survey 2.0: Instrument revisions and validity testing*. <http://youthdev.illinois.edu/wp-content/uploads/2013/11/YES-2.0-Instrument.pdf>
- Hanson, D. M., & Toro, P. A. (2020). Contributions of community psychologists to research, theory, intervention, and policy on homelessness since 1980. *Journal of Urban Affairs*, 42(5), 750–764. <https://doi.org/10.1080/07352166.2019.1645571>
- Hartley, M. T. (2012). Assessing and promoting resilience: An additional tool to address the increasing number of college students with psychological problems. *Journal of College Counseling*, 15, 37–51. <https://doi.org/10.1002/j.2161-1882.2012.00004.x>
- Hawe, P., Shiell, A., & Riley, T. (2004). Complex interventions: How 'out of control' can a randomised controlled trial be? *British Medical Journal*, 328, 1561–1563. <https://doi.org/10.1136/bmj.328.7455.1561>
- Hermens, N., Super, S., Verkooijen, K. T., & Koelen, M. A. (2017). A systematic review of life skill development through sports programs serving socially vulnerable youth. *Research Quarterly for Exercise and Sport*, 88(4), 408–424. <https://doi.org/10.1080/02701367.2017.1355527>
- Hodgson, K. J., Shelton, K. H., & van den Bree, M. B. M. (2015). Psychopathology among young homeless people: Longitudinal mental health outcomes for different subgroups. *British Journal of Clinical Psychology*, 54, 307–325. <https://doi.org/10.1111/bjc.12075>
- Holland, M. J. G., Cooley, S. J., & Cumming, J. (2017). Identifying, measuring, and facilitating psychological skill development. In C. Knight, C. Harwood, & D. Gould (Eds.), *Sport psychology for young athletes*. Routledge.
- Hollaway, E. M., Rickwood, D., Rehm, I. C., Meyer, D., Griffiths, S., & Telford, N. (2018). Non-participation in education, employment, and training among young people accessing youth mental health services: Demographic and clinical correlates. *Advances in Mental Health*, 16, 19–32. <https://doi.org/10.1080/18387357.2017.1342553>
- Holt, N. L., Neely, K. C., Slater, L. G., Camiré, M., Côté, J., Fraser-Thomas, J., MacDonald, D., Strachan, L., & Tamminen, K. A. (2017). A grounded theory of positive youth development through sport based on results from a qualitative meta-study. *International Review of Sport and Exercise Psychology*, 10(1), 1–49. <https://doi.org/10.1080/1750984X.2016.1180704>
- Homeless Link. (2017). *Support for single homeless people in England: Annual review 2017*. <https://www.homeless.org.uk/facts/our-research/annual-review-of-single-homelessness-support-in-england>
- Homeless Link (2018). *Young & homeless 2018*. <https://www.homeless.org.uk/sites/default/files/site-attachments/Young%20and%20Homeless%202018.pdf>
- Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review Public Health*, 19, 173–202. <https://doi.org/10.1146/annurev.publhealth.19.1.173>

- Jabbour, L., & Siu, J. (2019). *Economic evaluation of psychologically informed environments: Cost-benefit analysis of BOOST and MST4Life™ programs*. University of Birmingham.
