Methodical principles and prevention-focused outcomes in professional youth work: A longitudinal analysis

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Abstract
Previous research has suggested that professional youth work settings empower socially vulnerable youngsters, strengthening their personal development and social participation. It is expected that youth work can prevent personal and social problems of youngsters, which may have longer term positive social returns. How the underlying methodical way of acting of youth workers contributes to prevention-focused outcomes remains unclear. This article presents a four-wave longitudinal cohort study (16 months) that investigated longitudinal associations between 12 individual methodical principles that youth workers apply in interactions with youngsters and four prevention-focused outcomes: prosocial skills, self-mastery, social network and civic participation. The sample consisted of 1,597 Dutch youngsters with a mean age of 16.5 years (SD = 3.60).
Findings: Linear mixed models analysis found that all individual methodical principles were longitudinally associated with one or more outcome. The strongest associations were observed with regard to prosocial skills and civic participation. Depending on the outcome measure, methodical principles seem to be more effective for boys, for youngsters who participate for 3 years or longer in youth work settings and for youngsters between 10 and 19 years old. With regard to the effect of methodical principles on improving self-mastery, 9 of the 12 principles appeared to play no positive role in increasing self-mastery of youngsters. Applications: This study provides youth workers with a better understanding of which methodical principles are positively associated with prevention-focused outcomes as well as reinforcing the evidence-based practice of professional youth work.

Keywords
Social work, group work, prevention, professional conduct, young people, youth work

Introduction
Over the last two decades, there has been growing interest in social work for developmental and contextual sensitive prevention and early intervention services for adolescents. Prevention-focused services, such as positive youth development programs, are assumed to improve adolescent well-being and enhance positive development (Catalano et al., 2002; Waid & Uhrich, 2020) as well as lead to long-term positive social returns, such as cost savings for relatively expensive social care services (Hilderink et al., 2020; McCave & Rishel, 2011). Professional youth work undertakes preventive social work in the leisure time of youngsters, organizing activities in a wide range of informal contexts, such as youth clubs, arts/sports facilities, online, or on the streets (Baillergeau & Hoijtink, 2010; Batsleer, 2008). Although studies have been conducted on prevention efforts in professional youth work in the past five years (Dickson et al., 2013; Dunne et al., 2014; Fyfe et al., 2018; McGregor, 2015; Ord et al., 2018; Sonneveld et al., 2020), there is little understanding of how the underlying methodical way of acting of professional youth workers contributes to prevention-focused outcomes.
(McGregor, 2015; Ord, 2014). This study intended to address this knowledge gap by undertaking a large-scale empirical study investigating how 12 individual methodical principles within a multi methodic youth work approach are longitudinally associated with prevention-focused outcomes.

Professional youth work is known as a developmentally appropriate approach that provides youngsters with opportunities for personal development and social participation, with the aim of assisting them to make successful transitions to adulthood (Dunne et al., 2014; Metz, 2017). Professional youth workers build relationships with boys and girls who are growing up in socially vulnerable positions (Dunne et al., 2014), fostering prolonged and stable engagement over time (McGregor, 2015) throughout their adolescence (between the ages of 10 and 24). These youngsters face challenges and developmental burdens in addition to dealing with the complexity of the developmental challenges generally faced by youngsters in the 21st century (Larson, 2011). In concrete terms, this means that these youngsters often experience a lack of encouragement and support from people in their social environment (Abdallah, 2017); they grow up in low-income families in deprived neighborhoods with high levels of crime and poverty (Doherty & De St. Croix, 2019; Vettenburg, 1998); and/or they have social and/or mental health problems that hinder their opportunities to fully participate in society.

The risk of developing problems in their transition to adulthood is significantly higher for youngsters who accumulate negative experiences in their social environment (Vettenburg, 1998).

Recognizing the socially vulnerable position of these youngsters in society, professional youth workers aim to provide support, based on their voluntary participation, in the process of becoming independent adults. It is well established from the youth work literature that youth workers use an open approach (Metz, 2016), which does not employ a pre-planned or time-limited specific intervention, but consists of methodical actions that are fluid and responsive to the experiences, specific needs, and interests of the youngsters and the changing social and political context in which they arise (Doherty & De St. Croix, 2019; Ord, 2014). Taking this open approach, Dutch professionals apply a combination of four commonly used methods within youth work: detached youth work, social group work, individual guidance, and information and advice services (Metz, 2020; Sonneveld et al., 2020). Detached youth work establishes contact with youngsters and provides services in young people’s living environment, such as on the streets, in parks, the schoolyard, at home, or in fast-food outlets (Milburn et al., 2000). Social group work (e.g., drop-in activities, group activities in the areas of culture, media, and sport) recognizes the significant influence of social peer interactions and group processes for the development of important life skills required to become an independent adult, fostering peer sociability and support, and the enhancement of social participation (Rumping et al., 2017). Through the provision of information and advice services and sometimes more prolonged individual guidance (one-to-one interventions on a structural basis), youth workers offer accessible support for contemporary youth problems, such as sexuality, school issues, using drugs, or problems in relationships (Faché, 2016; Koops et al., 2014). The application of one or more of these methods depends on the
specific needs of each individual and their current situation and is known as a *multi methodic approach* (Sonneveld et al., 2020).

Although the knowledge base of professional youth work is poorly developed (McGregor, 2015; Mundy-McPherson et al., 2012), there are a few recent studies that have investigated how professional youth work contributes to the prevention of personal and social problems. A previous longitudinal study (Sonneveld et al., 2021a) showed that youngsters who participate longer (>7 months or >3 years) in Dutch professional youth work settings, score significantly higher on the outcome variables of prosocial skills, self-mastery, social network, and civic participation (volunteering and organizing activities). Using other research designs, other youth work scholars have reported similar outcomes (Dickson et al., 2013; Dunne et al., 2014; Fyfe et al., 2018; McGregor, 2015; Ord et al., 2018). These studies suggest that a significant duration of participation in professional youth work settings could have beneficial prevention-focused outcomes that may help youngsters thrive and avoid personal and social problems, which may have long-term positive social returns. For example, sufficient prosocial skills are essential for young people to function well in society, promote harmonious relationships, and prevent behavioral problems from causing conflicts with others (Bergin et al., 2003). The development of

**Figure 1.** Conceptual framework for multimethodic youth work focused on prevention.
self-mastery allows young people to gain more control of their lives, which ensures that they can independently solve (minor) problems and prevent problems in the future (Laffra & Nikken, 2014). Youngsters who can count on a supportive social network function better and experience fewer problems (Cavanaugh & Buehler, 2015), and they are less likely to need support from social care/health institutions (Metz, 2020). Finally, enhancement of civic participation could have a positive effect on the well-being of young people (Ince et al., 2018) and offers them the opportunity to be connected to society and to be of significance to others (Abdallah et al. 2016).

