From antisocial to prosocial?
The effectiveness of social skills training for juvenile delinquents
van der Stouwe, T.

Publication date
2020

Document Version
Other version

License
Other

Citation for published version (APA):
van der Stouwe, T. (2020). From antisocial to prosocial? The effectiveness of social skills training for juvenile delinquents.

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GENERAL DISCUSSION
This dissertation focused on the effectiveness of social skills training (SST) for juvenile offenders in general, and on the effectiveness of a specific SST, performed in the Netherlands, namely Tools4U. Tools4U is an outpatient individual juvenile offender SST, which meets the principles of effective (SST) treatment, and is applied as a penal sanction for juvenile delinquents (Albrecht & Spanjaard, 2011). To examine the effectiveness of Tools4U, a matched controlled trial of $N = 223$ juveniles in the Netherlands was conducted measuring post-treatment effects on (social) skills (Chapter 2) and long-term effects on criminal recidivism (Chapter 5) comparing Tools4U to treatment as usual (TAU). In order to determine what may cause variations in effectiveness, the influence of treatment motivation (Chapter 3) was examined. Furthermore, it was investigated whether affective empathy influenced susceptibility to treatment (Chapter 4). Finally, in order to place the findings of the Tools4U effectiveness study into perspective, a meta-analytic review was conducted to integrate the empirical knowledge on the effectiveness of SST, accounting for factors that could moderate effectiveness of SST (Chapter 6). We expected that small to moderate effects on (short-term) social skills would lead to small (long-term) effects on reoffending for Tools4U and SST in general, with larger effects for juveniles with high treatment motivation and those with a minimum level of affective empathy.

In this final chapter, first, the main findings of the studies will be summarized and discussed. What follows is a review of the strengths and limitations of studies included in this dissertation. Next, the practical implications of the outcomes are discussed, and directions for future research are given. Finally, the main conclusions of this dissertation are summarized.

**MAIN FINDINGS**

Our studies revealed mixed findings for the effectiveness of Tools4U for juvenile delinquents. Immediately after treatment (Chapter 2), Tools4U showed small to moderate ($d = .28 - .42$) positive effects on four outcome variables (i.e., impulsivity, hostile intent attribution, and cognitive distortions of self-centeredness and assuming the worst). The penal sanction did not outperform TAU for eight outcome measures (i.e., confrontation, seeking social support, cognitive empathy, behavioral adjustment, positive parenting, and parental rewarding). For two outcomes (i.e., social acceptance, and self-worth), Tools4U participants even performed worse than juveniles receiving TAU ($d = -.28 - -.30$). Moderator analyses revealed only few moderating effects. Tools4U improved parental rewarding for parents of girls (Chapter 2, $d = .73$), confrontational problem-solving for at least moderately motivated juveniles (Chapter 3, $d = .44 - .64$), and decreased hostile intent attribution for juveniles with at least a moderate level of affective empathy (Chapter 4, $d = .60 - .70$). Moreover, the short-term effects did not lead to the hypothesized decrease in (long-term) reoffending: after and within 1.46 years no significant treatment effects were found on recidivism, nor in the frequency or severity of criminal recidivism (Chapter 5).

The meta-analytic review in Chapter 6 yielded only small overall significant effects for SSTs on offending ($d = .12$) and social skills ($d = .33$), but not for externalizing and internalizing problems. However, the significant treatment effects were only found if SST was compared to a control group that did not receive treatment, but not if compared to alternative treatment.
**DISCUSSION**

Against our expectations, we only found limited treatment effects for Tools4U and SSTs in general. Our meta-analytic review offers an important explanation for the lack of Tools4U treatment effects in that SSTs only showed a positive treatment effect if compared to a non-treatment control group. Given the fact that the Tools4U comparison group received alternative treatment, TAU, it is in line with results from our meta-analytic review that the intervention hardly showed any treatment effects. These outcomes are similar to the outcomes of a recent meta-analysis that found TAU to be the most “potent comparison condition” (Weisz et al., 2017, p. 1), because its effectiveness seems to have increased over the last decades. Thus, SSTs do not perform distinctively better than other treatments. The Dutch context of Tools4U may be particularly relevant in this case, because “no treatment” hardly exists in the Dutch welfare system and troubled juveniles are very likely to receive at least a minimal level of alternative treatment or care.

