

Nothing You Say Can or Will be Used Against You!

Practical strategies for conducting (longitudinal) biopsychosocial and clinical research in the juvenile detention setting – Lessons learned from the SCREEN project

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Introduction

The primary focus in the treatment of juvenile offenders is on reducing antisocial behavior. However, treatment is often unsuccessful: these adolescents are at high risk of future delinquency and, as adults, they represent a high cost to society (e.g. Knapp, King, Healey, & Thomas, 2011). The search for underlying mechanisms of antisocial behavior and the exploration of novel treatment methods is therefore vital. However, performing research within the practical confines of a detention setting poses certain challenges. Historically there has not been much research studying young offenders within a detention setting. Researchers generally prefer a homogeneous sample selected on a specific clinically or theoretically relevant condition (e.g. Conduct Disorder) rather than a heterogeneous group available due to circumstances (e.g. detainment). The closed nature of the institutions and the young offenders' involuntary placement therein further complicate research into this already complicated population.

To begin with, personal characteristics of the youth can complicate research in a detention setting. Young offenders are thought to have little interest in participating in research and are suspicious of researchers' motives, partly due to having a history of being studied for either academic or clinical reasons without any perceived benefit for themselves (or having it used against them in court). They can be antisocial or aggressive and tend to be unreliable in keeping appointments or sticking to experiment stipulations (e.g. 'don't eat an hour before testing'). Finally, young offenders' self-report data in several areas of interest is considered unreliable or conflicts with data from other sources (e.g. Breuk et al., 2007; Colins et al., 2008).

Aside from detainee specific characteristics, research may be hampered by aspects related to the setting itself. A concern that often arises is how voluntary participation in scientific research can be, when a juvenile is (involuntarily) confined, and how confidentiality and anonymity can be preserved. Research is complicated by the fact that young offenders are vulnerable. Briefly stated, youth participants are considered vulnerable (according to the Belmont Report (1979) as well as many other sources) because of their reduced autonomy. In the case of young offenders they are considered vulnerable on account of being minors (often), having a judicial status, and a relatively large number of them being from minority background, economically

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disadvantaged, mildly mentally retarded and exhibiting a high rate of psychiatric morbidity (Kroll et al., 2002). This places strict requirements on potential scientific research and runs an increased risk of being rejected by authorities such as ethics committees or the institution itself. Therefore this setting requires extra emphasis on ethical aspects (such as voluntarily participation, confidentiality and anonymity), and how these aspects can be guaranteed.

Performing complex or sensitive research designs, such as randomized controlled trials (RCTs) or studies employing neurobiological measurements, may encounter additional resistance. For example, in the case of hormone assays, one can encounter possible concern of young offenders that DNA will be mapped for a criminal case. Resistance to neurobiological sampling is also fostered by a general societal concern about overly deterministic use of these measures, as was the case during the 'Buikhuisen affair' in the Netherlands (see e.g. van Swaaningen, 2006). Research into neurobiological factors - especially in the context of antisocial or criminal behavior - has led to fierce ethical discussions not only in the Netherlands but also internationally (e.g. Singh et al., 2014). For example, one might think that neurobiology is static and therefore immutable, which would encourage deterministic interpretations of neurobiological research findings. However, neurobiology can certainly be subject to change, and works in interaction with other factors such as the environment in creating behavior (e.g. Beauchaine et al., 2008). Given the numerous associations between neurobiological measures and antisocial behavior (e.g. Alink et al. 2008; Lorber, 2004; Ortiz & Raine, 2004), it is particularly important to conduct this type of research with forensic populations.

Another complicating factor is that accessibility is severely limited, and the individual schedules of juveniles in the institution can be subject to many changes day by day. This means that last minute changes frequently do not allow the appointments to be met. Additionally, the tightly packed daily schedules of both the youth and the employees can often only accommodate a modest assessment battery. Adhering to a structured study protocol can therefore be difficult unless it is incorporated into the existing schedule (e.g. having group counsellors fill out observation forms during their shifts). However, having institutional employees collect information on behalf of third party studies may again raise questions regarding confidentiality and anonymity.

Because of these difficulties researchers may rely on analyzing data already available from other sources such as police records or the clinical intake done at the start of detention. This is an efficient method as it makes use of data already available. However, this restricts research to a limited range of variables, themselves chosen based on established findings. This necessarily narrows its potential to provide new insights. There is an additional need to examine alternative indicators (among which neurobiological factors) as the current assessment is insufficiently able to examine underlying mechanisms. Furthermore, there is a need for new interventions to break the trend towards further/future antisocial behavior. This requires researchers to implement independent studies within a detention setting with minimal interference in their day to day operating.

The current paper intends to aid future researchers conducting large and/or multifaceted studies, or investigations of constructs expected to elicit hesitancy, by outlining important strategies for successful scientific research with young offenders in a judicial detention setting. Conducting this type of research has

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raised questions for policy makers with regards to ethical considerations, the independence of the study, and maintenance of structural and procedural consistency¹. While these three areas of consideration bear relevance to any scientific study, they are particularly challenging in the judicial context. We address each in turn, as well as some broader logistical recommendations, outlining the challenges particular to the setting.