Despite this expanded knowledge base on the prevention efforts of professional youth work, there is little scientific understanding of how the underlying methodical way of acting within a multi methodic youth work approach contributes to these types of outcomes (McGregor, 2015; Ord, 2014). A better understanding of the methodical process and its contribution to prevention is essential to raise the quality and effectiveness of professional youth work as a prevention-focused approach. In a previous study, Sonneveld et al., (2021b) identified a set of 12 methodical principles within a multimethodic approach that youth workers employ in their prevention efforts (Figure 1). Methodical principles can be understood as the assumptions or guiding notions that direct the actions of youth workers in interaction with their target group and the latter’s living environment (Boomkens, 2020; Metz & Sonneveld, 2012). Examples include creating a meaningful relationship, facilitating peer support, and engaging with the lifeworld of young people. Table 3 provides a description of the 12 methodical principles and the youth work method(s) in which they are applied by youth workers.

Focus of the current study

Although there are assumptions that these 12 methodical principles within a multi methodic approach could positively influence the personal and social development of youngsters (Fyfe et al., 2018; Koops et al., 2013; Koops et al., 2014; Rodd & Stewart, 2009; Rumping et al., 2017; Schaap et al., 2017), empirical knowledge about which individual methodical principles are longitudinally associated with which sort of prevention-focused outcomes is lacking. Therefore, this study examined longitudinal associations between the individual methodical principles and four prevention-focused outcomes: prosocial skills, self-mastery, social network, and civic participation (volunteering and organizing activities) over 16 months. The guiding research question is: Does an increase in recognition of the individual methodical principles among youth work participants, both between-subjects and within-subjects, lead to an increase in the prevention-focused outcomes? If so, which methodical principles are most strongly associated, and with which prevention-focused outcomes? Taking into account the variety of the group targeted by professional youth work in terms of a broad age group (10–24), gender, and length of participation in youth work, an additional analysis examined whether effects are differentiated according to these covariates.
Method

Design

In this study, we used a longitudinal multiple cohort design. Compared to a cross-sectional design, a longitudinal design has the advantage of relating the individual development of a certain outcome variable over time to the individual development of, or changes in, other variables (Twisk, 2013). Using this design, we were able to collect data about youth work participants at four time points (between September 2017 and December 2018, at intervals of 3 to 4 months) and who varied in the length of participation in youth work settings at wave 1: participation for 0 to 6 months; participation for 7 months to 2 years; and participation for 3 years or longer.

The study was conducted in close collaboration with 11 Dutch professional youth work providers from urban areas in the middle, south, and east parts of the Netherlands. All of the providers are public welfare organizations funded by the local government. All of them apply a multi methodic approach in reaching out to youngsters (boys and girls) in a broad age group (10–24). The organizations offer a good representation of professional youth work in the Netherlands and actively approached the research group to conduct practice-based research that would contribute to the further professionalization of youth work. Collaboration with youth workers and youngsters included involvement in a Youth Worker Lab (N = 11) and a diverse Youth Panel (N = 14). The participation of the Youth Worker Lab and Youth Panel ensured the research instruments and the process of data collection was appropriate to youth work practice from the perspective of both youth workers and youngsters.

Participants

For sample selection, a short questionnaire was first distributed to the 11 organizations involved—to gain insight into the population of youngsters in each organization (gender, age groups, level of problems) and their participation in youth work settings (length of participation, combination of methods). This information allowed a profile of the population to be drawn up for each organization, with the 11 profiles used to compose a representative sample for professional youth work, consisting of adolescents from different age groups, with different levels of problems and lengths of participation, and who received support using different methods.

The youngsters recruited to the study fulfilled four criteria: (1) participation in one of the 11 youth work organizations; (2) at least 10 years old and younger than 25; (3) sufficient command of Dutch; and (4) familiar with at least one of the four methods offered by youth work. Thirteen youngsters were excluded because they did not meet the inclusion criteria or withheld approval. Another 35 youngsters were excluded because they did not fully complete the first questionnaire, meaning data on time-independent variables (e.g., length of participation, age, gender) was missing. In total, 1,597 youngsters were included in the analysis (Figure 2). The number of youngsters from each youth work organization varied between 66 and 227 (M = 145, SD = 45.8).
Participants were approached four times for self-reporting: T1, Sept-Dec 2017, N = 1,597; T2, Jan-April 2018, N = 981; T3, May-Aug 2018, N = 626; and T4, Sept-Dec 2018, N = 595. Of the total participants, 19.8% (N = 316) participated in all four waves of data collection, 26.4% (N = 421) participated in three waves, 24.9% (N = 398) in two waves, and 28.9% (N = 462) dropped out after the first wave. The response rates are shown in Figure 2.

Noncompletion was defined as completing none, one or two of the three post-measurements. Reasons for noncompletion at follow-up were temporary/permanent
positive outflow, refusal, temporary/permanent loss of contact, or organizational reasons. Table 1 shows the data collected on nonresponse for Waves 2 to 4.

We examined differences in the characteristics of completers and noncompleters with a t-test and Chi-square test. Youngsters who did not complete all questionnaires were more often boys (69.2%) compared to the completers (50.9%) ($\chi^2 = 37.6$, $p \leq .001$), and they were older compared to the completers (16.6 and 16.0 years, respectively, $t = 2.69$, $p = .007$). Noncompleters were more often youngsters who had participated for 0–6 months (85.6%) or 7 months to 2 years (80.4%) in youth work, compared to youngsters who had participated 3 years or longer (76.2%) ($\chi^2 = 14.68$, $p = .001$).

Table 2 provides the descriptive statistics for the participants who were included in the analysis. Most youngsters in our sample were aged between 14–17 years (40%) and the mean age was 16.5 years (SD = 3.60). There were more males (65.6%) than females (34.4%). It is known that girls are underrepresented in Dutch youth work activities (Boomkens, 2020), with Gemmeke et al. (2011) noting that only 10%–30% of the youngsters in youth work are girls. In relation to cultural background, 21% of the youngsters reported a native Dutch background and 31% reported a Dutch bi-cultural background (e.g., Dutch and Moroccan). Of those attending school (79.3%, N = 1,242), 14.6% were in primary school, 67.3% vocational education, and 18.0% higher education (Table 2).

### Procedures and ethical considerations

For the data collection, we collaborated with at least one manager (N = 12) and 10 youth workers (N = 150) from each organization. Two researchers (including author one) gave the youth workers instructions for data collection verbally during training, which included an introduction to the study; instructions on adhering to the research protocol; recruiting respondents; inclusion criteria; informed consent procedure; procedure for digital data collection; and guaranteeing the reliability and the validity of the data. They also received a field guide with instructions.

