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Article

A Kirkpatrick Model Process Evaluation of Reactions and Learning from My Strengths Training for Life™

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Abstract: Underpinned by the new world Kirkpatrick model and in the context of a community-based, sport psychology program (My Strengths Training for Life™) for young people experiencing homelessness, this process evaluation investigated: (1) young peoples' reactions (program and facilitator evaluation, enjoyment, attendance, and engagement) to and learning (mental skills and transfer intention), (2) the relationship between reaction and learning variables, and (3) the mediators underpinning this relationship. 301 young people living in a West Midlands housing service completed questionnaires on demographics, reaction and learning variables. Higher levels of program engagement were positively associated with more favorable reactions to the program. Enjoyment positively predicted learning outcomes, which was mediated by transfer intention. Recommendations are made for: (1) a balance between rigor and flexibility for evaluation methods with disadvantaged youth, (2) including engagement as well as attendance for indicators of meaningful program participation, (3) measuring program experiences (e.g., enjoyment) to understand program effectiveness, and (4) providing opportunities for skill transfer during and after program participation. Findings have implications for researchers, program commissioners, and policy makers working designing and evaluating programs in community-based settings.

Keywords: young people experiencing homelessness; disadvantaged youth; engagement; community-based research; positive youth development; mental skills training

1. Introduction

Young people experiencing homelessness are a unique population within the community, with bespoke needs to face numerous and complex economic, health, and social challenges and inequalities [1,2]. Research has often been conducted on this sub-population, but less frequently with these young people and subsequently this marginalized group is underrepresented in research [3,4]. In a systematic review of strategies to increase health research within socially disadvantaged groups, Bonevski et al. [5] noted that research should operate via community partnerships to increase these groups' representation. However, only 4 of 116 studies in this review included people experiencing homelessness. For research with disadvantaged young people to be representative, the onus needs to shift from labelling this group as "hard to reach" to increasing researchers' responsibility to create accessible opportunities for engaging these groups [4]. Therefore, researchers should work closely with community collaborators to gain young people's input into program design and evaluation [1], which would enhance the relevance of subsequent programs to young people's needs and result in more tailored and effective policy development [6].

Historically, there have been limited evidence-based interventions with young people experiencing homelessness [7]. As part of a larger community-based participatory research project [8], this article describes a quantitative process evaluation of My Strengths Training for Life (MST4Life)™, delivered in partnership with a housing service for young

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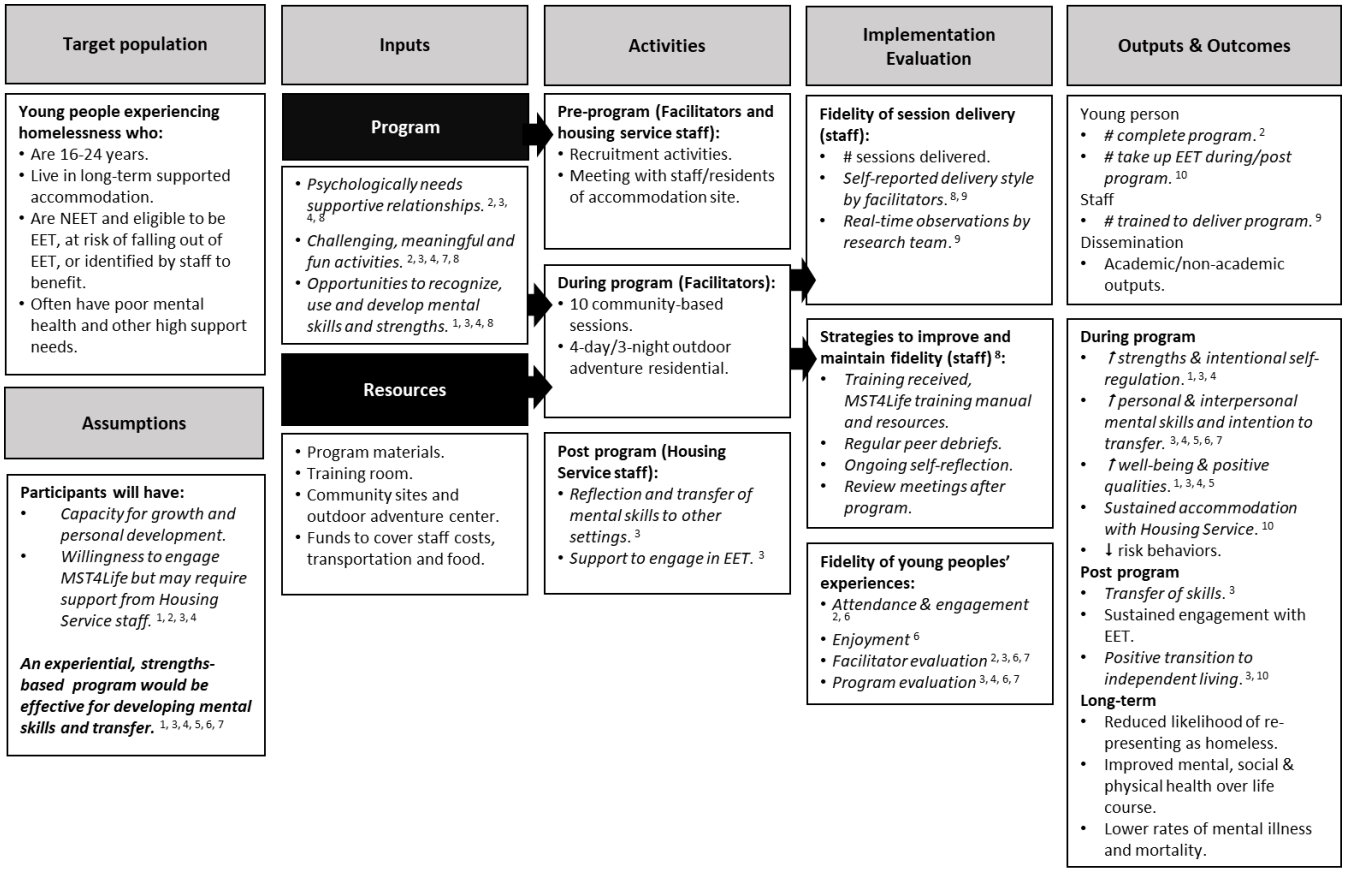
people experiencing homelessness. This research was underpinned by strengths-based psychology and positive youth development (PYD), where core components include a focus on assets over deficits, providing meaningful opportunities to develop and build upon existing mental strengths, and promoting positive and healthy adult and peer rela-



tionships [8]. PYD and mental skills training programs (e.g., MST4Life™) are centered upon mental skills development such as intentional self-regulation, problem solving, and emotional regulation [3,9]. Research has demonstrated the effectiveness of MST4Life™ for promoting psychosocial development, intentional self-regulation, and integrating young people back into society (see Figure 1 for an updated logic model based on evidence to date). However, a research gap with this population is a quantitative assessment of how young peoples' experiences of strengths-based programs can lead to learning outcomes, which would contribute to the small evidence base within this area.