There may be several explanations for small or even absent SST treatment effects. One explanation may be found in the target population. In line with the Risk principle from the RNR model (i.e., matching treatment intensity to risk severity, Andrews & Dowden, 2007; Andrews & Bonta, 2010b), SSTs are generally applied as a not too intensive intervention for not too severe (low risk) target populations, mostly as a means of selective, indicated or universal prevention. Notably, the majority of youths showing adolescent-limited antisocial behavior (Moffitt, 1993) will desist from delinquent behavior regardless of treatment (see e.g., Jolliffe, Farrington, Piquero, MacLeod, & van de Weijer, 2017). Consequently, expecting moderate to large effect sizes may be unrealistic, because prevention programs for youth generally yield small effects sizes (see e.g., Raposa et al., 2019; Sandler et al., 2014; Stice, Shaw, Bohon, Marti, & Rohde, 2009). Moreover, universal interventions have been known to show effect sizes as small as Cohen’s $d$ between .07 and .16, equivalent to 4% to 9% improvement in outcomes (Tanner-Smith, Durlak, & Marx, 2018). Given the low problem severity and treatment intensity as well as the preventive character of the Tools4U program and other SST interventions, only small treatment effects were to be expected. These are harder to detect in effectiveness studies, because the anticipated small effects require relatively large research samples to obtain sufficient statistical power (Lipsey & Tidd, 2005).

Next, our meta-analytic review shows that the (dynamic predictive) validity of social skills deficits as a criminogenic Need might not be strong enough to be of clinical value. A recent study that investigated whether changes in risk factors predicted later reoffending found that only changes in antisocial attitudes/behaviors and aggression, and not changes in social skills, were predictive of a recidivism reduction in juvenile offenders (Baglivio, Wolff, Jackowski, & Greenwald, 2017). Although both antisocial attitudes/behaviors and aggression are often considered as social skills, a broader social skills treatment focus may not be specific enough to obtain (detectable) changes in later reoffending. In addition, there is a lot of diversity in how the construct “social skills” is defined in both research and clinical practice (Cook et al., 2008; Merrell & Gimpel, 1998). Consequently, different SSTs may have targeted different (interpretations of) social skills and different criminogenic Needs, and this may have led to a heterogeneity in treatment effects that has limited the power to obtain or detect treatment effects. However, we have not been able to test this assumption statistically in our meta-analytic review.
Furthermore, the Needs principle implies that SSTs should only be conducted with juvenile offenders who show social skills deficits that were related to the offense. For the studies included in the meta-analysis, it was unclear whether and how social skills deficits were assessed. For Tools4U, having social skills deficits was included as one of the indication criteria for Tools4U (Albrecht & Spanjaard, 2011). However, the assessment of (a lack of) social skills was only based on clinical judgement of a juvenile justice investigator and/or judge, and was not based on a standardized assessment measure. We therefore could not establish whether and to what extent Tools4U juveniles actually had social skills deficits, as was the case with most SST participants included in our meta-analytic review. Although some social skills deficits had been attributed to most juveniles with the initial indication and intake assessment (see Van der Stouwe, Asscher, & Stams, 2013), pre-treatment scores on the outcome measures did not seem particularly low. Combined with the aforementioned lack of consistent definition of social skills in literature and practice (Cook et al., 2008; Merrell & Gimpel, 1998), it is unclear whether juveniles receiving Tools4U or SST in the meta-analytic study showed social skills deficits related to their offense.