- Johnson, R., & Haigh, R. (2010). Social psychiatry and social policy for the 21st century – New concepts for new needs: The 'psychologically-informed environment'. *Mental Health and Social Inclusion*, 14, 30–35. <https://doi.org/10.5042/mhsi.2011.0054>
- Jones, G. J., Edwards, M. B., Bocarro, J. N., Svensson, P. G., & Misener, K. (2020). A community capacity building approach to sport-based development. *Sport Management Review*, 23, 563–575. <https://doi.org/10.1016/j.smr.2019.09.001>
- Kalmakis, K. A., & Chandler, G. E. (2015). Health consequences of adverse childhood experiences: A systematic review. *Journal of the American Association of Nurse Practitioners*, 27(8), 457–465. <https://doi.org/10.1002/2327-6924.12215>
- Kelly, B. L. (2019). Positive Youth Development: Developing, implementing, and sustaining music-based services for emerging adults experiencing homelessness. *Emerging Adulthood*, 7(5), 331–341. <https://doi.org/10.1177/2167696818777347>
- Kern, M., Benson, L., Steinberg, E., & Steinberg, L. (2015). The EPOCH measure of adolescent well-being. *Psychological Assessment*, 28, 586–597. <http://www.apa.org/pubs/journals/pas/index.aspx>
- King, C. (2019). Race, mental health, and the research gap. *The Lancet Psychiatry*, 6, 367–368. [https://doi.org/10.1016/S2215-0366\(19\)30091-4](https://doi.org/10.1016/S2215-0366(19)30091-4)
- Kochanek, J., & Erickson, K. (2020). Interrogating Positive Youth Development through sport using critical race theory. *Quest*, 72(2), 224–240. <https://doi.org/10.1080/00336297.2019.1641728>
- Krabbenborg, M. A. M., Boersma, S. N., van der Veld, W. M., van Hulst, B., Vollebergh, W. A. M., & Wolf, J. R. L. M. (2017). A cluster randomized controlled trial testing the effectiveness of Houvast: A strengths-based intervention for homeless young adults. *Research on Social Work Practice*, 27(6), 639–652. <https://doi.org/10.1177/1049731515622263>
- Larzelere, F., Tingey, L., Ingalls, A., Sprengeler, F., Parker, S., Rosenstock, S., Jennings, L., Craig, M., O'Keefe, V., & Barlow, A. (2019). Evaluation of an entrepreneurship education intervention for American Indian adolescents: Trial design and baseline sample characteristics. *American Indian and Alaskan Native Mental Health Research*, 26, 1–20. <https://doi.org/10.5820/aian.2603.2019.1>
- Lerner, R. M., & Callina, K. S. (2013). Relational developmental systems theories and the ecological validity of experimental designs. *Human Development*, 56, 372–380. <https://doi.org/10.1159/000357179>
- Lerner, R. M., Lerner, J. V., Almerigi, J., Theokas, C., Phelps, E., Gestsdóttir, S., Naudeau, S., Jeličić, H., Alberts, A. E., Ma, L., Smith, L. M., Bobek, D. L., Richman-Raphael, D., Simpson, I., Christiansen, E. D., & von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth grade adolescents: Findings from the first wave of the 4-H Study of Positive Youth Development. *Journal of Early Adolescence*, 25(1), 17–71. <https://doi.org/10.1177/0272431604272461>
- Lerner, R. M., Lerner, J. V., Lewin-Bizan, S., Bowers, E. P., Boyd, M. J., Mueller, M. K., Schmid, K. L., & Napolitano, C. M. (2011). Positive youth development: Processes, Programs, and Problematics. *Journal of Youth Development*, 6(3), 41–64. <https://doi.org/10.5195/JYD.2011.174>
- Lerner, R. M., Wang, J., Chase, P. A., Gutierrez, A. S., Harris, E. M., Rubin, R. O., & Yalin, C. (2014). Using relational developmental systems theory to link program goals, activities, and outcomes: The sample case of the 4-H Study of Positive Youth Development. *New Directions for Youth Development*, 144, 17–30. <https://doi.org/10.1002/yn.20110>
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227–238.
- Mental Health Foundation (2020). <https://www.mentalhealth.org.uk/learning-disabilities/a-to-z/l/learning-difficulties>
- Moore, J. (2013). *Research summary: Resilience and at-risk children and youth*. National Center for Homeless Education. <https://nche.ed.gov/wp-content/uploads/2018/11/resilience.pdf>
- Mueller, M. K., Phelps, E., Bowers, E. P., Agans, J. P., Urban, J. B., & Lerner, R. M. (2011). Youth development program participation and intentional self-regulation skills: Contextual and individual bases of pathways to positive youth development. *Journal of Adolescence*, 34(6), 1115–1125. <https://doi.org/10.1016/j.adolescence.2011.07.010>
- Napolitano, C. M., Bowers, E. P., Gestsdóttir, S., & Chase, P. (2011). The development of intentional self-regulation in adolescence: Describing, explaining, and optimizing its link to positive youth development. In R. M. Lerner, J. V. Lerner, & J. B. Benson (Eds.), *Advances in child development and behavior* (Vol. 41, pp. 19–38). Academic.