After completing the training, the 150 youth workers were asked to select at least 10 youngsters from their own practice to participate in the study. By consultation between researchers and trained youth workers, there was agreement about how they would reach a
Table 2. Demographic variables of participants at wave 1 (N = 1,597).

| Demographics                        | N (%)       |
|-------------------------------------|-------------|
| Age                                 | Mean 16.5 SD = 3.60 (range 10-24) |
| Gender                              |             |
| Male                                | 1,048 (65.6%) |
| Female                              | 549 (34.4%)  |
| Cultural background                 |             |
| Only Dutch                          | 335 (21.0%)  |
| Combination Dutch and other         | 490 (30.7%)  |
| Not Dutch                           | 772 (48.3%)  |
| Activity during the day             |             |
| School/education program            | 1,267 (79.3%) |
| Work                                | 184 (11.5%)  |
| Care responsibilities or volunteering | 42 (2.6%)   |
| - No activity during the day        | 90 (5.6%)    |
| Educational level (N = 1,242)       |             |
| Primary education                   | 181 (14.6%)  |
| Vocational education                | 836 (67.3%)  |
| - Higher education                  | 225 (18.0%)  |

A diverse group of young people, taking into account differences in: (1) gender (boys and girls); (2) age (10–24); (3) the extent of personal or social problems; and (4) length of participation (0–6 months; 7 months to 2 years; 3 years or longer). Youth workers verbally informed youngsters (and their primary caregiver, if they were younger than 16) about the study and asked them whether they were interested in participating. If they were interested, the youth workers gave them a letter provided by the researchers. Participants were made aware of their rights (such as voluntary participation, right to withdraw, confidentiality, and anonymity). If youngsters were younger than 12, the youth worker also verbally contacted the caregiver(s) to obtain verbal consent in addition to the letter.

Before the first questionnaire, digital consent was also required to ensure informed consent. The youngsters completed the questionnaires online in private using tablets. They were able to consult another person if they had any questions, preferably a person other than the youth worker, to reduce socially desirable answers. The research team maintained close contact with the youth workers to ensure greater levels of response, and the team monitored the process and missing data points. Data cleaning was done as soon as the data were collected. The study protocol was approved by the management of the 11 participating organizations and youth workers from the Youth Work Lab. Data collection was carried out in accordance with the Netherlands Code of Conduct for Research Integrity (2018).
Table 3. Description of 12 methodical principles (Sonneveld et al., 2021b), number of items, and Cronbach’s alpha at wave 1.

| Methodical principle          | Applied in methods                                      | Description                                                                                                                                                                                                                                                                                                                                 | Number of items | α wave 1 |
|------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| Meaningful relationship      | Individual guidance, detached youth work and information & advice | The relationship between a youngster and the youth worker should be profound and important enough to make a difference in their lives. Youth workers build supportive, nurturing and prolonged relationships with youngsters, in which young people eventually consider them as a “trusted adult” in their lives (Fyfe et al., 2018). | 10              | .94      |
| Engagement with the lifeworld| Detached youth work                                       | Youth workers begin with the environment of young people and respect youth cultural styles and forms of expression (such as street language) as well as the interests, issues and experiences of youngsters. Starting from this perspective youngsters become receptive to interactions with the youth worker and to active participation in a low-threshold activities.                                      | 4               | .76      |
| Adapting to needs of young people | Individual guidance; information & advice services       | Youth workers are aware of the young person’s circumstances and meet their (individual) needs. Their support is tailored to the questions, problems, capacities and the environment of youngsters. Youth workers take into account what youngsters want to learn, find difficult or experience in their lifeworld (home, school, leisure).                      | 4               | .89      |
| Learning by doing            | Social group work                                          | Youth workers provide youngsters with concrete learning experiences under supervision (e.g., instructions and positive feedback). The idea is that youngsters, through experimental learning and self-execution of tasks, develop important skills, increase their responsibilities and are better able to make independent and positive choices in life.                                  | 4               | .85      |
| Proximity                    | Individual guidance                                       | Youth workers consciously make use of an existing social similarity (such as the same cultural background, being bullied or growing up in poverty) between the youth worker and the young person. Sharing their own experiences, in combination with their current behavior and                                                                 | 2               | .77      |

(continued)
Table 3. Continued

| Methodical principle                  | Applied in methods                  | Description                                                                                                                                                                                                 | Number of items | α wave items |
|---------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------|
| Drawing on strengths                  | Social group work                    | Youth workers take a positive perspective on youngsters and their potential; support young people to discover their talents by building on strengths and interests; and help them discover how they can use them in both youth work settings and broader society. | 2              | .79          |
| Collaboration with the social         | Individual guidance; detached youth  | Youth workers collaborate with parents, family members, other professionals and organizations involved in the young person’s life. These relationships and partnerships assist them to form a strong supportive social pedagogical climate at home and in the neighborhood and establish foundations for change. | Count variable 0–16 |              |
| environment                            | work; information & advice services   |                                                                                                                                                                                                              |                |              |
| Practical assistance                  | Individual guidance; information &  | Youth workers provide concrete help and support with specific issues, problems, queries and needs of young people, such as assistance in finding an internship or applying for social benefits. By addressing the specific practical issues faced by a youngster, they learn that the support of a youth worker can yield concrete results, motivating them to continue along a path to positive change. | 3              | .75          |
|                                       | advice services                      |                                                                                                                                                                                                              |                |              |
| Working with rules                    | Social group work                    | Youth workers use this principle primarily to maintain social order in youth groups, which contributes to creating a safe environment. However, youth workers also work with rules to make youngsters aware of desired social behavior. Ideally, youngsters are involved in or are in charge of drawing up such rules themselves. In this way, it also stimulates youngsters to take responsibility and offers them another opportunity to develop social skills. | 2              | .75          |
| Rewarding                             | Social group work; detached youth    | Youth workers provide an incentive for attendance, participation, commitment or achievements in youth work activities. For example, a                                                                                                                                  | 1              |              |
|                                       | work                                |                                                                                                                                                                                                              |                |              |

(continued)
| Methodical principle | Applied in methods | Description | Number of items | α wave |
|----------------------|--------------------|-------------|----------------|--------|
| One-on-one contact   | Social group work  | reward may consist of a privilege in the group (e.g., a leadership opportunity), a group outing, food or drink, or the use of facilities. These rewards aim to stimulate the desired social behavior of youngsters (turning up, active participation, helping others). | 1               | –      |
| Peer support         | Social group work  | This refers to the conscious demonstration of individual interest in a young person. Youth workers apply this principle to create time and space within group work for young people’s personal needs, questions and problems. Youth workers also draw on this principle to influence group dynamics and promote the prosocial behavior of young people by explaining to them which behavior is appropriate in the group. | 2               | .72    |

The assumption is that youngsters who can help, support and appraise each other in a peer group setting will gradually do this in other situations.
**Instruments**

We collaborated with the Youth Worker Lab and the Youth Panel to develop an appropriate questionnaire that was suitable for a broad age group (10–24) and young people with a lower language level. Based on feedback from a pilot, we concluded that the first version of the questionnaire was too long and some of its concepts too complicated, which could potentially, adversely affect the existing relationships between youth workers and youngsters (De St. Croix, 2018), and lead to major drop-out from repeated measurements. To combat respondent fatigue, we shortened and simplified the questionnaire through scale adaptation (Heggestad et al., 2019) on some validated scales. Furthermore, we designed items and scales ourselves based on the existing literature, if there were no suitable instruments available.