Figure 1. Updated MST4Life™ logic model adapted from Cumming, Whiting et al. (2022) with permission. *Note:* Evidence to support components of the logic model to date is italicised. [1] [10], [2] [11], [3] [12], [4] [13], [5] [9], [6] current manuscript, [7] [14], [8] [8], [9] [15], [10] [16].

One way to obtain young peoples' views on their experiences of participating in programs is through process evaluations. Process evaluations seek to understand an interventions' context (e.g., environment), mechanisms (e.g., participants' responses to, and interactions with, the intervention, mediators, and unintended consequences), and implementation (delivery quality and quantity) [17]. This type of evaluation ensures that young peoples' views are appropriately captured and service provision is meeting actual rather than perceived needs [6,17,18]. It is well evidenced that a flexible, tailored approach is needed for research with young people experiencing homelessness and the strict criteria and positivist approach of randomized controlled trials are often not possible or appropriate (e.g., due to transient nature of population) [1,9,18,19]. Therefore, it is important

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that program evaluators select research methods and evaluation models that provide the opportunity for young peoples' views of that program to be represented in research [14,19].

Limited process evaluations have been conducted on programs with young people experiencing homelessness [1,6]. Addressing one aspect of process evaluation, Krabbenborg et al. [7] assessed the fidelity of Houvast, a Danish strengths-based intervention with young people experiencing homelessness and reported mixed findings in Houvast's implementation across shelters. In MST4Life™, different components of process evaluations have been conducted, including a feasibility study [11], realist evaluation [12], and fidelity of strengths-based delivery style with frontline staff [15]. In another study, Tidmarsh et al. [14] conducted a qualitative process evaluation of the implementation of MST4Life™ using diary rooms to explore young peoples' perceptions of barriers and enablers to engagement. A key theme was the importance of using engaging activities to facilitate development of mental skills that could be used within and outside of MST4Life™ (i.e., skill transfer). Despite these MST4Life™ process evaluations, it is still not clear what mechanisms are underpinning young peoples' reactions to programs (e.g., enjoyment), and how these reactions in turn lead to learning outcomes (e.g., mental skills developed and transfer intention to other settings), whereby doing so would provide support for the programs' logic model [8] (Figure 1). Although the diary room is flexible and provides a platform for participants' voices [14], a quantitative process evaluation would offer complimentary information by overcoming limitations of the diary room (e.g., not all young people may be comfortable in sharing views this way) and ensure these young peoples' views are still captured within such a heterogenous population [9]. An overall mixed methods process evaluation approach to MST4Life™ also meets recommendations for improving the scope and understanding of process evaluations in disadvantaged youth [6,17].

A well-known model of evaluation that provides structure to investigate participants' engagement and learning is the new world Kirkpatrick model [20]. The model has five levels: (1) reaction (participants' responses to program), (2) learning (extent that participants obtained learning outcomes), (3) behavior (behavior change from participating), (4) results (impact of program on wider organizational goals), and (5) return on expectations (extent that collaborator expectations were met) [21]. The original model was outcome-focused [22], but the new world model is suitable for process evaluations as it emphasizes the importance of processes and the impact of learner characteristics on program outcomes [20,23,24]. Although this model originated from business, it has since been applied to diverse settings such as outdoor adventure education (OAE) [25] and nursing [26]. However, it has not yet been used to underpin evaluation in the context of young people experiencing homelessness despite the potential value of the model in providing a framework to allow consistency across interventions and clearer recommendations on program design, delivery, and evaluation for researchers, policy makers, and program commissioners.

The new world Kirkpatrick model proposes that level 1 (reaction) should measure participants' engagement in the learning experience [20]. Research has predominantly measured attendance as an indicator of program success and has overlooked engagement [19]. Engagement focuses on the quality of experience while involved in program activities and plays a key role in recruiting and retaining participants, particularly for older youth who have more choices on how they spend their time [27]. In health, educational, and outreach settings, better engagement in programs is associated with better outcomes such as higher grades or greater wellbeing and functioning [28-30]. Young people demonstrate their engagement through observable behaviors (e.g., contributing to discussions) and displaying a positive attitude towards activities [31]. While those experiencing homelessness can be reluctant to engage in programs, such as due to inaccessibility or lack of trust in service providers [32], programs that prioritize engagement build relevance for participants and may help to overcome perceived obstacles to participation [31]. PYD pro-

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grams such as MST4Life™ that focus on relationships with others, skill-building opportunities, and prioritize strengths over deficits are likely to promote engagement (e.g., active contributions, engaging with others) and should therefore be reflected in its evaluation. From a process evaluation perspective, measuring engagement would also provide an indicator of intrinsic motivation (i.e., young people attend for their own benefit rather than being motivated by external reasons) [11]. Therefore, the present study included engagement alongside attendance as measures of reaction and examined their relationship with learning variables (mental skills used and transfer intention). If attendance and engagement are associated with learning outcomes, it will reinforce both variables as important indicators to measure when delivering and evaluating programs with this population.

Level 2 (learning) of the new world Kirkpatrick model is proposed to evaluate the extent to which learning was achieved. Extending this idea further, Cooley et al. [23] found that learning and its transfer to other settings is influenced not only by reaction variables but also by contextual and learner characteristics. Transfer of learning should be an important goal for psychoeducational programs. It is often assumed that learning (i.e., the knowledge and skills developed and used in a controlled context like school or MST4Life™) will automatically transfer outside of this context to other areas of life, but research shows that transfer of learning can be limited [33]. It is therefore important to intentionally create relevant opportunities for transfer within such contexts so that transfer opportunities in real-world settings can be more easily identified when presented [33]. Although there has been mixed evidence to support causal links between Kirkpatrick evaluation levels [24], Cooley et al. [25] showed that reaction variables (program enjoyment and satisfaction) predicted learning (improved groupwork skills and intention to transfer) in university students participating in an OAE course. Importantly, intention to transfer learning has been noted as a vital prerequisite to learning transfer [23]. Referring to the logic model (Figure 1), one of the expected outcomes of MST4Life™ is transfer of learning [8]. Therefore, building from Cooley et al. [23,25] and Kirkpatrick and Kirkpatrick [20], the current process evaluation investigated whether reactions (program evaluation and enjoyment, facilitator evaluation) predicted learning (mental skills experiences in MST4Life™), but also whether this relationship occurred via intention to transfer these skills. If supported, this relationship would hold significant implications for programs with young people experiencing homelessness, indicating that opportunities for skill transfer should continue once the program has ended to encourage transfer to other contexts (e.g., education, employment, or training; EET) [23].