Our method and recommendations are based on the experiences of the Study Consortium for Reattribitional E-training Effectiveness and Neuroprediction (SCREEN) project. The SCREEN project was a longitudinal research project that ran for four years in several juvenile detention centers in the Netherlands, which incorporated both an RCT and assessment of neurobiological predictors of treatment outcome (see box 1).

Box 1. The SCREEN project

The SCREEN project was an integration of two separate longitudinal research designs. The first study examined the added value of neurobiology in predicting antisocial behavior. The second study was an RCT examining the effectiveness of cognitive bias modification (CBM) in reducing substance use. The project was run by independent researchers with no professional connection to the institutions, the department of justice, or law enforcement. The project was however fully supported and funded by the Dutch Ministry of Justice (Ministerie van Justitie en Veiligheid).

The study employed a stepwise approach where participants were first asked to complete a series of questionnaires and tasks on a laptop. Among the questionnaires was a screening for substance use, and assessment of neurobiological measures. A selection of neurobiological measures was assessed with the VU Ambulatory monitoring system (VU-AMS). Autonomic nervous system (ANS) (re)activity was measured by Heart Rate (HR), Heart Rate Variability (HRV; parasympathetic activity, related to emotion regulation abilities), Pre-Ejection Period (PEP; sympathetic activity, related to sensation seeking tendencies), Respiration Rate (RR), and skin conductance responses (SCR). In addition, participants were asked to collect saliva in a plastic tube (free flow through a straw) for the assessment of the hormones cortisol and testosterone.

When the substance use screening indicated that participants were eligible, they were invited to participate in the RCT. The RCT aimed to supplement the treatment of cannabis and alcohol (ab)use with a CBM computer training. The training comprised six 30-minute sessions of CBM tasks, under supervision of someone from the research team. Training sessions were performed by the participants during their detainment with fixed intervals between sessions (1-7 day interval). The intent was to assess its effectiveness when given in addition to Care As Usual. To achieve this, the training was done without interfering in whatever regular care and/or treatment the participants were receiving.

¹ Verslag Algemeen Overleg Justitiële Jeugd, Tweede Kamer, 14 juni 2017, Kamerstuk 28741/24587, nr. 34.

Finally, the project had 3 follow-up measurements, which took place after 1.5 months, 3 months and 12 months respectively.

Ethical considerations

When conducting scientific research, ethical aspects are of great importance in any setting (Guideline for Good Clinical Practice, GCP <https://www.ich.org>). However, when research is carried out in a youth detention setting, or indeed within any judicial context, it is particularly important that concepts such as voluntary participation, anonymity and data confidentiality are well communicated and safeguarded. In this regard it is important to separate the study from the hosting institutions. By separating from the institution, researchers do not have to guard against a possible prevailing idea among the detainees that participation is obligatory, or that research information will be used against them. The section below explains how the SCREEN project has attempted to convey these aspects to the detained juveniles.

Approach of participants and informed consent

Participation in the SCREEN project was completely voluntary and participants always had the right of refusal. To ensure that the youth did not feel obliged to participate, and that participation would never influence their treatment in the institution, research team members were all unaffiliated with the institutions and introduced themselves as such. Extra attention was always given to the confidential nature of the project and the fact that all data was processed anonymously. It was stressed that individual-specific information from the SCREEN project would not be disclosed to the justice department, police, employees of the institutions or the youth's parents.

When collecting data that can be considered 'sensitive' it is all the more important to emphasize the independence of the research, as well as data confidentiality. Among the biological factors under investigation in the SCREEN project were hormone levels (cortisol and testosterone), for which we collected saliva samples. As part of the informed consent procedure we offered our participants the option of a contract, to be signed by them and the researcher, which stated explicitly that their saliva would be used only for determining hormone levels, and not for mapping their DNA. Although the informed consent clearly stipulated that we would not be collecting DNA, and the data collector stated this again when it came time to collect the saliva, we thought the contract would be a tangible assurance thereof. However, this contract did not seem to be effective in this regard; most participants either took our word for it or refused to believe us (we appear to have been deemed trustworthy, as only 3% of the youth approached cited a lack of trust as a reason to refuse participation, see box 5). Furthermore, there was always the option to refuse specific elements of the study (e.g. saliva sampling); this did not result in complete exclusion from the study.

Information was provided on paper (in the form of an information leaflet and informed consent form) as well as in person. Researchers matched their diction to the juveniles' level of understanding and placed extra emphasis on the participants' rights. If a juvenile expressed interest in participating, the elements of the

Informed Consent form were examined with him. At the first data collection appointment, confidentiality, anonymity and right of refusal were again emphasized.

Informed consent may need to be obtained from the parents/guardians as well as the juvenile. This can be particularly difficult with the young offender population. Our method was to first explain to the juvenile that we needed permission from their parents, inquire whether we could approach them, and if so, if we could do so during visiting hours. A researcher would join briefly at the beginning or end of the visit, explaining the study and providing the information leaflet and informed consent document. These documents were reviewed together and/or handed over to take home. Questions could then be discussed directly. If joining a visiting moment was not possible, for example when the parents could not visit, contact with parents/guardians was made by telephone or in extreme cases via mail/post to obtain informed consent. The confidentiality of the study, the anonymity of their child and the right of refusal were again emphasized. Depending on the institution, there may be programs in place that foster more intensive family involvement. For example, family centered care (FCC; Simons et al., 2016) is a treatment approach that incorporates frequent contact between caretakers and counsellors from the living unit. In one of our participating institutions, the presence of FCC meant parents/guardians were on-site more frequently, making contact significantly easier to achieve.