**Demographic variables and participation in youth work.** Demographic information included age, gender, cultural background, activity during the day, and educational level. Previous research shows that the length of participation in youth work is related to prevention-focused outcomes (Sonneveld et al., 2021a). Therefore, we also included length of participation as a covariate. One question, “How long have you had contact with youth workers?,” was used in Wave 1 to proxy the length of participation in youth work settings. In addition, we asked youngsters about their level of intensity of participation at each time point.

**Methodical principles.** The 12 methodical principles (see Table 3) were measured at each time point with 12 subscales designed for this study, based on the existing literature. We operationalized the 12 methodical principles (see Appendix) in a way that youngsters could indicate whether they experienced the use of each methodical principle. Except for one methodical principle, all items were measured on a five-point Likert scale ranging from “strongly disagree” to “strongly agree” or “never” to “very often.” The methodical principle of collaboration with the social environment, in particular, was investigated by asking the youngsters whether the youth workers involved other people in the environment during the last 3 months (e.g., parents, family, peers, teacher, local resident, social care worker, police officer, or sports instructor). By compiling a count variable (0–16), this principle could be included in the analysis. Table 3 shows the number of items in each subscale and the internal consistency ($\alpha$) at Wave 1.

**Outcome measures.** Prosocial skills were assessed at each time point by one of the five subscales of the Dutch version of the self-report Strengths and Difficulties Questionnaire (SDQ) (Widenfelt et al., 2003). The SDQ self-report was developed to assess the psychosocial adjustment of children and adolescents (aged 11–17). The prosocial behavior scale consists of five items concerning both strengths and difficulties; for example, “I often offer to help others (parents, teachers, children).” To keep the scale level the same for all outcome measures, we adjusted the response scale from the original three-point Likert scale to a five-point option ranging from “strongly disagree”
to “strongly agree.” Higher scores indicated higher levels of prosocial behavior. The internal consistency of this subscale was computed as $\alpha = .77$ at baseline in the sample.

We adapted the Dutch version (Kempen, 1992) of the Pearlin Mastery Scale (PMS) (Pearlin & Schooler, 1978) to measure the extent to which a youngster’s self-mastery improved. The PMS is a widely used measure, including adolescents, that assesses “the extent to which people see themselves as being in control of the forces that importantly affect their lives” (Pearlin et al., 1981: p. 340). Each item (e.g., “I have little control over things that happen to me”) is answered on a five-point scale, with options ranging from “strongly agree” to “strongly disagree.” Higher scores indicated greater mastery. We excluded Item 2 (“Sometimes I feel that I’m being pushed around in life”) because the pilot showed that this item was misinterpreted by youngsters. In the current study, the alpha coefficient indicated reliability ($\alpha = .78$) at baseline in the sample.

The youngsters’ social network was measured with a six-item instrument designed for this study. Research by Asselt-Goverts (2016) about social network analysis for people with an intellectual disability inspired us to design the instrument. The items used in this study were formulated in simple language, and therefore, suitable for our respondents, who generally had a lower language level. At each time point, the six items, scored on a five-point scale, assessed youth self-reported number of contacts with family and friends (ranging from “0–5” to “30 or more”), whether young people received support from family and friends (ranging from “never” to “always”) and whether they were satisfied with the support received (ranging from “very dissatisfied” to “very satisfied”). Higher scores indicated a more extensive social network. Cronbach’s alpha was computed as $\alpha = .71$ at baseline in the sample.

Youth self-report of civic participation was assessed with two items to provide insight into the quantity of activities in social contexts (Item 1: “How often have you volunteered?”; Item 2: “How often have you organized an activity in your neighborhood?”). At each measurement, we asked about the past 3 months. Both items are answered on a six-point scale, with options ranging from “never” to “more than once a week.” Results were analyzed at the item level.

**Statistical analyses**

Descriptive statistics for the baseline demographic were given for the whole sample and that of the outcome variables and the methodical principles were given for all four measurements. In linear mixed model (LMM) analyses, we examined longitudinal associations between individual methodical principles and the outcome variables. LMM is a preferred statistical method for analyzing longitudinal data, taking into account different levels of structure in the data. A random intercept per individual was used to correct for dependency between measurements. Because youngsters were clustered in eleven youth work organizations, the variance at the organizational level was also checked, but did not explain differences, and therefore, it was not included in the models. Multiple imputations of missing values were not necessary because LMM includes participants in the analysis who have not completed all measurements. It is thereby an appropriate and flexible approach to deal with missing data in the repeatedly measured outcome variables (Twisk et al., 2013). The model
The intercept was specified as random across individuals, while other parameters were specified as fixed. We used unstructured covariance.

Separate models were used for the associations between the individual methodical principles and each dependent outcome variable. A log-likelihood ratio test was conducted to evaluate whether or not it was necessary to add a random slope to the model (Twisk, 2013). The tests showed that models with both a random intercept and slope were significantly better than those with only a random intercept. In all analyses, we first estimated unadjusted effects. We then adjusted for gender, age, length of participation, and intensity of participation. Further analyses were performed to detect effect modifications, with interaction terms for gender, age, and length of participation analyzed separately. All analyses were conducted using SPSS 25. Statistical significance was assessed at the .05 level. After analyzing the data, youth workers who participated in the Youth Worker Lab were consulted for reflection on the results, which contributed to ensuring validity.

Table 4. Descriptives for methodical principles and outcomes of the sample of the test per measurement.