Underpinned by the new world Kirkpatrick model [20] and extending upon qualitative MST4Life™ research [12,14], the first aim of this process evaluation was to investigate young people's reactions (i.e., program evaluation, enjoyment, facilitator evaluation, attendance, and engagement) to and learning from MST4Life™ (i.e., mental skills used and transfer intention). The second aim was to explore the relationship between reaction and learning variables, with the third aim to determine the mediators underpinning this relationship. Based on Cooley et al. [23], transfer intention was included as a mediator as well as an indicator of learning as it was also noted as a vital prerequisite to learning transfer. It was hypothesized that: (1) young people would have favorable reactions to and learning from MST4Life™ due to taking part in a PYD program [3], (2) reaction variables would be positively related with learning variables [25], and (3) transfer intention would mediate the relationship between reaction variables and mental skills developed in MST4Life™ [23]. The higher levels (i.e., behavior, results, and return on expectations) of the Kirkpatrick model are not reported in this study but have been reported elsewhere [12,16].

This study makes an original contribution by (1) extending the scant literature on process evaluations with young people experiencing homelessness, (2) measuring engagement in the program in addition to attendance, and (3) applying the new world Kirkpatrick model to a youth homelessness context. The findings could have important implications for housing services, researchers, program commissioners, and policy makers

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working with this population by providing recommendations for conducting process evaluations in community-based settings and what measures are important to consider (e.g., attendance vs. engagement, transfer intention).

2. Materials and Methods

2.1. Participants

The sample consisted of 301 young people (*M* age = 19.64, *SD* = 2.31) supported by the housing service. A breakdown of demographic information can be found in Table 1. The inclusion criteria were that young people: (a) lived in supported accommodation or floating support service, (b) engaged in at least one MST4Life™ session, and (c) were recruited on the bases of either being not currently engaged in meaningful activity (e.g., EET, volunteering, apprenticeships) or were considered by staff to benefit from the program with regards to their potential for developing mental skills [8].

Table 1. Demographic breakdown of study variables (and standard deviations).

Demographics	Attendance	Engagement	Program evaluation	Facilitator evaluation	Program enjoyment	Transfer intention
Gender						
Male (*n* = 117)	5.46 (2.68)	8.16 (1.09)	4.30 (.79)	4.43 (.73)	4.24 (.90)	3.85 (.95)
Female (*n* = 159)	5.33 (2.69)	8.28 (1.15)	4.53 (.70)	4.67 (.64)	4.43 (.72)	4.08 (.83)
Transgender (*n* = 3)	7.33 (3.79)	9.46 (.22)	5.00 (0)	5.00 (0)	4.50 (.71)	4.00 (1.41)
Non-binary (*n* = 1)	6.00 (0)	8.50 (0)	5.00 (0)	5.00 (0)	4.75 (0)	3.50 (0)
Ethnicity						
White (*n* = 154)	5.55 (2.74)	8.34 (1.02)	4.45 (.71)	4.61 (.66)	4.32 (.81)	3.86 (.92)
Asian/Asian British (*n* = 10)	4.00 (2.54)	7.37 (1.51)	3.75 (1.77)	4.50 (.71)	4.00 (1.41)	4.00 (1.41)
Black/African/Caribbean/Black British (*n* = 57)	5.17 (2.72)	8.22 (1.23)	4.44 (.79)	4.60 (.71)	4.39 (.76)	4.20 (.77)
Arab (*n* = 1)	3.00 (0)	8.67 (0)	-	-	-	-
Mixed/multiple ethnic groups (*n* = 46)	5.53 (2.52)	8.11 (1.23)	4.54 (.85)	4.54 (.80)	4.56 (.78)	4.38 (.84)
Other (*n* = 3)	5.67 (4.04)	8.82 (1.40)	5.00 (0)	5.00 (0)	5.00 (0)	4.00 (0)
Social inclusion						
EET (*n* = 99)	5.54 (2.66)	8.47 (1.13)	4.66 (.54)	4.79 (.50)	4.55 (.60)	4.24 (.75)
NEET looking for work (*n* = 78)	5.22 (2.65)	8.28 (1.17)	4.15 (.90)	4.48 (.79)	4.01 (.92)	3.64 (.99)
NEET not looking for work (*n* = 30)	5.32 (3.08)	8.19 (.78)	4.42 (.63)	4.54 (.66)	4.69 (.45)	4.11 (.94)
Unable to work/other (*n* = 52)	5.41 (2.84)	7.89 (1.19)	4.45 (.87)	4.45 (.78)	4.24 (.97)	3.83 (.87)
Learning difficulty						
Yes (*n* = 31)	6.52 (2.62)	8.35 (.85)	4.50 (.73)	4.57 (.68)	4.28 (.91)	3.70 (1.36)
No (*n* = 154)	5.25 (2.88)	8.46 (1.10)	4.46 (.75)	4.68 (.60)	4.48 (.69)	4.15 (.77)
Prefer not to say (*n* = 16)	4.75 (2.27)	8.13 (1.03)	4.25 (1.19)	4.38 (1.25)	3.75 (1.34)	3.75 (.46)

2.2. Intervention

MST4Life™ is a community-based PYD program that helps young people to recognise existing strengths and self-regulate their thoughts, feelings, behaviours, with the intention to transfer skills into other settings (e.g., EET) [9]. MST4Life™ was delivered

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within a large West Midlands housing service, with a psychologically informed environment (PIE) organization approach [8]. Young people also had opportunities to engage in other activities for self-development, such as life skills workshops (e.g., cooking and budgeting) and a youth advocacy group.

The core principles of MST4Life™ as determined by young people and staff from the housing service were fun and interactive, flexible, and young person led [8]. The program consisted of 10 sessions which took place at the supported accommodation sites (average duration 2 hours) or in the community (4 hours). For more information about program activities see Cooley et al. [10] and Cumming et al. [8]. The program also included an OAE residential, but data are reported elsewhere [12].