Rewards for participation are particularly tricky with young offenders as there are extra concerns regarding voluntariness of participation and validity of their right of refusal, leading to none or token-rewards of negligible value. Nevertheless, in our experience, the young offenders are particularly motivated by the extent to which participation benefits them personally. Objectives such as scientific progress or clinical improvements are often of no interest to them, meaning a more personal approach is required. Sometimes particular aspects of the study that generate feedback may interest them (in our case, many of our participants were in fact quite curious to see their own heart rate), but more often it comes down to interpersonal factors; if they like you, they are more willing to help you out (also see the section '*Engaging participants*').

Ethical concerns primarily relate to voluntary participation, as this is notably difficult to ensure. The youth are, after all, involuntarily placed in these institutions, where they are expected to comply with authority and to do as they are told. The issue is further complicated when the youth expect that participation will be regarded favorably, and will help them with their detention or parole. To maximize the idea that participation truly is voluntary it is best if recruitment is not done by institution employees or anyone involved with the young offenders in a judicial or authority context (e.g. their parents or lawyer). It needs to be clear that the people running the study can, in no way whatsoever, influence their detention or court case. Researchers will therefore need to take great pains to ensure their independence from the institutions.

Box 2. Approach of participants for SCREEN

Approach of juveniles took place at least two weeks after entry into the institution, and testing at least three weeks after entry. In the first three weeks screenings are conducted by the institutions themselves, so the youth already fill out numerous questionnaires. We wanted to give the youths the opportunity to adjust to

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their new environment. Moreover, we wanted to avoid confusion about what was part of their admission to the institution, and what was part of the study. It was important that these should remain distinct to maintain the independent nature of the study.

Study independence

The independence needed is two-fold, perceptual and practical. With perceptual independence we mean that the study is perceived by all those involved as being independent from the institution, the justice department, law enforcement and other potential parties. Practical independence refers to the extent that a study can be reliably conducted without reliance on the institution's resources, as well as the extent to which the institution's normal operating procedures need to accommodate the project.

Perceptual independence

Perceptual independence extends not only to the participants, but to the institution and its employees as well. Participants need to feel assured that the information they provide will not be used against them, and researchers need to ensure that the institution has no expectations in that regard. Anonymity of participants and the promise not to pass individual data on to third parties without consent is generally a given in scientific studies, but in a detention setting (or any intensive treatment setting) it requires extra explanation in order to motivate participation.

Participants need to be convinced of the fact that you are trustworthy during recruitment, and this trust needs to be maintained throughout the run of the project. Participants will likely remain in the institution for a while after their data collection has been completed, and will be in contact with other potential participants. Experience shows that one of the most important factors in engaging young offenders for participation is what their peers (i.e. the other detained young offenders) think about the study. If a participant has cause (real or imagined) to doubt a study's claims of independence, word will spread and recruitment will drop significantly.

Detention institutions are at their core residential treatment centers and the youth are under near-constant observation. This may cause situations where staff members can deduce information regarding the participants simply from their participation, and address this with the participant in question. For example, the SCREEN project included an RCT regarding cannabis and alcohol use, and from a scientific perspective one would want to focus on young offenders with indications of current substance abuse/dependence (as determined by our screening instruments). However, as the young offenders are not allowed to use these substances during their detention, we ran the risk of staff members realizing that "young offender A" was approached for participation in the RCT, and therefore must have indicated recent and/or problematic cannabis or alcohol use. If they subsequently acted on this information it would damage our reputation with the participants, to say nothing of violating our ethical responsibilities with regard to anonymity. Our solution was to set our inclusion criteria for the RCT to 'has used the substance at some point in the previous 12 months', and communicated this fact clearly to the institutions as well as the

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participants. This way, no concrete information regarding when they used (or which substance, for that matter) could be deduced based simply on participation². Even if a participant had already been detained for more than 12 months at the point of testing, we stressed to the employees that this still did not imply anything regarding quantity or frequency.

Practical independence

The fewer demands made of the institutions, the easier it is for them to accommodate your work. Plus, if the participants see that the study is executed by someone they know as an employee, it casts doubt on the confidentiality with which the data will be treated. It is recommended to do the various research tasks (recruitment, data collection, etc.) with external researchers. Ideally a team of external researchers can be introduced into the institution for the duration of the study, with a set working space and access to the areas of the institutions where they will be working. Given the strictly controlled security environment of the detention center, this of course needs to happen in clear consultation with the institutions and the team needs to be instructed on security and safety protocols.