| Outcome measure                        | T1 (N=1,583) | T2 (N=981) | T3 (N=626) | T4 (N=595) |
|----------------------------------------|--------------|------------|------------|------------|
| Prosocial skills                       | M SD         | M SD       | M SD       | M SD       |
| Self-mastery                           | 4.14 0.63    | 4.12 0.62  | 4.10 0.56  | 4.08 0.62  |
| Social network                         | 3.59 0.70    | 3.52 0.67  | 3.44 0.63  | 3.51 0.66  |
| Civic participation: volunteering      | 1.98 1.55    | 2.15 1.68  | 2.14 1.63  | 2.25 1.64  |
| Civic participation: organizing activities | 1.90 1.41    | 1.88 1.40  | 1.95 1.40  | 1.95 1.45  |
| Methodical principle                   | M SD         | M SD       | M SD       | M SD       |
| Meaningful relationship                | 4.18 0.76    | 4.24 0.75  | 4.22 0.70  | 4.24 0.73  |
| Engagement with the lifeworld          | 3.85 0.84    | 3.89 0.81  | 3.93 0.78  | 3.89 0.79  |
| Adapting to needs                      | 4.08 0.84    | 4.15 0.81  | 4.13 0.77  | 4.16 0.79  |
| Learning by doing                      | 3.27 1.05    | 3.28 1.06  | 3.36 1.05  | 3.17 1.14  |
| Proximity                              | 2.78 1.17    | 2.78 1.22  | 2.85 1.19  | 2.82 1.22  |
| Drawing on strengths                   | 3.15 1.18    | 3.16 1.19  | 3.24 1.15  | 3.08 1.22  |
| Collaboration with the social environment | 1.82 1.80    | 1.40 1.56  | 1.44 1.43  | 1.68 1.54  |
| Practical assistance                   | 2.65 1.11    | 2.65 1.13  | 2.84 1.15  | 2.58 1.11  |
| Working with rules                     | 2.95 1.20    | 2.90 1.24  | 2.93 1.22  | 2.84 1.27  |
| Rewarding                              | 2.94 1.34    | 2.86 1.38  | 2.94 1.30  | 2.86 1.34  |
| One-on-one contact                     | 3.15 1.33    | 3.15 1.26  | 3.27 1.22  | 3.06 1.29  |
| Peer support                           | 2.81 1.12    | 2.85 1.19  | 2.91 1.14  | 2.80 1.18  |
Table 5. Longitudinal associations of examined methodical principles with prevention-focused outcomes (N= 1,597).

**Linear mixed models**

| Outcome variables | Methodical principles | | |
|-------------------|-----------------------|---|---|
| Prosocial skills  | Meaningful relationship | B | 95% CI | Unadjusted analyses | Adjusted analyses |
|                   |                       | B | 95% CI | B | 95% CI |
|                   | Engagement with the lifeworld | 0.27*** | 0.23, 0.30 | 0.27*** | 0.23, 0.30 |
|                   | Adapting to needs | 0.18*** | 0.15, 0.21 | 0.18*** | 0.15, 0.21 |
|                   | Learning by doing | 0.23*** | 0.20, 0.26 | 0.23*** | 0.20, 0.26 |
|                   | Proximity | 0.04*** | 0.01, 0.05 | 0.04*** | 0.02, 0.05 |
|                   | Drawing on strengths | 0.07*** | 0.05, 0.09 | 0.07*** | 0.05, 0.09 |
|                   | Collaboration with … | −0.00ns | −0.02, 0.01 | −0.00ns | −0.02, 0.01 |
|                   | Practical assistance | 0.02* | 0.00, 0.05 | 0.03** | 0.01, 0.05 |
|                   | Working with rules | 0.04*** | 0.02, 0.06 | 0.04*** | 0.02, 0.06 |
|                   | Rewarding | 0.03* | 0.01, 0.04 | 0.03** | 0.01, 0.05 |
|                   | One-on-one contact | 0.04*** | 0.02, 0.05 | 0.04*** | 0.02, 0.06 |
|                   | Peer support | 0.06*** | 0.04, 0.07 | 0.06*** | 0.04, 0.08 |
|                   | Meaningful relationship | 0.10*** | 0.06, 0.12 | 0.10*** | 0.07, 0.14 |
|                   | Engagement with the lifeworld | 0.01ns | −0.02, 0.04 | 0.03ns | −0.00, 0.05 |
|                   | Adapting to needs | 0.06*** | 0.03, 0.08 | 0.07*** | 0.04, 0.10 |
|                   | Learning by doing | −0.05*** | −0.07, −0.02 | −0.04*** | −0.06, −0.02 |
|                   | Proximity | −0.06*** | −0.08, −0.04 | −0.06*** | −0.08, −0.04 |
|                   | Drawing on strengths | −0.03** | −0.05, −0.01 | −0.03** | −0.05, −0.01 |
|                   | Collaboration with … | −0.02*** | −0.04, −0.01 | −0.03*** | −0.04, −0.01 |
|                   | Practical assistance | −0.08*** | −0.11, −0.06 | −0.08*** | −0.10, −0.06 |
|                   | Working with rules | −0.03** | −0.05, −0.01 | −0.04*** | −0.06, −0.02 |
|                   | Rewarding | −0.03*** | −0.05, −0.01 | −0.03** | −0.05, −0.02 |
|                   | One-on-one contact | −0.05*** | −0.06, −0.03 | −0.04*** | −0.06, −0.02 |
|                   | Peer support | −0.03** | −0.05, −0.01 | −0.04*** | −0.06, −0.01 |
|                   | Meaningful relationship | 0.14*** | 0.10, 0.18 | 0.15** | 0.11, 0.19 |
|                   | Engagement with the lifeworld | 0.10*** | 0.05, 0.12 | 0.11*** | 0.07, 0.14 |