Additionally, a lack of treatment effects could be explained by low treatment integrity of the included interventions in our meta-analytic review, which has been shown to be associated with smaller or even lack of treatment effects (Goense, Assink, Stams, Boendermaker, & Hoeve, 2016; Lipsey, 2009). Notably, treatment integrity in our Tools4U study proved to be sufficient, and therefore could not explain the lack of positive results. However, the assessment of treatment integrity was based on a somewhat arbitrary guideline of Durlak and DuPre (2008), which states that adequate execution of 60% or more of the treatment requirements should be sufficient. According to this criterion, Tools4U was carried out as intended, although not all requirements were assumed to be equally important for the establishment of treatment success. Therefore, the developers of Tools4U have compiled a Tools4U Top 10 that comprises the 10 (theoretically) most important requirements for Tools4U (Spanjaard, Regterschot-Von Lindheim, Groenhuijsen, & Bolt, 2012). Most of these Top 10 requirements were met for the majority of the cases. Finally, parents could not be included in all cases (i.e., 60 – 79%), while involving parents in training was considered essential for transferring successful training of social skills from the training facility to the home situation (Albrecht & Spanjaard, 2011) and thereby achieve long-term effects (Cook et al., 2008).

**Additional findings.** In addition to moderator effects on Tools4U treatment effectiveness, Chapter 3 reported on predictive influences that may be generalized to more broad-spectrum juvenile offender treatment. This study showed that treatment motivation was predictive of change, which is in line with previous studies (McMurran, 2002; Miller & Rollnick, 2002; Olver, Stockdale, & Wormith, 2011). However, this influence was only found for changes in social problem-solving, social perspective-taking and self-centered cognitive distortions, regardless of treatment condition.

A first explanation may be that the level of treatment motivation could be indicative of the juvenile’s delinquency trajectory. Moffitt (1993) argued that resilience in the face of life’s (multiple) adversities might be what separates the adolescent-limited delinquent juveniles from life-course persisters. Delinquent juveniles have been found to have less (challenging) life goals, to be less committed to them, and to show less self-regulatory efficacy than their at-risk counterparts (Carroll, Gordon, Haynes, & Houghton, 2013). Consequently, a certain level of motivation in juvenile delinquents may be indicative of the resilience that protects against criminal recidivism, making intervention unnecessary. Alternatively,
it is possible that the interventions in the present study have fuelled a certain growth potential in some juveniles. That is, according to self-determination theory (Ryan & Deci, 2000), competence, relatedness, and autonomy are conditional for personality development and behavioral self-regulation. These conditions have become more characteristic of contemporary juvenile offender treatment of any kind and may therefore be a common therapeutic factor in any juvenile offender treatment.

STRENGTHS AND LIMITATIONS
The outcomes of this dissertation should be considered in the light of some general limitations. A first limitation is the fact that the research design of the Tools4U study did not meet the “golden standard” of evaluation research (Farrington, 2003); due to practical reasons we conducted a matched controlled trial instead of the preferred randomized controlled trial. Although our matching procedure proved to be successful, pre-existing (unknown and systematic) differences between the experimental and comparison group could not be ruled out completely.

A second limitation is the fact that the procedure and timing of pre- and post-treatment assessments were different between the experimental and comparison groups. This may even provide an explanation for the apparent negative treatment effects of Tools4U on social acceptance and self-worth. These possible adverse effects should therefore be viewed with caution. For this particular questionnaire, the Tools4U participants received the questionnaire from their trainer and filled it out at home, whereas for TAU participants a research assistant was present for assistance when the questionnaire was administered. The differences between Tools4U and TAU on these outcomes could therefore just as well be a representation of the differences in how and when this questionnaire was administered. Furthermore, an overestimation of competence could also be an attempt of the participant to deny and escape a less favourable realistic image (Treffers et al., 2002). It might therefore be argued that the Tools4U effects on these outcomes are actually positive in that they indicate the development of a more realistic self-image from pre- to post-test. However, the mean scores for both Tools4U and TAU at both pre- and post-test were within the normal range compared to a ‘normal’ Dutch reference group (Treffers et al., 2002).