Box 3. Recruiting the institutions

In order to approach all potential institutions at once to assess interest in participation in the project, a meeting of managing directors of all juvenile justice institutions (JJI) in the Netherlands was attended. The ideas for the joint research project were presented. Institutions needed to a) be interested, and b) have room inside their institution for a scientific study. Three institutions (out of nine³ JJIs) were interested and available to participate in the project. Follow-up meetings were then planned at the interested institutions to further discuss details and plans. During the course of the research project, three more JJIs (admission by penal law) and a residential care facility (admission by civil law) subsequently joined as interest in the project grew. The Academic Workplace Forensic Care for Youth, a collaboration of research, practice, and education, greatly facilitated both the introductory phase of the research and its execution at the institutions by providing an independent research structure already in place. Furthermore, de Jong, Koppers and Broerse (2018) studied the organization of adaptive space within the collaboration of the SCREEN project and JJIs, and which factors contributed most to successful collaboration. They did this by observing meetings with the research team and JJIs, and by conducting separate timeline interviews during the collaboration with members of the research team and institutions. They stated that although negotiations started formal, further along the collaboration there was a preference of informality over formality. Important facilitators were a collaborative attitude, reciprocal commitment, and above all else, flexibility.

² In no way do we want to imply that there is any malicious intent in the example above. We start from the principle that employees want to do what is best for the youths in their care. Our intent is to show how the detention setting comes with continued daily interactions amongst the participant pool and an intensive presence of third party individuals, and how that may affect the perceptual independence of your project. It does not begin and end with each individual participants' track in your data collection process, but is a constant factor throughout.

³ At the time of submission of the present paper, 7 JJIs remain open in the Netherlands

Independent research team

As mentioned earlier, 'being liked' by the young offenders is particularly salient for their participation. This puts extra demands on the recruitment of the team members, as they need to be researchers the young offenders will respond well to. Ideally you want candidates that have good social skills and are empathic towards the youth, interested in forensic work, self-assured, punctual and accurate in their work. Moreover, it is essential that they are able to be flexible (working hours, last-minute changes, etc.). Shy or anxious individuals do not work well, as they find it difficult to communicate with the youth or the institution employees. Furthermore, they are more likely to be intimidated by the youth, and may be too anxious to approach potential participants. At the same time however, overconfidence or a cocky attitude can provoke antagonism from potential participants, particularly in male researchers. Finally, the work can be stressful or emotionally challenging, therefore make sure to select candidates who will not hesitate to ask for help/feedback, and provide clear communication lines and support where they can voice their frustrations. The institutes themselves may also have certain requirements, such as a minimum age.

Once the team has been assembled it is important to prepare them for the particulars of working in a closed institution. How to deal with transgressive behavior of participants, security protocols and codes of conduct, and their role as representatives of the study are important issues to discuss. If the team members have no prior experience with a detention setting (as many students do not), make explicit that it is a prison environment, and that they are likely to encounter stories and/or situations they may find shocking and confrontational. In addition, it is advisable for team members to attend an aggression regulation training. During the execution of the project, communication between team members (across different locations as well) and familiarity between research team members is a necessity, and familiarity with the institutional staff is encouraged (with the understanding that team members are not allowed to divulge information regarding participants gained during data collection). Team members work long days within the thick walls and closed doors of the detention center. Much of what they experience there is confidential and cannot be shared with the outside world, and due to the independent nature of the project they are somewhat distanced from the employees. To maintain morale it is extremely important that team members do not feel isolated – from the institution employees on the one hand, and the other members of the research team on the other hand. Therefore, contact lines between a dedicated contact person from the institution and research team members should be short.

Box 4. The SCREEN research team

The SCREEN study had two project investigators (PhD students) who supervised the study. In each participating institution we had two students, mostly from the Master level. Each student was part of the project for three days a week over a period of at least six months. This meant we had someone present five days a week year-round. Whilst labor intensive, this gave us a continuous presence and flexibility in planning (important for maintaining structure). The institution employees were told that our team could not divulge any particulars related to individual participants, but our students were eager to learn about working

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in a detention setting. Most counsellors and therapists were happy to share their experiences and tips, providing extra learning experiences for our team and facilitating communication.

Data collection

Institution networks are behind heavy security and regulation, and IT-management is frequently (at least partially) managed off-site. Getting the permissions to allow data collection sites through the Ministry of Justice's firewalls can be a time-consuming process. Furthermore, every time the system is updated, new security protocols and firewall setting can be put into place and permissions need be re-attained. Given the advantages of online data collection (such as reduced chances of lost or incomplete data) and maintaining independence, our recommendation is to bring your own hardware into the institutions. This ensures further independence for the study as no-one outside the team can access the data, since it is not stored on the institution's or the justice department's servers. It further limits the efforts required from the institution, ensures that computers are available when they are needed, and allows control over hard- and software specifications (also see the section on Practical Concerns regarding security and other considerations).

Maintaining structure

Make the test battery fit the institution's daily schedule

Given the strict daily routine inside these institutions, the amount of time available for testing participants is limited. This means parsimony is paramount when designing the test battery. When possible, use the data that is already available in the participant's file. This will save time for both researchers and participants, and stops data invalidation due to using an instrument they already answered in their institution's screening. Data collected by the institutions themselves may not be reliable due to the youth being wary of the authorities or law enforcement. Nevertheless, the files contain (relatively) objective information that may be of interest to researchers (such as DSM-diagnosis or IQ measurements) that will otherwise take quite long to assess. Be advised, however, that information such as IQ will not be available for everyone, or may be outdated.

The neurobiological data proved an extra challenge when considering parsimony. In order to collect this data efficiently, cost-effectively and as easily as possible without putting great demands on our participants, we used a single device (VU University Ambulatory Monitoring System; VU-AMS) that could record nearly all the neurobiological markers we required, meaning our participants only had to be attached to one machine throughout the proceedings.