(continued)
| Civic participation | Engagement with the lifeworld | Adapting to needs | Learning by doing | Proximity | Drawing on strengths | Collaboration with... | Practical assistance | Working with rules | Rewarding | One-on-one contact | Peersupport | Meaningful relationship | Civic participation | Civic participation -Organizing activities | Engagement with the lifeworld | Adapting to needs | Learning by doing | Proximity | Drawing on strengths | Collaboration with... |
|-------------------|-----------------------------|------------------|-------------------|-----------|---------------------|----------------------|---------------------|-------------------|-----------|-------------------|------------|------------------------|---------------------|--------------------------|-----------------------------|------------------|-------------------|-----------|---------------------|----------------------|
|                   |                             | 0.11***          | 0.06***           | 0.04***   | 0.06***             | 0.01 ns             | 0.01 ns             | 0.09 ns           | 0.03 ns  | 0.02 ns           | 0.05 ns    | 0.06 ns                | 0.10 ns             | 0.03 ns                 | 0.02 ns          | 0.04 ns           | 0.01 ns  | 0.01 ns             | 0.01 ns             |
|                   |                             | 0.07, 0.15       | 0.03, 0.09        | 0.01, 0.06| 0.04, 0.09         | -0.01, 0.02         | -0.02, 0.03        | 0.06, 0.11      | 0.02, 0.06| 0.03, 0.02        | 0.05, 0.10 | 0.01, 0.13              | 0.04, 0.08         | 0.01, 0.08               | 0.01 ns          | 0.05 ns           | 0.01 ns  | 0.01 ns             | 0.01 ns             |
|                   |                             | 0.12***          | 0.07***           | 0.04***   | 0.07***             | 0.00 ns             | 0.02 ns             | 0.19***          | 0.17, 0.26| 0.19, 0.21        | 0.07***    | 0.01 ns                | 0.05 ns             | 0.03 ns                 | 0.01** ns | 0.07, 0.13          | 0.09, 0.08          | 0.01, 0.08 |
| Civic participation | Volunteering                | 0.09 ns          | 0.09 ns           | 0.06 ns   | 0.09 ns             | 0.01 ns             | 0.02 ns             | 0.13***          | 0.13, 0.26| 0.13, 0.21        | 0.13***    | 0.01 ns                | 0.07***          | 0.05 ns                 | 0.05 ns          | 0.10 ns           | 0.10 ns  | 0.07, 0.14          | 0.07, 0.15          |
|                   |                             | 0.01 ns          | 0.01, 0.02        | 0.01 ns   | 0.01 ns             | 0.00 ns             | 0.01 ns             | 0.11***          | 0.11, 0.19| 0.11, 0.19        | 0.11***    | 0.01 ns                | 0.01 ns            | 0.00 ns                 | 0.02 ns          | 0.07, 0.14          | 0.07, 0.15          | 0.09, 0.05 |
|                   |                             | 0.09 ns          | 0.09 ns           | 0.06 ns   | 0.09 ns             | 0.01 ns             | 0.02 ns             | 0.15***          | 0.18, 0.28| 0.18, 0.21        | 0.15***    | 0.01 ns                | 0.07***          | 0.05 ns                 | 0.05 ns          | 0.15, 0.25          | 0.15, 0.25          | 0.15, 0.25 |
|                   |                             | 0.08 ns          | 0.08, 0.05        | 0.08 ns   | 0.08 ns             | 0.00 ns             | 0.00 ns             | 0.23***          | 0.21, 0.30| 0.21, 0.30        | 0.23***    | 0.00 ns                | 0.18***          | 0.05, 0.16               | 0.05 ns          | 0.19, 0.28          | 0.19, 0.28          | 0.19, 0.28 |
|                   |                             | 0.01 ns          | 0.01 ns           | 0.01 ns   | 0.01 ns             | 0.01 ns             | 0.01 ns             | 0.26***          | 0.21, 0.30| 0.21, 0.30        | 0.26***    | 0.00 ns                | 0.18***          | 0.05, 0.16               | 0.05 ns          | 0.19, 0.28          | 0.19, 0.28          | 0.19, 0.28 |
|                   |                             | 0.10 ns          | 0.10 ns           | 0.10 ns   | 0.10 ns             | 0.00 ns             | 0.00 ns             | 0.12***          | 0.12, 0.21| 0.12, 0.21        | 0.12***    | 0.00 ns                | 0.08***          | 0.05, 0.16               | 0.05 ns          | 0.19, 0.28          | 0.19, 0.28          | 0.19, 0.28 |
|                   |                             | 0.05 ns          | 0.05 ns           | 0.05 ns   | 0.05 ns             | 0.00 ns             | 0.00 ns             | 0.15***          | 0.15, 0.26| 0.15, 0.26        | 0.15***    | 0.00 ns                | 0.08***          | 0.05, 0.16               | 0.05 ns          | 0.19, 0.28          | 0.19, 0.28          | 0.19, 0.28 |
| Civic participation | Civic participation -Organizing activities | 0.07 ns          | 0.07 ns           | 0.07 ns   | 0.07 ns             | 0.04 ns             | 0.04 ns             | 0.23***          | 0.23, 0.30| 0.23, 0.30        | 0.23***    | 0.00 ns                | 0.18***          | 0.05, 0.16               | 0.05 ns          | 0.19, 0.28          | 0.19, 0.28          | 0.19, 0.28 |
|                   |                             | 0.09 ns          | 0.09 ns           | 0.09 ns   | 0.09 ns             | 0.04 ns             | 0.04 ns             | 0.26***          | 0.26, 0.30| 0.26, 0.30        | 0.26***    | 0.00 ns                | 0.19***          | 0.05, 0.16               | 0.05 ns          | 0.22, 0.30          | 0.22, 0.30          | 0.22, 0.30 |
|                   |                             | 0.06 ns          | 0.06 ns           | 0.06 ns   | 0.06 ns             | 0.04 ns             | 0.04 ns             | 0.23***          | 0.23, 0.27| 0.23, 0.27        | 0.23***    | 0.00 ns                | 0.18***          | 0.05, 0.16               | 0.05 ns          | 0.19, 0.26          | 0.19, 0.26          | 0.19, 0.26 |
|                   |                             | 0.01 ns          | 0.01 ns           | 0.01 ns   | 0.01 ns             | 0.01 ns             | 0.01 ns             | 0.08***          | 0.08, 0.11| 0.08, 0.11        | 0.08***    | 0.01 ns                | 0.08***          | 0.05, 0.16               | 0.05 ns          | 0.04, 0.10          | 0.04, 0.10          | 0.04, 0.10 |

(continued)
Results

Table 4 presents the means and standard deviations of the central variables in this study. These results show that respondents scored relatively high on average on the outcome measures of prosocial skills (T1 $M = 4.14$, $SD = 0.63$), self-mastery (T1 $M = 3.59$, $SD = 0.70$), and social network (T1 $M = 3.56$, $SD = 0.83$). The average scores per measurement for volunteering and organizing activities were around 2 (less than once a month). The methodical principles of a meaningful relationship, engagement with the lifeworld, and adapting to needs scored relatively high on average at all four time points ($M \geq 3.85$ or higher).

Table 5 presents both unadjusted and adjusted results of the linear mixed model analyses. Positive longitudinal associations between individual principles and outcomes indicate that an increase in recognition of the individual methodical principle among youth work participants, both between-subjects and within-subjects, led to an increase in outcomes. What stands out in the table is that all individual methodical principles were positively and longitudinally associated with one or more outcome variables. Although positively significant longitudinal associations between individual methodical principles and outcome variables were found, there are clear differences in the strength of the coefficients, fluctuating between moderate and very weak. In the subsections below, we describe which methodical principles are longitudinally associated with each outcome measure and whether effects differ according to participants’ age group, gender, and length of participation.

Longitudinal associations with prosocial skills

Comparing the results for prosocial skills, it can be seen that, in both unadjusted and adjusted analyses, the three methodical principles of meaningful relationship ($B = 0.27$), engagement with the lifeworld ($B = 0.18$), and adaptation to needs ($B = 0.23$) are associated most strongly with prosocial skills in comparison to other principles ($B = 0.10$ or lower). The interpretation of the regression coefficient is twofold (Twisk,
2013): (1) the between-subjects interpretation indicates that a difference between two subjects of 1 unit for the methodical principle of a meaningful relationship is associated with a difference of 0.27 units in prosocial skills. The within-subject interpretations indicate that a change within one subject of 1 unit for the principle of a meaningful relationship is associated with a change of 0.27 units in prosocial skills. Additional analyses showed that the length of participation and gender were significant effect modifiers for these associations (not shown). Youngsters who participated in youth work settings for 3 years or longer showed stronger longitudinal associations between prosocial skills and these three individual methodical principles (respectively, $B = 0.32, 0.23, 0.26$), while boys showed a stronger longitudinal association between prosocial skills and the individual methodical principles of meaningful relationship and engagement with the lifeworld (respectively, $B = 0.29, 0.20$). There was no significant longitudinal association found between the methodical principle of collaboration with the social environment and prosocial skills.