A third limitation was that the long-term recidivism outcomes were measured at 1.5 years post-treatment. We could therefore question whether the juveniles had long enough time to recidivate. However, an additional study that examined longer term reoffending outcomes at a maximum follow-up of 3 years did not find any differences in reoffending between Tools4U and TAU either (Van der Stouwe, Verweij, Asscher, Weijters, & Stams, 2018). Interestingly, this particular study matched an additional control group to the Tools4U treatment group based solely on judicial archival data with similar outcomes on reoffending, which supports the adequacy of the original matched control group used in this dissertation.

Finally, although Tools4U has been designed based on previous (research on) SSTs, it remains mostly unclear how the execution of Tools4U compares to that of other SSTs. In previous SST studies, there was only limited information on execution and program integrity, as several scholars have previously outlined (see e.g., Cook et al., 2008; Gresham, Cook, Crews, & Kern, 2004; Maag, 2006). This makes it difficult to determine to which extent Tools4U has actually improved SST execution.
Despite these limitations, the present dissertation provides important insights for effective juvenile offender treatment, in particular for less severe offenders. The first study examined Tools4U for a substantial sample under clinically representative conditions. This training has an elaborate theoretical foundation that has been substantiated by a specific training manual and multiple efforts to ensure adequate treatment implementation, which proved to be sufficient. Our meta-analytic review showed that this has been quite uncommon in SST implementation and research thus far. Treatment effects could therefore be attributed to this specific treatment, while the treatment integrity study provided additional information on the conditions under which Tools4U could be most effective.

In addition to investigating the more common treatment moderators (i.e., age, gender, ethnicity and reoffending risk) more substantive moderators were examined that could increase our understanding of (treatment) change processes. These studies provide some insight into what skills juveniles should already have to be susceptible to change in other skills. It is possible that these mechanisms could also be generalized to other treatment types and target populations.

Finally, we examined long-term effects on reoffending in light of positive post-treatment effects on multiple skills. These outcomes have shown the importance of dynamic predictive validity. That is, there should be more research on the difference between risk factors for delinquency and risk factors for which changes actually lead to changes in (long-term) reoffending.

**PRACTICAL IMPLICATIONS AND FUTURE RESEARCH**

Do the results of this dissertation mean that we should not apply SSTs with juvenile offenders in the future? There are only few interventions that proved to be effective in reducing criminal recidivism in juvenile offenders, generally showing small effects (see e.g., Farrington, Gaffney, Lösel, & Ttofi, 2017; Goense et al., 2016; Koehler, Lösel, Akoensi, & Humphreys, 2013; Lipsey, Howell, Kelly, Chapman, & Carver, 2010; Lipsey, 2009; MacKenzie & Farrington, 2015; Schwalbe, Gearing, MacKenzie, Brewer, & Ibrahim, 2012; Wong, Bouchard, Gravel, Bouchard, & Morselli, 2016). SSTs do also show these small effects but, are mostly used for prevention purposes, that is, with juveniles of whom most are not expected to reoffend anyway. Since the positive effects of SSTs do not differ from that of most other treatments targeting juvenile criminal recidivism and given their mostly non-intensive and preventive nature, SSTs could still be applied to decrease juvenile delinquency. The anticipated small effects of SSTs indicate that effectiveness studies should comprise relatively large study samples to have sufficient statistical power to detect treatment effects. Moreover, follow-up times should be long enough to be able to detect delayed intervention effects. Furthermore, SSTs should be assessed under clinically representative conditions, using research designs that can rule out most alternative explanations for possible treatment effects. Finally, treatment integrity of SSTs should be assessed with a well-validated instrument, using meaningful cut-off scores to establish treatment integrity.