Planning

It is preferable that institution-related important components, such as school or treatment, take precedence over data collection. This makes the study non-invasive with regards to the regular daily schedules, and no changes have to be made in order to maintain study integrity. In case of our project, data collection was by

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default planned as much as possible outside of routine activities, such as school, cooking, dinner, visiting moments of family and friends, and cleaning⁴. In the event that a deviation had to be made from the daily routine used by the institution, for example (incidental) data collection during school hours, this would only occur if both the institution and the school had given permission in advance.

Scheduled appointments can sometimes be cancelled (at the last minute), when a participant gets an unexpected visitor for example. It is useful to remind participants in advance of their appointment. The motivation to participate can vary per day per individual, and an appointment for research is quickly forgotten. Providing a reminder, even something as simple as dropping by the unit beforehand, helps ensure participation. In contrast, the researchers must never cancel appointments themselves, to maintain a reliable and dependable image. Having a team member continuously present at the institution helps a great deal in this regard, as appointments can quickly be rescheduled.

While we do advice to plan research-related events around the daily schedule of the institutions, the inherent mercuriality of such planning presents a particular challenge for any study involving an experimental intervention with multiple sessions for each participant. In our study, the RCT part required participants to complete several sessions of our training program. Although this was under supervision of someone from the research team, sessions had to be planned around the daily schedule of the institutions. Ideally those would all be done at set intervals, with each participant having the same amount of time between each session. However, this proved impossible to realize in the detention setting and we instead set a time period within which each session had to be realized (at least one day between sessions, and no more than a week). Again, a continuous presence and flexibility in planning helps a great deal here. However, the balance between flexibility and program integrity should always be a main concern. The risk here is that too many concessions regarding the planning may negatively impact the program integrity, and effectiveness, of the intervention.

Engaging the institutions

Ask for a dedicated contact person within each institution, to ensure a direct line of communication between the research team and the institution itself. Navigating a closed setting can be very complicated for an outsider and the contact can help new researchers get acclimated more efficiently. Table 1 summarizes the most important elements in connecting with institution employees and keeping them involved in the research project.

Table 1. Useful tips for engaging the institution staff

Facilitating factors	Facilitating messages
Make sure to have a dedicated contact person within each institution to ensure a direct line of communication between yourselves and the institution (especially for 'small' practical matters)	Make it very clear and explicit what will be asked/required of the institution and its employees (i.e. next to nothing)

⁴ Because hormones are subject to fluctuations (especially cortisol, which follows a diurnal pattern), SCREEN research appointments were planned to take place between 12 and 6 PM.

Keep in close contact through mailing/phoning and regular visits with dedicated contact persons	Be clear about the voluntary nature and confidentiality of the data within the study (data will not be shared with employees of the institution)
As project investigators, make frequent visits to institutions to stay visible for therapists and group counsellors	Try and make sure the employees think positively about the project, keep them involved/updated, and ask them to encourage the participants
Keep employees familiar and engaged with the research team during the project by letting researchers join in on employees' activities where possible (e.g. aggression training, spend half a day helping out on one of the living units)	Let the data collectors establish rapport with both the participants and the employees. They will be more accommodating and willing to help you out if they know you as a person who is interested in them, and the work they do in the institutions, rather than just a representative of the study looking for data.

Engaging participants

Participation is best ensured when potential participants think positively about the researcher and/or the project. Likeability of the researchers is therefore of utmost importance. To achieve likeability the participants must first trust the research team and, as mentioned above, see them as reliable and dependable. Table 2 summarizes the most important elements in engaging participants. Being present and interacting with (potential) participants helps waylay suspicion and strengthens cooperation, as long as the team members keep emphasizing their independence. This needs to be done in close consultation with the living unit staff.

Table 2. Useful tips for engaging participants

Facilitating factors	Facilitating messages
Have team members maintain their presence on the living units	"We do not work for the institution"
Interact socially (if possible) with the participants (joint activities, sports, cooking and dinnertime, etc.)	"Information we collect will not be shared (at an individual level) with the justice department, the institution, the group counsellors, or other persons outside of the research project"
Make sure that participation and/or rewards are not linked to treatment in the institution. No privileges, no effect on treatment, leave, parole, or sentence.	"All information we collect is confidential and anonymized (number instead of name)"

Keep the momentum going

Once the factors from tables 1 and 2 have been applied for a strong start, there are a few additional elements that help keep the ball rolling. First, find a fixed workspace (including e-mail, beeper, and phone number) for the team members in the institution, so that employees can easily reach them. Second, let current members train and introduce new members, to maintain continuity of the study as team members change. Third, as the

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employees are only minimally involved with the study, it is possible that they quickly forget the details of the project. Keep them informed, and when introducing a new team member repeat the objectives of the study. Finally, try to ensure a sense of team spirit amongst the team members (within and across institutions). Monthly pizza-dinners and a get-together every few months to meet and exchange experiences are a great way to keep morale up.