Program facilitators' backgrounds were primarily in sport psychology. Aligned with the sport psychology underpinning of MST4Life™, self-determination theory (SDT) grounded facilitators approach [34], which supported basic psychological needs for autonomy, competence, and relatedness [11]. The latter particularly encouraged rapport development (e.g., facilitators welcomed each young person, made informal conversation to get to know people better), which was considered vital for working with young people with complex psychological needs. To further adapt to working with these young people, facilitators completed training courses on PIE, motivational interviewing, and mental health first aid. Facilitators also engaged in reflective practice with the housing services' clinical psychologist.

2.3. Measures

2.3.1. Demographics

Young people self-reported gender, ethnicity, social inclusion status, and learning difficulty (Table 1). Guidelines from appropriate resources were followed to ensure categories were suitably named [9,35,36].

2.3.2. Reactions

2.3.2.1. Attendance. Attendance was recorded for each session. The maximum possible attendance was 10 sessions. An average attendance score was created for the overall sample.

2.3.2.2. Engagement. Engagement was rated by facilitators for each session on a scale of 1 (*not at all engaged*) to 10 (*could not be more engaged*). As most sessions were delivered by two facilitators, an average score was taken across their two scores. Then, an average score was created for each young person across the number of sessions attended.

2.3.2.3. Program Evaluation. Program evaluation was measured using a two-item index [37], with wording adapted for the current research (e.g., "Overall, the MST4Life™ program was excellent"). Participants rated on a scale of 1 (*not at all true*) to 5 (*very true*) the extent they agreed with each statement, with an average score created across the two items.

2.3.2.4. Facilitator Evaluation. Using a two-item index [37], participants rated the extent they agreed with the statements (e.g., "Overall, the MST leader was excellent") on a Likert-type scale from 1 (*not at all true*) to 5 (*very true*). An average score was created across the two items.

2.3.2.5. Program Enjoyment. Enjoyment of MST4Life™ was assessed through four items adapted from the intrinsic motivation inventory [38], such as "The activities were fun to do". Participants rated the extent they agreed with each statement on a Likert-type scale from 1 (*not at all true*) to 5 (*very true*), with an average score created across the four items. Cooley et al. [25] used these three measures as indicators of reaction and found them to be reliable [25].

2.3.3. Learning

2.3.3.1. Transfer Intention. This questionnaire consisted of four items adapted from Cooley et al. [25] to assess participants' intention to transfer mental skills after

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MST4Life™. Participants rated their intentions on a Likert-type scale from 1 (*extremely unlikely*) to 5 (*extremely likely*), with an example item being "I plan to use the mental skills I developed in the future". An average score was created across the four items, with items shown to be reliable previously [25].

2.3.3.2. Mental Skills Experiences. Measured using the Youth Experience Survey 2.0 (YES-2) [39], participants rated on a Likert scale from 1 (*not at all*) to 4 (*yes, definitely*) their perceived opportunities to develop mental skills. For this study only the following subscales were assessed, with a total of 21 items: goal setting (e.g., "I set goals for myself in this activity"), effort (e.g., "I put all of my energy into this activity"), problem solving (e.g., "I learned about developing plans for solving problems"), time management (e.g., "I learned about organising time and not procrastinating), emotional regulation (e.g., "I learned that my emotions affect how I perform"), and groupwork (e.g., "I learned to be patient with other group members"). An average score was created for each subscale. Previous research has found these subscales to be reliable when administered to MST4Life™ participants [9].

2.4. Procedure

Ethical approval was obtained by the University's ethics committee (ERN_21-1017). Participants were informed about the research verbally and through an information sheet to ensure understanding. Informed consent was obtained prior to completion of the questionnaires. All participants used ID numbers or pseudonyms instead of their real names when completing questionnaires to maintain anonymity. Facilitators explained the questionnaire and encouraged participants to complete it as honestly as possible, emphasizing that there were no right or wrong answers. Facilitators also provided help to those who found it difficult to understand or read the questionnaires. Data was collected between October 2014 and June 2019 and at two time points in the program: Session 2 (demographics) and Session 10 (reactions and learning).

2.5. Data Screening and Analyses

Data was screened and cleaned in accordance with recommendations from Tabachnick and Fidell [40]. Cronbach alphas can be found in Table 2. Univariate and multivariate outliers were determined by inspecting z scores (< or > 3.29) and the Mahalanobis distance at $p < .001$, respectively. The randomness of missing data was determined by Little's missing completely at random (MCAR) test [41]. The Benjamini-Hochberg correction was implemented to reduce type 1 error by adjusting the false discovery rate [42].

Preliminary analyses consisted of one-way ANOVAs and MANOVAs to investigate demographic differences (gender, ethnicity, social inclusion, learning difficulty) in the dependent variables (reaction and learning). The main analyses consisted of Pearson's bivariate correlations to investigate the relationship between study variables. A series of hierarchical linear regressions, with demographics entered in the first step to control for variance, were conducted to determine the extent that reaction variables (attendance, engagement, program evaluation, facilitator evaluation, program enjoyment) predicted learning (mental skills and transfer intention). Collinearity diagnostics were checked to ensure there was no evidence of multicollinearity (VIF < 10; tolerance > .10) [43]. Mediation analyses were undertaken through testing for indirect effects via the PROCESS add-on in SPSS [44]. Variables that were not significant predictors in the linear regressions were not considered in mediation analyses [45], therefore program enjoyment was the predictor, transfer intention the mediator, and mental skills the outcome variables. Separate tests were run for each outcome variable at a 90% confidence interval, generated from bootstrapping of 5000 samples.

3. Results

3.1. Preliminary Analyses

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3.1.1. Data Screening and Cleaning

Univariate outliers were identified for three reaction items: "I would recommend the MST program to a friend" (z = - 4.15), "Overall, the MST leader was excellent" (z = - 4.03), and "I would recommend this MST leader to a friend" (z = - 4.32). These outliers were retained to reflect the full range of program feedback within the data. There were 3 multivariate outliers identified through inspection of the Mahalanobis distance and were subsequently removed. Any missing data was MCAR according to Little's test (p > .05).

3.1.2. Sample Descriptives

The average scores were 5.41 (SD = 2.68) for attendance, 8.24 (SD = 1.11) for engagement, 4.40 (SD = .75) for program evaluation, 4.57 (SD = .66) for facilitator evaluation, 4.32 (SD = .82) for program enjoyment, and 3.96 (SD = .89) for transfer intention. The mental skill that was most developed over MST4Life™ was effort (M = 3.18; SD = .65), followed by groupwork (M = 3.13; SD = .55), problem solving (M = 3.10; SD = .67), time management (M = 2.99; SD = .69), goal setting (M = 2.98; SD = .70), and emotion regulation (M = 2.82; SD = .67).