- Olson, C. L. (1976). On choosing a test statistic in multivariate analysis of variance. *Psychological Bulletin*, 83, 579–586. <http://www.apa.org/pubs/journals/bul/>
- Overton, W. F. (2013). Relationism and relational developmental systems: A paradigm for developmental science in the post-Cartesian era. In R. M. Lerner, & J. B. Benson (Eds.), *Advances in child development and behavior*. Vol. 44: *Embodiment and epigenesis: Theoretical and methodological issues in understanding the role of biology within the relational developmental system, Part A: Philosophical, theoretical, and biological dimensions* (pp. 24–64). Elsevier.
- Parry, B. J., Thompson, J. L., Holland, M. J. G., Cooley, S. J., Quinton, M. L., & Cumming, J. (2020a). *Health outcomes of physical activity-based positive youth development for disadvantaged young people: A systematic review*. School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham.

- Parry, B. J., Thompson, J. L., Holland, M. J. G., & Cumming, J. (2020b). *Promoting personal growth in young people experiencing homelessness through an outdoors-based program*. School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham.
- Parry, B. J., Thompson, J. L., Holland, M. J. G., Quinton, M. L., & Cumming, J. (2020c). Improving outcomes in young people experiencing homelessness with My Strengths Training for Life (MST4Life)<sup>TM</sup>: A qualitative realist evaluation. *Children and Youth Services Review*, 121, 105793. <https://doi.org/10.1016/j.childyouth.2020.105793>
- Pink, M. A., Mahoney, J. W., & Sanders, J. E. (2020). Promoting positive development among youth from refugee and migrant backgrounds: The case of Kicking Goals Together. *Psychology of Sport & Exercise*, 51, 1–12. <https://doi.org/10.1016/j.psychsport.2020.101790>
- Pleace, N. (2015). *At what cost? An estimation of the financial costs of single homelessness in the UK*. Crisis. <https://www.crisis.org.uk/ending-homelessness/homelessness-knowledge-hub/cost-of-homelessness/at-what-cost-2015/>
- Rew, L., Slesnick, N., Johnson, K., Aguilar, R., & Cengiz, A. (2019). Positive attributes and life satisfaction in homeless youth. *Children and Youth Services Review*, 100, 1–8. <https://doi.org/10.1016/j.childyouth.2019.02.021>
- Roos, L. E., Mota, N., Afifi, T. O., Katz, L. Y., Distasio, J., & Sareen, J. (2013). Relationship between adverse childhood experiences and homelessness and the impact of axis I and II disorders. *American Journal of Public Health*, 103(S2), S275–S281. <https://doi.org/10.2105/AJPH.2013.301323>
- Roth, J. L., & Brooks-Gunn, J. (2016). Evaluating youth development programs: Progress and promise. *Applied developmental science*, 20, 188–202. <https://doi.org/10.1080/10888691.2015.1113879>
- Sanders, J., Munford, R., Thimasarn-Anwar, T., Liebenberg, L., & Ungar, M. (2015). The role of positive youth development practices in building resilience and enhancing wellbeing for at-risk youth. *Child Abuse & Neglect*, 42, 40–53. <https://doi.org/10.1016/j.chiabu.2015.02.006>
- Schwan, K. J., Fallon, B., & Milne, B. (2018). “The one thing that actually helps”: Art creation as a self-care and health promoting practice amongst youth experiencing homelessness. *Children and Youth Services Review*, 93, 355–364. <https://doi.org/10.1016/j.childyouth.2018.08.002>
- Sergi, V., Cefalo, R., & Kazepov, Y. (2018). Young people's disadvantages on the labour market in Italy: Reframing the NEET category. *Journal of Modern Italian Studies*, 23, 41–60. <https://doi.org/10.1080/1354571X.2017.1409529>
- Smith, E. J. (2006). The strength-based counselling model. *The Counselling Psychologist*, 34, 13–79. <https://doi.org/10.1177/0011000005277018>
- Smith, T. B., & Silva, L. (2011). Ethnic identity and personal well-being of people of color: A meta-analysis. *Journal of Counseling Psychology*, 58, 42–60. <https://doi.org/10.1037/a0021528>
- Spencer, M. B., Dupree, D., & Hartmann, T. (1997). *A phenomenological variant of ecological systems theory (PVEST): A self-organization perspective in context*. [http://repository.upenn.edu/gse\\_pubs/4](http://repository.upenn.edu/gse_pubs/4)
- Steinberg, L. (2014). *Age of opportunity: Lessons from the new science of adolescence*. Houghton Mifflin Harcourt.