Longitudinal associations with self-mastery

Regarding the two methodical principles of a meaningful relationship and adapting to needs, positive significant longitudinal associations were found with the outcome variable of self-mastery (respectively, $B = 0.10, 0.07$). Additional analyses showed that length of participation and gender were significant effect modifiers (not shown). Longitudinal associations between self-mastery and these two methodical principles were found only for youngsters who participated for 3 years or longer (respectively, $B = 0.14, 0.10$). A positive longitudinal association between the principle of meaningful relationship and self-mastery was found, but only for boys ($B = 0.11$). Surprisingly, for nine methodical principles, negative longitudinal associations were observed with self-mastery.

Longitudinal associations with social network

With the exception of practical assistance, one-on-one contact, and collaboration with the social environment, the other nine methodical principles showed significant positive longitudinal associations with social networks (see Table 5). Additional analyses investigating effect modification (not shown) demonstrated that an association between the social network and the individual methodical principles of a meaningful relationship, engagement with the lifeworld, learning by doing, proximity, drawing on strengths, peer support, and rewarding was only observed for boys (respectively, $B = 0.18, 0.12, 0.10, 0.06, 0.09, 0.10, 0.06$). In addition, boys showed a stronger longitudinal association between the social networks and the principles of adapting to needs ($B = 0.14$) and working with rules ($B = 0.11$). A longitudinal association between proximity and social network was found, but only for youngsters, who had participated for 0–6 months in youth work settings ($B = 0.07$).
Longitudinal associations with civic participation

With the exception of a meaningful relationship and adapting to needs, 10 methodical principles showed significant positive longitudinal associations with both organizing activities and volunteering, two indicators of civic participation. Gender and age were significant effect modifiers (not shown). For the principles of proximity, practical assistance, and peer support, the longitudinal association with volunteering was more pronounced for boys (respectively, $B = 0.26, 0.28, 0.29$). For the methodical principles of working with rules and rewarding, associations with volunteering were only found for boys ($B = 0.19$ and $B = 0.17$). For the methodical principles of learning by doing, working with rules, and practical assistance, the longitudinal association with organizing activities was also more pronounced for boys (respectively, $B = 0.27, 0.30, 0.34$). In addition, youngsters aged 10–19 years showed a stronger longitudinal association between organizing activities and the methodical principles of practical assistance ($B = 0.35$) and peer support ($B = 0.33$). Finally, longitudinal associations between the principles of practical assistance and one-on-one contact and the outcome variable of volunteering were found, but only for those younger than 20 years old.

Discussion and conclusion

The present study was designed to determine longitudinal associations between 12 individual methodical principles that youth workers apply in interactions with youngsters and four prevention-focused outcomes: prosocial skills, self-mastery, social network, and civic participation over time (16-month time interval). Additional analyses were performed to detect whether effects differed depending on participants’ age group, gender, and length of participation. To our knowledge, this is the first serious attempt to assess the methodical way of acting of professional youth workers on a large scale using repeated measurements (four waves) from the perspective of youngsters.

Although most of the longitudinal associations found were weak to very weak, the results of this study confirmed that all individual methodical principles are longitudinally associated with one or more prevention-focused outcomes. Comparing the results, patterns can be recognized, showing which methodical principles within a multimethodic approach correspond with which type of prevention-focused outcomes. First, the methodical principles of a meaningful relationship, engagement with the lifeworld, and adapting to needs were most strongly associated with prosocial skills and to a lesser extent with social networks. The results of these analyses are consistent with the findings of McGregor (2015), p. 71), who suggested that “authentic relationships” and “starting where young people are” at “by taking their forms of cultural expression seriously” were regarded as particular success factors leading to positive outcomes, including improvements in social skills and young people’s social network.

Second, the methodical principles of engagement with the lifeworld, learning by doing, proximity, drawing on strengths, practical assistance, working with rules, rewarding, one-on-one contact, and peer support were most strongly associated with volunteering and organizing activities, two indicators of civic participation. It is interesting to note
that seven of these principles are characteristic of the method called “social group work” (see Table 3). This result suggests that methodical principles that are especially aimed at influencing group processes in youth work settings play an important role in increasing the civic participation of socially vulnerable youngsters. Research with specific experimental designs is needed to test this hypothesis.

In contrast to expectations, longitudinal associations between nine individual methodical principles and self-mastery were negative. However, the significant correlations found were very weak. This result suggests that these individual methodical principles play no positive role in increasing the self-mastery of youngsters. There are several possible explanations for these results, although more research is needed to further examine these explanations. First, the results might be related to the age group of the respondents. Despite the fact that respondents scored reasonably well on self-mastery, it is known that taking responsibility for one’s own life is not self-evident for adolescents, especially for young people growing up in vulnerable circumstances. The neural changes in adolescence result in young people displaying risky and impulsive behavior and thinking less about long-term consequences and their future prospects (Crone, 2018). These neural changes in combination with setbacks and negative life events in the lives of socially vulnerable youngsters, a lack of human intentionality, and/or limited informal social support possibly make the development of self-mastery more difficult for this specific group of youngsters (Larson, 2011).

In line with these reasons, there may be another possible explanation. The universal scale we used to measure self-mastery in this study (Pearlin & Schooler, 1978) may have been too general to accurately measure longitudinal associations between methodical principles on the self-mastery of socially vulnerable youngsters. A more context-specific operationalization of self-mastery is thus recommended. More context-specific instruments do more justice to a dynamic, contextually driven construct, such as psychological empowerment (Spreitzer, 1995; Zimmerman, 1995), of which self-mastery is an important component.

On the question whether effects differ according to participants’ age group, gender, and length of participation, it is, in the first place, interesting to note that positive longitudinal associations between multiple methodical principles and indicators of civic participation were stronger or only observed for youngsters aged 10 to 19 years. This result suggests that the use of these methodical principles in interactions with younger adolescents contributes to the enhancement of their civic participation.

Furthermore, it is striking that many longitudinal associations between methodical principles and prevention-focused outcomes were more pronounced for boys or were only observed for boys. One possible explanation for this gender effect might be that boys experience greater development challenges in a number of areas. For example, research into gender differences has shown that girls display more prosocial behavior than boys (Beutel & Johnson, 2004; Rose & Rudolph, 2006). As a consequence, boys experience more benefits from the support of youth workers. Nevertheless, a further study with more focus on gender differences in youth work settings is suggested.
With regard to the length of participation, we can conclude that longitudinal associations between the three most influential methodical principles on the outcome of prosocial skills were more pronounced for youngsters who participated in youth work settings for 3 years or longer. With regard to self-mastery, significant positive associations with two of these three principles were only found for youngsters who participated for 3 years or longer. This result suggests that engagement over time in youth work settings is a factor that particularly helps these methodical principles become more effective with respect to prevention-focused outcomes. This result accords with previous studies of the effectiveness of prevention-focused programs on youngsters, which emphasize that these types of programs are successful when they run over a longer period (Adamson & Poultny, 2010; Nation et al., 2003), and other studies that emphasize time is needed in youth work settings—to facilitate a developmental process that produces a better chance of positive long-term outcomes (Ord, 2014; Rodd & Stewart, 2009).