3.1.3. Demographic Differences in Dependent Variables

There were no demographic differences in reaction or learning variables. Although there were initial differences in attendance, engagement, and program enjoyment, these became non-significant after the Benjamini-Hochberg correction. Means, standard deviations, and statistical information can be found in Table 1 and Supplement Table 1.

3.2. Main Analyses

3.2.1. Relationship Between Study Variables

A correlation matrix can be found in Table 2. The largest relationship was between program and facilitator evaluation. Other key findings from Table 2 include positive relationships between engagement and reaction variables (program evaluation, facilitator evaluation, and program enjoyment), indicating higher levels of engagement were associated with more favourable reactions to MST4Life™. These same relationships were not evident for attendance. Additionally, mental skills were positively associated with program reactions (program evaluation, facilitator evaluation, and program enjoyment) and transfer intention. In other words, greater perceptions of mental skills developed in MST4Life™ were associated with more favourable reactions to the program and greater intentions to transfer these skills after the program.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Attendance	-										
2. Engagement	.15*	-									
3. Course evaluation	.15	.24*	.80								
4. Facilitator evaluation	.14	.25**	.81***	.76							
5. Enjoyment	.09	.25**	.75***	.59***	.95						
6. Transfer intent	.06	.17	.56***	.55***	.57***	.92					
7. Goal setting	-.04	.04	.38***	.26**	.42***	.47***	.83				
8. Effort	.03	.11	.34***	.26**	.46***	.42***	.68***	.82			
9. Problem solving	.07	.15	.34***	.27**	.50**	.49***	.63***	.64***	.82		
10. Time management	.07	.06	.35***	.24*	.41***	.48***	.64***	.69***	.68***	.82	
11. Emotion regulation	-.05	-.04	.23*	.15	.33***	.51***	.52***	.53***	.53***	.69***	.76
12. Groupwork	-.05	.17	.36***	.36***	.35***	.56***	.56***	.53***	.59***	.58***	.58***

Table 2. Correlation matrix of study variables and cronbach alphas.

Note. *p < .05, **p < .01, ***p < .001. Cronbach alphas are reported on the diagonal.

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3.2.2. Reaction Variables Predicting Learning Outcomes

For all regressions, demographics were entered in Step 1 to account for any confounding variables. Reaction variables were entered in Step 2. All demographic variables at Step 1 were non-significant and were therefore removed and the regression re-run, resulting in six linear regressions. There was no evidence of multicollinearity as all tolerance values were above .10 and VIF values below 10. The groupwork regression was not significant and therefore not presented here.

Table 3. Linear regressions for reaction predicting learning variables.

All results presented were significant after Benjamini-Hochberg correction and can be found in Table 3. Program enjoyment positively predicted transfer intention and all mental skills and was the strongest predictor for problem solving. Facilitator evaluation also positively predicted transfer intention. Attendance, engagement, and program evaluation did not significantly predict learning.

3.2.3. Mediation

As program enjoyment was a key predictor of learning outcomes, further mediation analyses were conducted to explore the potential mechanism underpinning this relationship. Transfer intention was a significant mediator between program enjoyment and mental skills: goal setting (B = .18, 90% CI = .08 to .30), effort (B = .12, 90% CI = .01 to .23), problem solving (B = .16, 90% CI = .07 to .26), time management (B = .19, 90% CI = .08 to .32), emotion regulation (B = .23, 90% CI = .13 to .36), and groupwork (B = .21, 90% CI = .13 to .32). In other words, young people with higher program enjoyment scores perceive they have greater experiences of mental skills development in MST4Life™, in part through their intention to transfer the mental skills developed once the program has finished.

4. Discussion

The aim of this process evaluation, as part of a larger evaluation of MST4Life™, was to investigate: (1) reactions (i.e., program evaluation, enjoyment, facilitator evaluation, attendance, and engagement) to and learning from the program (i.e., mental skills used and transfer intention), (2) the relationship between reaction and learning variables, and (3) transfer intention as a mediator underpinning this relationship. Although research has used the Kirkpatrick model to underpin evaluations outside of business [25,26], to our knowledge, this is the first study to use the model in a youth homeless context. This study also extends the scant literature on process evaluations in young people experiencing homelessness and uniquely measures program engagement in addition to attendance. Altogether, this study supports using the Kirkpatrick model to evaluate programs in this context, providing a framework to allow consistency across interventions and thus clearer recommendations on program design, delivery, and evaluation for researchers, policy makers, and program commissioners.

In line with the first hypothesis, young people had favorable reactions to and learning from MST4Life™, likely due to the strengths-based nature of taking part in a PYD program [3]. Program enjoyment was the only significant predictor of mental skills experienced in MST4Life™. This finding partly aligns with research using the Kirkpatrick model, where Cooley et al. [25] evaluated reactions to and learning of an OAE course for university students and found course enjoyment to be the largest predictor of course evaluation. Facilitating enjoyment aligns with the SDT underpinning of MST4Life™ and is a key input in the logic model (Figure 1) [8], where consultations with young people and staff emphasized that the program should be challenging and meaningful, but also fun. Together with qualitative process evaluations of MST4Life™ [12,14], the present research highlights that young peoples' experiences in programs (i.e., their enjoyment) should be

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captured in addition to learning outcomes to understand more about program effectiveness. This may be particularly pertinent for young people experiencing homelessness and

Reaction Variables	***B***	***SE B***	**β**	***t***	***p***	R^2	***Sig***
			Transfer Intention				
						.41	<.001***
Attendance	-.01	.03	-.02	-.27	.787		
Engagement	.00	.07	.00	.00	.999		
Program evaluation	.05	.19	.05	.28	.780		
Facilitator evaluation	.40	.18	.30	2.21	.029*		
Enjoyment	.40	.13	.37	3.11	.002**		
			Goal setting				
						.21	<.001***
Attendance	-.02	.03	-.06	-.70	.488		
Engagement	-.05	.08	-.06	-.61	.544		
Program evaluation	.21	.17	.22	1.22	.224		
Facilitator evaluation	-.10	.16	-.10	-.65	.518		
Enjoyment	.30	.12	.35	2.60	.011*		
			Effort				
						.23	<.001***
Attendance	.00	.03	.00	-.01	.989		
Engagement	.00	.07	.00	-.03	.979		
Program evaluation	-.02	.16	-.03	-.15	.879		
Facilitator evaluation	.00	.15	.00	-.05	.959		
Enjoyment	.40	.11	.50	3.74	.000***		
			Problem solving				
						.26	<.001***
Attendance	.01	.03	.04	.41	.681		
Engagement	.02	.07	.02	.22	.829		
Program evaluation	-.09	.16	-.10	-.59	.559		
Facilitator evaluation	.03	.15	.03	.19	.848		
Enjoyment	.45	.11	.56	4.24	.000***		
			Time management				
						.19	.001**
Attendance	.02	.04	.05	.54	.593		
Engagement	-.04	.08	-.06	-.57	.572		
Program evaluation	.16	.17	.18	.96	.342		
Facilitator evaluation	-.08	.16	-.08	-.51	.615		
Enjoyment	.29	.12	.34	2.50	.014*		
			Emotion regulation				
						.14	.010*
Attendance	-.02	.04	-.05	-.55	.585		

Engagement	-.06	.08	-.08	-.82	.415
Program evaluation	.03	.17	.03	.15	.879
Facilitator evaluation	-.08	.16	-.08	-.52	.603
Enjoyment	.34	.12	.40	2.73	.008**

disadvantaged youth more broadly, where preferences indicate that avoiding a school-like environment facilitates engagement and learning [14].