- Steinberg, L., Icenogle, G., Shulman, E. P., Breiner, K., Chein, J., Bacchini, D., Chang, L., Chaudhary, N., Giunta, L. D., Dodge, K. A., Fanti, K. A., Lansford, J. E., Malone, P. S., Oburu, P., Pastorelli, C., Skinner, A. T., Sorbring, E., Tapanya, S., Tirado, L. M. U., ... Takash, H. M. S. (2018). Around the world, adolescence is a time of heightened sensation seeking and immature self-regulation. *Developmental science*, 21(2):e12532. <https://doi.org/10.1111/desc.12532>
- Stewart, K., & Townley, G. (2018). Intrapersonal and social-contextual factors related to psychological well-being among youth experiencing homelessness. *Journal of Community Psychology*, 47, 772–789. <https://doi.org/10.1002/jcop.22152>
- Stuart, K., & Perris, E. (2017). Asset-based youth support – Reclaiming the roots of youth work at the Foyer Foundation. *Cogent Social Sciences*, 3(1), 1–16. <https://doi.org/10.1080/23311886.2017.1377989>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics*. Pearson Education Limited.
- Tomlinson, M., Ward, C. L., & Marlow, M. (2015). Improving the efficiency of evidence-based interventions: The strengths and limitations of randomised controlled trials. *SA Crime Quarterly*, 51, 43–52. <https://doi.org/10.4314/sacq.v51i1.5>
- Ullrich-French, S., & Cole, A. (2017). Exploring participant characteristics in an assessment of changes in psychosocial outcomes in a physical activity-based positive youth development program for girls. *International Journal of Sport and Exercise Psychology*, 1–20. <https://doi.org/10.1080/1612197X.2016.1275740>
- Urban, J. B., Lewin-Bizan, S., & Lerner, R. M. (2010). The role of intentional self-regulation, lower neighborhood ecological assets, and activity involvement in youth development outcomes. *Journal of Youth Adolescence*, 39, 783–800. <https://doi.org/10.1007/s10964-010-9549-y>
- Veale, R. S. (2012). Mental skills training in sport. In G. Tenenbaum, & R. C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 285–309). John Wiley & Sons. <https://doi.org/10.1002/9781118270011.ch13>
- Velez, G., & Spencer, M. B. (2018). Phenomenology and Intersectionality: Using PVEST as a frame for adolescent identity formation amid intersecting ecological systems of inequality. In C. E. Santos, & R. B. Toomey (Eds.), *Envisioning the integration of an intersectional lens in developmental science. New directions for child and adolescent development* (Vol. 161, pp. 75–90. <https://doi.org/10.1002/cad.20247>

Williams, J., & Deutsch, N. (2015). Beyond between-group differences: Considering race, ethnicity, and culture in research on positive youth development programs. *Applied Developmental Science*, 1–12. <https://doi.org/10.1080/10888691.2015.1113880>

## SUPPORTING INFORMATION

Additional Supporting Information may be found online in the supporting information tab for this article.

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