Logistical considerations

Combining studies

The two studies that comprised the SCREEN project were originally independent from one another, though both intended to recruit young offenders within Dutch detention centers. The studies overlapped in terms of constructs studied and planning, without interfering with each other's outcomes. We therefore decided to integrate the two into one shared project. Combining multiple projects into one has a number of advantages for such a labor-intensive approach as we advocate. There is no competition between researchers in the recruitment of participants and resources, expertise and man-hours allotted to the project are pooled from multiple studies and/or research groups. This not only facilitates collaboration during the execution of the study, but also with regards to products such as scientific papers.

Designing a pleasant test battery

As word of mouth spreads quickly in the institutions it is extra important to ensure participants have a pleasant experience during data collection, or at least not an overtly unpleasant one. Collecting saliva, for example, is frequently done by having the participant chew on a wad of cotton wool, which most people consider unpleasant. In our project we had them fill a tube with spit, which as it turned out made it quite memorable for our participants.

One must be aware of the overrepresentation of linguistic difficulties and mild mental retardation in young delinquent populations (not to mention that adolescents in general are likely to be less than fully attentive when reading instructions). Extra attention should be paid to keep the instructions of questionnaires and tasks short, simple and unambiguous. Questionnaire items often cannot be reworded however. Where possible, we advise using instruments that are aimed at mild mental retardation populations⁵. Similarly, pay attention to the order in which the instruments are administered. We interspersed the questionnaires with tasks, allowing our participants to take a break from reading and doing something a little more action-oriented.

Safeguarding hardware and software security

⁵ Please note, we are not implying that all young offenders are mildly mentally retarded or otherwise unintelligent, but research has indicated that a substantial minority in fact is (e.g. Herrington, 2009). However, the general point here is that the wording on those instruments are most likely to be understood correctly by everyone.

If the data is to be collected online (as was discussed earlier), there are a number of security risks that need to be accounted for. Access to the computers should be restricted to the research team. Neither the participants nor the institution employees should be able to access data stored on study computers, nor are the participants (usually) allowed to access the internet for their own purposes. Another complication arises with online security. The institution's network is heavily secured, and internet access is restricted. Data collection sites will need to be granted access. However, if a third-party data collection site is used (e.g. Qualtrics), system or server updates on either end may invalidate current firewall settings⁶, interrupting data collection until it is fixed.

To ensure security, speed up IT support and retain independence, we recommend importing mobile broadband modems as well as computers (laptops)⁷ to be used exclusively for the study. Secure all hardware with passwords and keep them under lock and key when not in use. Program the firewall of the computers to grant access only to those IP-addresses needed for data collection. Test the internet connection in the location where data will be collected (i.e. in the room where testing will take place). Detainment facilities have thick walls or even signal blockers, so it might not be feasible, but the more control researchers retain over their IT, the easier it will be to keep things running smoothly.

Follow-up data collection

When juveniles are discharged from an institution, it can be very difficult to approach them again for follow-up measurements or future research. Collect as much contact information as possible upon contact in the institution (e.g. phone numbers, email addresses, Facebook, Twitter, Instagram, YouTube-channel, etc.). Ask the participants to not only note information of themselves, but also of third parties (e. g. parents, guardians, partners). Of course, this can only be done on a voluntary basis, and contact information obtained in this manner should never be made public outside of the research team.

In the SCREEN project, we had a dedicated team for follow-up measurements; the team members inside the institutions were too busy to contact participants once they had been discharged. The follow-up measurement were designed to be short (10-15 minutes maximum), easily assessed (through telephone), and possibly incriminating information was not said out loud (i.e. ask 'did you smoke marijuana yes/no' rather than 'what drugs have you used'). When all other modes of communication failed, house visits were made (in a team). Finally, it is helpful to include something memorable in the (initial) study, to help the participants to remember the study a year later.

Box 5. Participant recruitment and data collection results of the SCREEN project

Our To sample consisted of 97.9% males and 2.1% females. The average age of our sample was 18.34, with 0.8% being 12-13, 11.4% being 14-15, 22.4% being 16-17, and 63.8% being 18 and older. Compared with the average JJI population in 2015 (Jongeren in Detentie, 2016) we had more participants in the 18+ age

⁶ In our case, every couple of months the IP-address that hosted our questionnaires would change, meaning the questionnaires could not be accessed until the firewall settings were updated.

⁷ Make sure you discuss this with the institutions and their head of security first.

range. Young offenders over 18 were easier to recruit as permission from their parents was not required. Furthermore, the younger juvenile offenders tended to be in short-stay detention, making them more likely to be released before data collection is feasible in general.

We compared the participants who did the RCT with the participants that were eligible based on their T₀ data, but did not participate or complete the training. We found that they did not differ significantly on age, gender, alcohol use or cannabis use at T₀.