Young people also had positive reactions to program facilitators (M = 4.57 out of 5), which correlated with other reaction variables, mental skills experienced (except emotion regulation) and transfer intention. In their pilot life skills program with young people experiencing homelessness, Sisselman-Borgia [19] found that participants noted relationships with program facilitators and mentors as extremely influential and impactful on their development through the program. Similarly, Sofija et al. [46] highlighted the importance of facilitators on participants' wellbeing in a group fitness intervention with adults who had experienced homelessness. Rapport development and satisfaction of basic psychological needs were core components of MST4Life™'s delivery style [11,15] and aligned with PYD principles in promoting opportunities to build positive relationships with adults and peers [3]. This quantitative process evaluation compliments qualitative evaluations of MST4Life™ that also support the importance of rapport development, a psychologically informed delivery style, and nurturing a sense of belonging [11,12,15]. However, this study extends these findings by exploring how these program experiences relate to learning outcomes (e.g., mental skills experienced). It is therefore recommended that PYD programs with disadvantaged youth evaluate not only learning outcomes, but also facilitator delivery style and how this links to outcomes experienced.

A novel contribution of this research is measuring program engagement and exploring its relationship with learning outcomes. Participant engagement has been linked to positive outcomes [28-30] but has rarely been considered with this population. In MST4Life™, facilitator ratings of young people's engagement were high (*M* = 8.24 out of 10) and in contrast to attendance, were associated with more favorable reactions. Promoting engagement was actively considered throughout MST4Life™, where facilitators worked closely with young people and staff to determine what strategies would work best at each accommodation site (e.g., afternoon vs evening session, text reminders vs knocking on doors, providing autonomy with breaks during sessions). Interventions with adults experiencing homelessness have provided extrinsic rewards for taking part (e.g., stipend based on attendance) [19], whereas engagement in MST4Life™ provided an important indicator of intrinsic motivation [11,12].

In contrast to our hypothesis, neither engagement nor attendance were associated with learning outcomes. However, as part of an overall mixed methods evaluation, such nuances were captured by a realist evaluation, demonstrating that as young people experienced improvements in well-being throughout MST4Life™, this caused a greater shift towards intrinsically motivated reasons for engagement, which led to psychosocial skill development (i.e., learning) later in the program [12]. It is possible that the quantitative engagement measure did not predict learning outcomes as this was limited to facilitators' subjective perceptions. Future research could combine this measure with young peoples' own perceptions of their engagement to triangulate such data. Altogether, it is recommended that engagement, as well as attendance, should be included in the delivery and evaluation of programs with young people experiencing homelessness to better understand what constitutes meaningful program experiences.

In partial agreement with hypothesis 3, transfer intention mediated the relationship between enjoyment and mental skills developed in MST4Life™. In their literature review of knowledge transfer, Day and Goldstone [33] conclude that transfer is more likely when it is made explicit how transfer can occur in new settings. In MST4Life™, explicit and relevant opportunities for transfer were intentionally created. For example, mental skills

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developed during earlier sessions were reflected on in terms of how skills could be implemented in future sessions (e.g., time management for planning and running a cake sale on university campus). In the context of the wider evaluation of MST4Life™, young peoples' intention to transfer led to them using these new mental skills on the OAE residential course, which resulted in behavior changes away from MST4Life™ (e.g., better time management in daily life), as observed by support workers [12]. Altogether, these findings also provide some support for the program's logic model where learning transfer is an expected outcome [8] (Figure 1). It is recommended that explicit opportunities for skill transfer should be embedded within programs for young people experiencing homelessness, but these opportunities should also continue once the program has ended to encourage transfer to other contexts (e.g., EET) [12,23].

An original contribution and strength of this study was using the new world Kirkpatrick model [20] to underpin research with young people experiencing homelessness, which provided a structure to explore the links between experiences in the program and learning outcomes. Employing the Kirkpatrick model in this context emphasized the importance of enjoyment in predicting learning, however, reaction variables were focused on participants' experiences. It is possible that other reaction variables could further explain the link between reaction and learning. For example, in their model of optimal learning and transfer, Cooley et al. [23] proposed that the characteristics of the environment also influence learning. In the context of programs within this population, this could include perceptions and accessibility of the location and the extent to which participants are comfortable with the group environment. Furthermore, we only included levels 1 and 2 (reaction and learning) of the Kirkpatrick model in this study. Moreau [24] notes that most evaluators stop at level 2 and previous research has also focused on these initial levels [25]. To evaluate other levels of the Kirkpatrick model, follow-up data is required; however, given the transient nature of living conditions for this population, this can often be difficult to collect [5]. Although not reported here, higher levels of the Kirkpatrick model have been evaluated through qualitative methods and a cost benefit analysis for MST4Life™ [12,16]. From our experience working with this population, we recommend that when using the Kirkpatrick model in this context, evaluation indicators should be identified together with collaborators before the research to agree on the most appropriate methodological approach to obtain the richest data possible.

Although the wider MST4Life™ program has engaged young people who are underrepresented in research [5], there are limitations. Program facilitators were also those who collected data. Although internal evaluators may cause social desirability, steps were taken to minimize such biases, such as welcoming both positive and negative views (e.g., original program name was changed) [8]. Additional data collection methods were also used where young people could share views without facilitators present (e.g., diary room) and views of other collaborators were considered (e.g., support workers) [12]. In community-based research it has been encouraged to use internal evaluators to build relationships between collaborators [5]. In a community-based program such as MST4Life™, rapport development between young people and facilitators was crucial to the programs' success [11]. This rapport also ensured that young people understood what informed consent was and how their data would be used. Thus, the housing service and researchers agreed that using internal evaluators outweighed the strengths of using external evaluators, who young people may have found difficult to trust and openly share their views, which could have led to disengagement with data collection [21]. Future research evaluating programs with this population should consider the advantages and disadvantages of using internal or external evaluators and ensure open conversations between researchers and relevant collaborators (e.g., young people, support workers) to result in the most suitable approach.