The present dissertation has shown in which ways SSTs in general and Tools4U in particular have not adhered to the What Works principles of effective offender treatment. Thereby, our studies have provided very concrete directions for improving juvenile offender SSTs in practice with regards to indication and execution. Moreover, Tools4U has already demonstrated a promising framework to work from.
Improvements with regard to indication of juveniles for training should be twofold. First, assignment to SST should be guided by pre-treatment assessment of social skills to determine whether and to what degree social skills deficits exist, and to distinguish specific deficits that should be targeted in treatment. To our knowledge, existing social skills (deficits) measures are generally elaborate and time-consuming (see, e.g., Gresham, 2016) and not specifically designed for juvenile offender (risk) assessment. Future research should therefore aim at developing a social skills deficits/risk assessment instrument or scale that is elaborate enough to define (different) social skills deficits while being concise enough to provide efficient assessment. Second, the present dissertation has shown that not all juveniles could benefit equally from SSTs. Indication should therefore aim at including (mostly) juveniles who have shown to benefit the most from SSTs – or to adapt treatment to improve outcomes for a broader population. Cautiously, this dissertation could indicate that Tools4U or even SSTs in general should preferably be conducted with the small proportion of juvenile offenders between 12 and 15 years old, at least moderately motivated juveniles (and/or treatment should be voluntary), and juveniles with a minimal degree of affective empathy. However, more moderator research is needed to examine which juveniles can benefit most.

The abovementioned standardized assessment of social skills deficits also calls for a general consensus about which specific social skills should be targeted in treatment, thereby narrowing the treatment range. Arguably, not all social skills are (equally) related to offending and/or equally predictive of reoffending. In line with the Needs principle (Andrews, Bonta, & Hoge, 1990; Andrews & Dowden, 2007; Andrews & Bonta, 2010a), only the social skills deficits that are considered a risk factor for delinquency should be targeted. Two apparently suitable treatment targets that have also been found to be predictive of later reoffending are antisocial attitudes and aggression (Baglivio et al., 2017). Arguably, Tools4U may provide a promising treatment approach to target these outcomes, because it has already shown post-treatment effects on cognitive distortions; a related construct. In addition, both the Tools4U study and SST meta-analytic review have found post-treatment effects on impulsivity. Given the fact that this skills deficit is known to be strongly related to offending behavior (Cruise et al., 2008; Veltri et al., 2014), this would also make for an appropriate specific treatment target. In addition, treatment motivation should either be present or developed, because our study found that treatment motivation is conditional for at least some treatment change. Arguably, if SSTs would use their limited amount of treatment time for a narrower set of social skills deficits that have proven (dynamic) predictability of reoffending, the long-term effects on reoffending may well improve.

Finally, in the development of existing and future SSTs there should be more attention for prescribing and monitoring treatment execution. If we do not know what was executed and how, we cannot determine what made treatment effective and for whom. Our Tools4U study showed how monitoring treatment integrity may contribute to (post-)treatment effects and provided explanations for (a lack of) treatment effects as well as indications for improvement. The Tools4U execution can be improved by excluding juveniles the intervention is not meant for, such as truants. Additionally, considering an execution of > 60% of treatment techniques as sufficient treatment integrity may not be enough for treatment components that are considered essential for obtaining treatment effects. Efforts should therefore be made to obtain a higher score for these components. Moreover, as moderator analyses showed limited effects for particular treatment subgroups, treatment effects could be improved by taking on adapted or
additional treatment approaches for these subgroups or not serving these subgroups at all. This might apply for older juveniles, juveniles showing insufficient treatment motivation, and juveniles with a lack of affective empathy.

**CONCLUSIONS**

Taken together, this dissertation has shown only limited treatment effects for Tools4U in the Netherlands and SSTs in general for juvenile offenders. While SSTs have shown the potential to improve social skills right after treatment, these improvements may not be substantial or sustainable enough to reduce (long-term) criminal recidivism. However, given the not too severe SST target population and non-intensive treatment approach only limited treatment effects of SSTs should be expected. More broad-spectrum outcome research is needed to determine whether the post-treatment effects may have led to other beneficial long-term outcomes. The present dissertation has shown that Tools4U and SST effectiveness could be improved in several ways with this population: with more standardized social skills assessment and treatment, more stringent inclusion of the appropriate juveniles, and by targeting more specific social skills that have shown to be related to reoffending.