Overall, the results of this study provide a greater understanding of how the underlying methodical way of acting of professional youth workers within a multimethodic approach contributes to the positive development of adolescents. The results showed that each individual methodical principle is significant as “a small part” of the whole picture, but given the relatively weak associations, the principles in themselves do not guarantee a positive development of socially vulnerable youngsters. The fact that data were collected longitudinally from a large number of youngsters from eleven youth work organizations across the Netherlands provides support for the generalizability of the findings in the Dutch welfare state. Further long-term analyses should be undertaken to investigate in more detail how combinations of methodical principles are associated with prevention-focused outcomes and how these are affected by other factors in the lives of socially vulnerable youngsters.

**Limitations of the study**

Although this study provided insight into how outcome evaluation is possible in the context of open-ended dynamic practice, which may be relatively difficult to assess, several limitations of the study should be taken into consideration. The first concerns the sample, which only encompassed young people from urban areas. This explains the high percentage of respondents with a non-Dutch or bicultural background. These results cannot be generalized to youth work in rural areas. Second, this study only focused on youngsters who participated in youth work settings in the Netherlands. It would be interesting to determine whether these findings also apply to professional youth work in other welfare states.

Third, we acknowledge that program integrity was assumed based on previous research (Sonneveld et al., 2021b). It is possible that not all respondents recognize all methodical principles in contact with their youth worker, because, for example, they do not participate in group-related activities or do so to a lesser extent. It is also possible that youngsters were less aware that youth workers used certain methodical principles during interactions with them. Checking on adherence to methodical principles by
youth workers themselves or by others prior to the study could potentially generate more effects.

Fourth, the sample size changed from measure to measure depending on the respondent and practical issues in the organizations involved. Because of the open-ended, flexible, and voluntary nature of this service, a substantial drop-out rate during the four waves was to be expected. Because of its voluntary nature, youngsters participate irregularly in youth work activities. In this study, we attempted to register absences, but unfortunately, it was not possible to observe the reasons for all non-completers. While we used the most appropriate analysis technique to handle missing data (Twisk, 2013), this may have affected the results. In future evaluation research in this type of setting, it is suggested that noncompleters should be monitored more accurately to obtain a better profile of which youngsters drop out.

Finally, although Cronbach’s alpha was satisfactory for all measurement scales, we are aware that the removal of some items from a validated scale can disrupt the reliability of the scale and the confidence of the output. Nevertheless, we chose scale adaptation to tailor the research to the specific research setting and to measure the underlying methodical approach of youth workers with respect to a broader set of prevention-focused outcomes.

**Conclusion**

Youth work has the potential to reach adolescents who experience risk in one or more social contexts. We can conclude that the set of 12 methodical principles offers youth workers an interesting methodical framework for supporting these youngsters in their personal development and enhancing their social participation. The results of this study have further concretized and substantiated this framework and may provide an explanation for how youth workers may contribute to the development and social participation of youngsters. It also provides insight into which methodical principle is longitudinally associated with which type of outcome. By combining methodical principles within a multimethodic approach, youth workers aim to respond to a range of development needs of socially vulnerable youngsters and broader society. The strongest associations were observed with regard to prosocial skills and civic participation. Youth workers can use this empirically tested knowledge to improve their methodical process, including a better understanding of which methodical principles are successful in realizing which type of prevention-focused outcomes and for which specific group. These findings will be of significance for our further understanding of the effectiveness of professional youth workers and in legitimizing their position in the broader social infrastructure. The finding that nine methodical principles do not appear to play a role in the development of self-mastery requires further research investment in youth work settings using more context-specific instruments. To realize positive social returns, policy-makers should give special consideration to long-term professional youth work using a multimethodic approach when designing, implementing, and evaluating prevention-focused services to youngsters.
Ethics
This study was not submitted to a research ethics committee, since the Amsterdam University of Applied Sciences did not yet have an ethics committee at that time the study started (committee started in 2018) as well as the study was not subject to the Dutch Medical Research Involving Human Subjects Act (WMO). The study protocol was approved by the management of the 11 participating organizations and youth workers from the Youth Work Lab. Data collection was carried out in accordance with the Netherlands Code of Conduct for Research Integrity (2018).

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Availability of data and materials
The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Appendix

Scales of methodical principles (original in Dutch). We developed these items to measure the 12 methodical principles youth workers apply in interactions with youth (10–24 years).
Methodical principle
Meaningful relationship
The youth worker:
 has an open mind
 seems to be really genuine
 always asks how I’m doing
 accepts me just the way I am
 takes what I do or say seriously
 has a talk with me when I overstep a boundary
 acknowledges how I feel
 shows understanding for what I do or say
 is there for me when I need it
 is easy to reach

Engagement with the lifeworld
The youth worker:
 looks me up
 knows how to reach me
 In the last three months the youth worker has talked about my interests (like football, music, fashion).
The youth worker’s style makes me feel comfortable.

Adapting to needs
The youth worker takes into account:
 what I want to learn
 my problems or questions
 what I find difficult- my situation (for example at home, at school or in the neighborhood)

Learning by doing
In the last three months, I have learned things at youth work by doing them myself. In the last three months, the youth worker:
 has given me tips on how I can do something myself.
 has given me confidence that I can do things myself.
 has given me a reaction (feedback) after I did something.

Proximity
In the last three months the youth worker:
 has emphasized a similarity between him/her and myself (such as the same culture, gender or interest). has used examples from his/her life that resemble my experience or situation.

Drawing on strengths
In the last three months the youth worker:
 has encouraged me to discover what I can do or what I like.
 has encouraged me to do more with what I can do or what I like (for example through schooling or in the neighborhood).

Working with the social environment Tick the people or organizations the youth worker has had contact with about you or your group in the last month: parent(s); other family members (brother/sister/uncle/aunt); friends; my partner; neighbors; tutor; school; work;
imam, pastor or priest; leisure-time facility (music club or sports club); district team; police; relief agency; housing agency; doctor; municipality; other; none

Practical assistance
In the last three months the youth worker:
- has arranged things for me (such as an appointment or an application for a supplementary allowance).
- has helped me find the right information.
- has accompanied me to an agency or organization.

Working with rules
In the last three months the youth worker:
- has used rules to discuss with me (or the group) how we will be interacting.
- has taught me things by following the rules (such as a different behavior, or what is or isn’t allowed).

Rewarding
In the last three months, the youth worker has given me something to motivate me (such as credits, food/drink, use of equipment, or an outing).

One-to-one contact
In the last three months I have had one-to-one contact (face-to-face, by phone, or via social media) with the youth worker.

Peer support
In the last three months the youth worker:
- has asked me to be meaningful to other youngsters (for example by demonstrating something, doing something together, helping out).
- has asked me to ask other youngsters for help (for example to teach me something).