5. Conclusions

In conclusion, this process evaluation provides evidence that young people taking part in MST4Life™ had favorable reactions to the program which were associated with higher levels of engagement. As programs typically only measure attendance, engagement should also be included in the delivery and evaluation of programs with disadvantaged groups to better understand what constitutes meaningful program experiences. This study also found that program enjoyment was a key driver of predicting mental skills experienced, which was mediated by transfer intention. These findings have implications for researchers, housing services, and program commissioners as explicit opportunities for skill transfer should be embedded during and after programs to encourage transfer to other contexts (e.g., EET) for young people experiencing homelessness and disadvantaged youth more broadly.

Supplementary Materials: The following supporting information can be downloaded at: www.mdpi.com/xxx/s1, Table S1: Preliminary analyses for demographic differences in reaction and learning variables.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the patient(s) to publish this paper.

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References

1. Gwadz, M.; Freeman, R.M.; Kutnick, A.H.; Silverman, E.; Ritchie, A.S.; Cleland, C.M.; Leonard, N.R.; Srinagesh, A.; Powlovich, J.; Bolas, J. Do programs for runaway and homeless youth work? A qualitative exploration from the perspectives of youth clients in diverse settings. *Frontiers in Public Health* **2018**, *6*, 1-14, doi:https://doi.org/10.3389/fpubh.2018.00112.
2. Homeless Link. Young and Homeless. Available online: https://homeless.org.uk/knowledge-hub/young-and-homeless-2021/ (accessed on 2nd August 2022).
3. Lerner, R.M.; Wang, J.; Chase, P.A.; Gutierrez, A.S.; Harris, E.M.; Rubin, R.O.; Yalin, C. 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* **2014**, *144*, 17-30, doi:https://doi.org/10.1002/yd.20110.
4. Routen, A.; Bambra, C.; Willis, A.; Khunti, K. Hard to reach? Language matters when describing populations underserved by health and social care research. *Public Health* **2022**, doi:10.1016/j.puhe.2022.02.006.

5. Boneveski, B.; Randell, M.; Paul, C.; Chapman, K.; Twyman, L.; Bryant, J.; Brozek, I.; Hughes, C. Reaching the hard-to-reach: a systematic review of strategies for improving health and medical research with socially disadvantaged groups. *BMC Medical Research Methodology* **2014**, *14*, 1-29, doi:https://doi:10.1186/1471-2288-14-42.
6. Tidmarsh, G.; Thompson, J.L.; Quinton, M.L.; Cumming, J. Process evaluations of positive youth development programmes for disadvantaged young people: A systematic review. *Journal of Youth Development* **2022**, *17*, 106-140, doi:https://doi.org/10.5195/jyd.2022.1156.
7. Krabbenborg, M.A.M.; Boersma, S.N.; Beijersbergen, M.D.; Goscha, R.J.; Wolf, J.R.L.M. Fidelity of a strengths-based intervention used by Dutch shelters for homeless young adults. *Psychiatric Services* **2015**, *66*, 470-476, doi:https://doi.org/10.1176/appi.ps.201300425.
8. Cumming, J.; Whiting, R.; Parry, B.J.; Clarke, F.J.; Holland, M.J.G.; Cooley, S.J.; Quinton, M.L. The My Strengths Training for Life program: Rationale, logic model, and description of a strengths-based intervention for young people experiencing homelessness. *Eval Program Plann* **2022**, *91*, 102045, doi:10.1016/j.evalprogplan.2021.102045.
9. Quinton, M.L.; Clarke, F.J.; Parry, B.J.; Cumming, J. An evaluation of My Strengths Training for Life (TM) for improving resilience and well-being of young people experiencing homelessness. *Journal of Community Psychology* **2021**, *49*, 1296-1314, doi:10.1002/jcop.22517.
10. Cooley, S.J.; Quinton, M.L.; Holland, M.J.G.; Parry, B.J.; Cumming, J. The Experiences of Homeless Youth When Using Strengths Profiling to Identify Their Character Strengths. *Frontiers in Psychology* **2019**, *10*, doi:10.3389/fpsyg.2019.02036.
11. Cumming, J.; Clarke, F.J.; Holland, M.J.G.; Parry, B.J.; Quinton, M.L.; Cooley, S.J. A Feasibility Study of the My Strengths Training for Life™ (MST4Life™) Program for Young People Experiencing Homelessness. *International Journal of Environmental Research and Public Health* **2022**, *19*, doi:https://doi.org/10.3390/ijerph19063320.
12. Parry, B.J.; Quinton, M.L.; Holland, M.J.G.; Thompson, J.L.; Cumming, J. Improving outcomes in young people experiencing homelessness with My Strengths Training for Life (TM) (MST4Life (TM)): A qualitative realist evaluation. *Children and Youth Services Review* **2021**, *121*, doi:10.1016/j.childyouth.2020.105793.
13. Parry, B.J.; Thompson, J.L.; Holland, M.J.G.; Cumming, J. Promoting Personal Growth in Young People Experiencing Homelessness Through an Outdoors-Based Program. *Journal of Youth Development* **2021**, *16*, 157-192, doi:10.5195/jyd.2021.1061.
14. Tidmarsh, G.; Thompson, J.L.; Quinton, M.L.; Parry, B.J.; Cooley, S.J.; Cumming, J. A platform for youth voice in MST4Life: A vital component of process evaluations. *Sport and Exercise Psychology Review* **2022**, *17*, 73-86.
15. Tidmarsh, G.; Whiting, R.; Thompson, J.L.; Cumming, J. Assessing the fidelity of delivery style of a mental skills training programme for young people experiencing homelessness. *Evaluation & Program Planning* **in press**.
16. Jabbour, L.; Siu, J. *Economic evaluation of psychologically informed environments: Cost-benefit analysis of BOOST and MST4Life™ programs*; 2019.
17. Moore, G.; Audrey, S.; Barker, M.; Bond, L.; Bonell, C.; Cooper, C.; Hardeman, W.; Moore, L.; O'Cathain, A.; Tinati, T.; et al. Process evaluation in complex public health intervention studies: the need for guidance. *Journal of Epidemiology and Community Health* **2014**, *2*, 101-102, doi:https://doi.org/10.1136/jech-2013-202869.
18. Munro, A.; Bloor, M. Process evaluation: the new miracle ingredient in public health research? *Qualitative Research* **2010**, *10*, 699-713, doi:https://doi.org/10.1177/1468794110380522.
19. Sisselman-Borgia, A. An adapted life skills empowerment program for homeless youth: Preliminary findings. *Child & Youth Services* **2021**, *42*, 43-79, doi:https://doi.org/10.1080/0145935X.2021.1884542.
20. Kirkpatrick, J.; Kirkpatrick, W. An introduction to the new world Kirkpatrick model. Available online: https://www.kirkpatrickpartners.com/wp-content/uploads/2021/11/Introduction-to-the-Kirkpatrick-New-World-Model.pdf (accessed on 2nd August 2022).