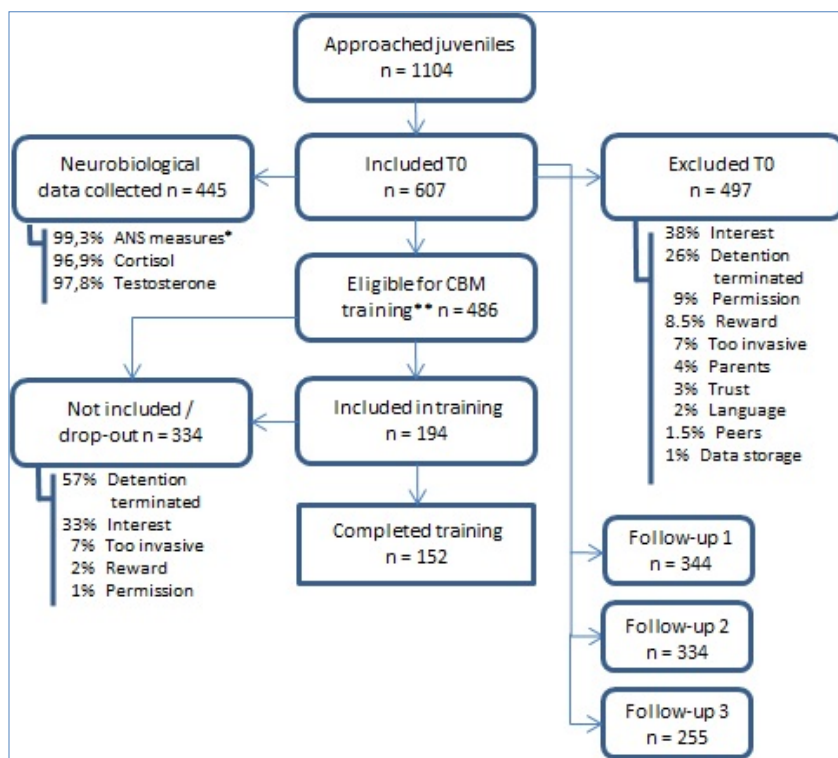


Figure 1. Flow-chart of inclusions in the SCREEN project

Note: Interest = disinterest in participation/ no other particular reason; Detention terminated = individual released before obtaining (parental) permission or completion of data collection; Permission = permission actively denied by parent/ guardian; Reward = reward considered insufficient; Too invasive = testing considered too invasive, indicated by either youth or institution; Parents = youth (<18) did not want us to contact parents/guardians, or parents absent / refused contact with youth; Trust = youth stated mistrust, despite our assurances; Language = insufficient mastery of the Dutch language; Peers = refused based on what peers had said about the study; Data storage = objection to duration of data storage (15 years). *Autonomic Nervous System (ANS): different parameters were collected (heart rate, respiration rate, respiratory sinus arrhythmia, pre-ejection period, skin conductance; sample size varies between parameters). **Participants were eligible for CBM training if their T₀ data indicated that they had used cannabis or alcohol in the year prior to T₀.

Discussion

The recommendations and advice presented above are intended to aid anyone attempting to conduct a large and/or multifaceted study, or investigating a construct expected to elicit hesitancy, within a juvenile detention setting. That said, they are undeniably shaped by our own experiences, available resources and the actualities of the Dutch juvenile detention institutions. In recognition of the fact that not all our

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recommendations are feasible in any given situation, we conclude by addressing several facilitating components that researchers should attempt to maximize in their studies, as well as a number of limiting factors that researchers are likely to encounter (see figure 2 for an overview).

Facilitating factors

First and foremost amongst the facilitating factors is independence and flexibility. Perceptual independence is necessary for the cooperation of the participants, whilst practical independence greatly increases flexibility. Many of the limiting factors will require on the spot adjustment to the planning. The more flexible the research team is, the better they can adjust to these challenges, reducing the loss of potential data. The best way to ensure flexibility is with (very) frequent attendance of the team in the institutions. Simply put, researchers will recruit more participants and collect more data if they do so five days a week instead of e.g. two.

Full-time attendance of researchers will also greatly increase visibility in the institution, creating awareness of the study in both the employees

and the young offenders. Keep in mind that while the team is constantly present in the institution, most individuals there (employees or young offenders) will likely only see them once or twice a week, and assuming good practical independence, the study will not be a significant part of their daily schedule. Awareness of the study needs to be maintained, and the best way to do so is a continuous presence in the institution, preferably in a way that employees or the young offenders can reach you when they have questions. Try and work from a set location in the institution, have an email address and phone number where the team can be reached, and introduce yourself (repeatedly if necessary). One factor that will greatly influence flexibility and the ability to 'be seen' in the institution is mobility. The more the team is able to freely move within the institution, the better.

Combining studies (where possible), as we did in the SCREEN project, will greatly aid the efficiency and flexibility of research teams as resources can be pooled. This will allow for larger studies to be effected with less effort, as more resources are available and there is fewer competition for participants and hosting institutions.