21. Clarke, F.J.; Parry, B.J.; Quinton, M.L.; Cumming, J. Mental skills training commissioning and evaluation toolkit. Available online: https://www.sprintproject.org/toolkit (accessed on 2nd August 2022).
22. Kirkpatrick, D. *Evaluating Training Programs: The Four Levels*; Berrett-Koehler: 1994.
23. Cooley, S.J.; Cumming, J.; Holland, M.J.G.; Burns, V.E. Developing the Model for Optimal Learning and Transfer (MOLT) following an evaluation of outdoor groupwork skills programmes. *European Journal of Training and Development* **2015**, *39*, 104-121, doi:https://doi.org/10.1108/EJTD-06-2014-0046.
24. Moreau, K.A. Has the new Kirkpatrick generation built a better hammer for our evaluation toolbox? *Medical Teacher* **2017**, *39*, 999-1001, doi:https://doi.org/10.1080/0142159X.2017.1337874.
25. Cooley, S.J.; Burns, V.E.; Cumming, J. Using outdoor adventure education to develop students' groupwork skills: A quantitative exploration of reaction and learning. *Journal of Experiential Education* **2016**, *39*, 329-354, doi:https://doi.org/10.1177/1053825916668899.
26. Jones, C.; Fraser, J.; Randall, S. The evaluation of a home-based paediatric nursing service: concept and design development using the Kirkpatrick model. *Journal of Research in Nursing* **2018**, *23*, 492-501, doi:https://doi.org/10.1177/1744987118786019.
27. Fredricks, J.A.; Bohnert, A.M.; Burdette, K. Moving beyond attendance: Lessons learned from assessing engagement in afterschool contexts. *New Directions for Youth Development* **2014**, *144*, 45-58, doi:https://doi.org/10.1002/yd.20112.
28. Garnick, D.W.; Lee, M.T.; O'Brien, P.L.; Panas, L.; Ritter, G.A.; Acevedo, A.; Garner, B.R.; Funk, R.R.; Godley, M.D. The Washington circle engagement performance measures' association with adolescent treatment outcomes. *Drug and Alcohol Dependence* **2012**, *124*, 250-258, doi:https://doi.org/10.1016/j.drugalcdep.2012.01.011.
29. Mahoney, J.L.; Lord, H.; Carryl, E. An ecological analysis of after-school program participation in the development of academic performance and motivational attributes for disadvantaged children. *Child Development* **2005**, 811-825, doi:https://doi.org/10.1111/j.1467-8624.2005.00879.x.
30. Schley, C.; Yuen, K.; Fletcher, K.; Radovini, A. Does engagement with an intensive outreach service predict better treatment outcomes in 'high-risk' youth? *Early Intervention in Psychiatry* **2012**, 176-184, doi:https://doi.org/10.1111/j.1751-7893.2011.00338.x.
31. Dunne, T.; Bishop Pharm, L.; Avery, S.; Darcy, S. A review of effective youth engagement strategies for mental health and substance use interventions. *Journal of Adolescent Health* **2017**, *60*, 487-512, doi:https://doi.org/10.1016/j.jadohealth.2016.11.019.
32. Black, E.B.; Fedyszyn, I.E.; Mildred, H.; Perkin, R.; Lough, R.; Brann, P.; Ritter, C. Homeless youth: Barriers and facilitators for service referrals. *Eval Program Plann* **2018**, *68*, 7-12, doi:10.1016/j.evalprogplan.2018.02.009.
33. Day, S.B.; Goldstone, R.L. The import of knowledge export: Connecting findings and theories of transfer of learning. *Educational Psychologist* **2012**, *47*, 153-176, doi:https://doi.org/10.1080/00461520.2012.696438.
34. Ryan, R.M.; Deci, E.L. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist* **2000**, *55*, 68-78.
35. APA. Racial and ethnic identity. Available online: https://apastyle.apa.org/style-grammar-guidelines/bias-free-language/racial-ethnic-minorities (accessed on 2nd August 2022).
36. Mental Health Foundation. Available online: https://www.mentalhealth.org.uk/learning-disabilities/a-to-z/l/learning-difficulties (accessed on 2nd August 2022).
37. Filak, V.F.; Sheldon, K.M. Teacher support, student motivation, student need satisfaction, and college teacher course evaluations: Testing a sequential path model. *Educational Psychology* **2008**, *28*, 711-724, doi:https://doi.org/10.1080/01443410802337794.
38. Ryan, R.M. Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology* **1982**, *43*, 450-461, doi:https://doi.org/10.1037/0022-3514.43.3.450.

39. Hansen, D.M.; Larson, R. The Youth Experience Survey 2.0: Instrument revisions and validity testing. Available online: http://youthdev.illinois.edu/wp-content/uploads/2013/11/YES-2.0-Instrument.pdf (accessed on 2nd August 2022).
40. Tabachnick, B.G.; Fidell, L.S. *Using multivariate statistics*; Pearson Education Limited: 2019.
41. Little, R.J.A. A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association* **1998**, *83*, 1198-1202, doi:https://doi.org/10.1080/01621459.1988.10478722.
42. Benjamini, Y.; Hochberg, Y. Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society* **1995**, *57*, 289-300.
43. Pallant, J. *SPSS survival manual: a step by step guide to data analysis using SPSS*, 7th ed.; McGraw-Hill Education: 2020.
44. Hayes, A.F. *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*; Guildford Press: 2013.
45. Agler, R.; De Boerck, P. On the interpretation and use of mediation: Multiple perspectives on mediation analysis. *Frontiers in Psychology* **2017**, *8*, doi:https://doi.org/10.3389/fpsyg.2017.01984.
46. Sofija, E.; Plugge, M.; Wiseman, N.; Harris, N. 'This is the beginning of the new me': process evaluation of a group fitness intervention to promote wellbeing in formerly homeless individuals. *BMC Public Health* **2018**, *18*, 290-304, doi:https://doi.org/10.1186/s12889-018-5175-5.