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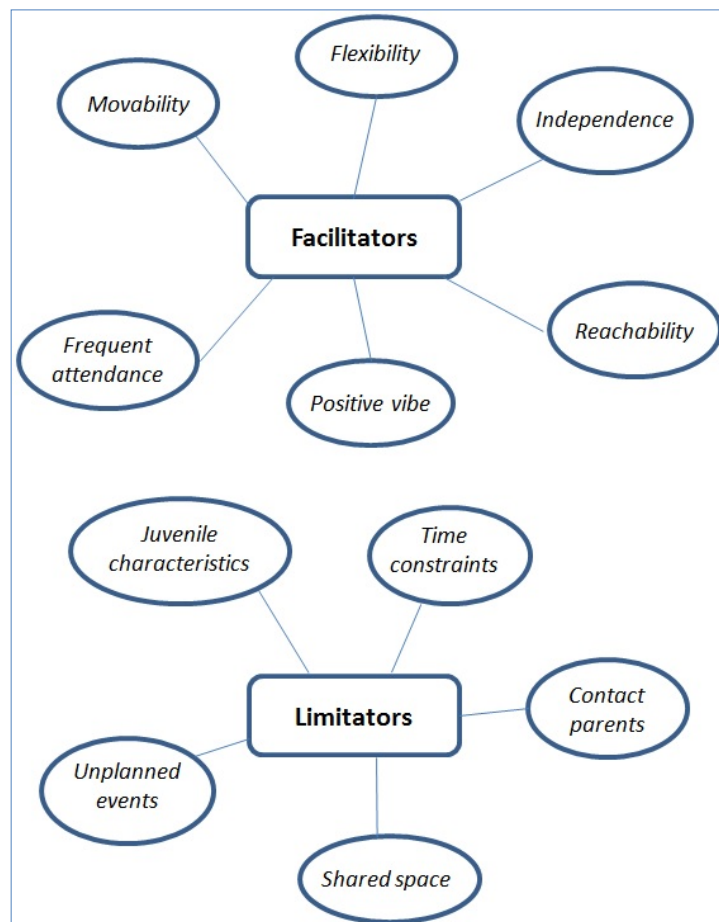


Figure 2. Overview of facilitating factors and limiting factors

Finally, one of the most important facilitators in the successful execution of any study is ensuring a positive vibe. Be friendly, be interested in the people there, and be enthusiastic about the project. Word of mouth will spread fast amongst the youth as well as institution staff, and the team's reputation amongst them will be (very) important in determining participation. If they like and trust you, they are more likely to help you; if their peers say they should not, they likely will not.

Limiting factors

There are a number of limiting factors that will come into play, which need to be worked around (hence the importance of flexibility). Concentration issues, or not being able to sit still for any length of time, occurs relatively frequently amongst young offenders and will influence data collection. The need for frequent breaks to recharge focus or let off some energy may lengthen testing sessions considerably. Time constraints imposed by the institutions (e.g. school hours or dinner time) will already restrict how much time is available to test participants, so this may result in many unfinished testing sessions, unless there is the flexibility to break testing session off mid-way and continue later. In addition to time limits set by the daily schedule, unplanned events will also crop up that will require on the spot adaptations to your plans. A sudden visit from a friend, an alarm going off restricting movement between offices until the situation is dealt with, or sanctions imposed on the participant because of bad behavior will force rescheduling. While ideally there is sufficient flexibility to deal with these issues freely, in practice it might not always be possible. Institutions do not always have an empty room available, and if an office needs to be shared with an infrequently present employee (e.g. the dentist), researchers will not have full-time access. Moreover, especially with studying interventions that require several treatment session, flexibility is always at odds with the program integrity of the interventions. Too much flexibility may hamper program integrity and thus the effectiveness of the intervention under study. Researchers should be aware of this pitfall.

Another limiting factor of note is obtaining consent for participation from the parents. This is difficult in most studies, and the best way to do it (we have found) is to accost them when they come to visit. However, in the Netherlands, young offenders are frequently placed in a detention center that is not in the same part of the country where they live. This can make it very difficult for parents to visit regularly. Furthermore, as ethnic minority populations are often overrepresented in the forensic population, there is a relatively large group of young offenders who live with a caretaker other than their parents or legal guardians (if they live abroad) or whose parents have an insufficient mastery of the local language. This makes obtaining consent impossible, or simply takes so long that the young offender is released before consent is finalized. As can be seen from figure 1, 26% of young offenders that we approached for participation were unable to participate as their detention was terminated before we could start. As for participation in the RCT further on in the project, almost 60% of young offenders was released before or during the RCT. This is a major limiting factor, and one that is very difficult to plan ahead for, as release is often unscheduled.

A final limiting factor is that performing these kind of studies takes a lot of time and effort and requires an independent research team that is constantly present in the institution. The current SCREEN project required a research team of two full-time paid researchers and two students (interns) at each participating institution. Whilst labor intensive, this gave us a continuous presence and flexibility in planning (important

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for maintaining structure). However, before planning a study, it is important to check feasibility of engaging a sufficiently large research team. Moreover, as in any research, a positive outcome is never guaranteed. However, if performed poorly with shortness of people, the research will prove useless. Moreover, a limitation of an independent research team is that positive findings cannot be immediately extrapolated to daily clinical practice. In daily clinical practice the professionals performing the screening intervention are not independent, but part of the institutions. In that situation staff members do have information regarding screening and intervention, and should address this with the participant in question. This means that during implementation care should be taken that screening and intervention procedures are adapted to the clinical setting where outcomes are no longer anonymous to the institution.

In conclusion, performing atypical research in a detention setting is feasible, provided that the challenges inherent in this setting are properly addressed. Sufficient emphasis should be placed on ethical aspects (e.g. voluntarily participation, confidentiality and anonymity) on the one hand, and maintenance of structural and procedural consistency on the other hand. We argue that this can mainly be achieved by being independent as a research team, being well embedded and easy to find in the (closed) setting, and above all by striving for flexibility. Generally, more research into this complex population is necessary in order to reduce antisocial behavior in the long run and to improve the quality of life of these juveniles in the process. This is why researchers should not shy away from entering the detention environment.

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