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Eenshuistra, Annika; Harder, Annemiek T.; Van Zonneveld, Neeltje L.; Knorth, Erik J.

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A Motivational Interviewing based observation study of one-on-one conversations between residential care workers and adolescents

Annika Eenshuistra

Department of Special Needs Education and Youth Care, University of Groningen

Annemiek T. Harder

Department of Special Needs Education and Youth Care, University of Groningen

Neeltje L. van Zonneveld

Centre of Expertise for Child Development Care and Research, Groningen

Erik J. Knorth

Department of Special Needs Education and Youth Care, University of Groningen

Corresponding author's address: University of Groningen, Faculty of Behavioural and Social Sciences, Department of Special Needs Education and Youth Care, c/o A. Eenshuistra, MSc, Grote Kruisstraat 2/1, 9712 TS Groningen, The Netherlands.
E-mail address: A.Eenshuistra@rug.nl.

Abstract

Despite its relevance and effectiveness in adjoining fields, still surprisingly little attention has been paid to Motivational Interviewing (MI) in the context of residential youth care. This study aims to analyse observed interactions between adolescents and group care workers during one-on-one conversations from a MI perspective. We specifically focused on the MI adherent and MI non-adherent behaviours of care workers on the one hand, and motivation for change in terms of 'change talk' and 'sustain talk' by adolescents on the other. Audio recordings of 27 conversations show that care workers most often use the MI non-adherent behaviours 'persuasion without permission' and 'confronting' when they try to change adolescents' attitudes or behaviours. MI adherent behaviours, i.e. 'being affirming', 'seeking collaboration' with and 'emphasizing autonomy' of the adolescent, are rarely used during the conversations. In terms of motivation for change, adolescents equally use 'change talk' and 'sustain talk' and often respond 'neutrally' to care workers. 'Change talk' and 'sustain talk' by the adolescent does not consistently follow MI adherent and non-adherent behaviours of care workers, and vice versa. The results suggest that MI training of care workers and more research on MI in residential youth care is wanted.

Keywords: adolescents, group care workers, residential youth care, Motivational Interviewing, interactions, motivation for change

Introduction

Professionals often face challenges in building good therapeutic alliances with adolescents in residential youth care facilities (Harder, 2011). Early on these adolescents may have received other types of care that were ineffective in reducing their problems (Baker & Curtis, 2006; Harder, Knorth, & Kalverboer, 2015). Possible consequences of their care histories are that the adolescents are negative about the contact with and lack confidence in their care workers (cf. Lodewijks, 2007). Moreover, adolescents in residential youth care are often poorly motivated for the changes that professionals want to achieve (Harder, 2011). Both previous care experiences, having little confidence in care workers, and a low level of motivation for change are associated with poorer outcomes (Barnhoorn et al., 2013).

Important for positive outcomes are good therapeutic alliances between clients and professionals (McLeod, 2011). Professionals can build these alliances by applying treatment skills (Baldwin, Wampold, & Imel, 2007; Harder, 2011) such as being supportive and understanding, and being able to make an accurate interpretation of what is said by the client (Ackerman & Hilsenroth, 2003). Although there is evidence that treatment skills of professionals such as being reliable and clear are essential for a good therapeutic alliance with adolescents in secure residential care (Harder, Knorth, & Kalverboer, 2013), we were unable to locate studies that focus on *how* residential care professionals exactly try to build these alliances.

Research regarding interactions between professionals and adolescents in residential youth care in the Netherlands suggests that group care workers intuitively apply a *controlling* approach in handling externalizing behaviour problems of youth during residential care (Bastiaanssen et al., 2012; Van Dam et al., 2011; Wigboldus, 2002). In addition, research in the Netherlands and in the United States suggests that residential care workers try to change adolescents' attitude and behaviour by applying *external* rewards during residential care, such as the use of a points and levels system of behaviour management (Bartels, 2001; Drumm et al., 2013; Durrant, 1993). In other words, the treatment approach is focused on promoting a desirable adaptation and development process with the adolescent while residing at the institution (Abrams & Aguilar, 2005; Abrams, 2006; Englebrecht, Peterson, Scherer, & Naccarato, 2008; Henriksen, Degner, & Oscarsson, 2008). Consequently, adolescents often show social desirable behaviour during care to satisfy external demands (Ryan & Deci, 2000) since they know what is expected of them and how they should behave (cf. Abrams, 2006; Harder, 2013).

Two problems are associated with the previously described external regulatory approach (Gilman & Anderman, 2006; Ryan & Deci, 2000) of control and promoting desirable behaviour. First, a controlling approach is associated with building poor therapeutic alliances (Harder, 2011) and achieving poor outcomes of care (Lipsey, 2009). Second, a socially desirable behaviour approach focuses on adolescents' *extrinsic* motivations instead of more intrinsic motivations for change. This focus can explain the difficulties of achieving *sustainable*, positive behaviour change with adolescents after their departure from res-

idential care (cf. Colson et al., 1991; Kromhout, 2002). For a sustainable, positive change it is necessary that behaviour is performed in absence of external pressure and that motivation for change is based on one's own decision (Deci & Ryan, 2002). More intrinsic or autonomous motivations for change seem to result in greater treatment adherence and long-term maintenance of change with clients (Markland, Ryan, Tobin, & Rollnick, 2005).

An effective treatment method that is specifically designed for both promoting autonomous motivation of clients and building genuine, good therapeutic relationships with clients by care workers is *Motivational Interviewing* (MI, Miller & Rollnick, 2013). There are also other methods that focus on building relationships with youth, such as Life-Space Interviewing (see, for instance, D'Oosterlinck, Goethals, Broekaert, Schuyten, & De Maeyer, 2008). However, these methods do not focus on reinforcing intrinsic motivation for change of young persons in care. MI is a "collaborative conversation style for strengthening a person's own motivation and commitment to change" (Miller & Rollnick, 2013, p. 12). By applying MI skills, a care worker can build an effective, positive relationship with an adolescent that is aimed at increasing adolescents' *intrinsic* motivation for change (cf. Harder, 2011; Henriksen et al., 2008). A care worker who applies MI aims to be empathic, accepting, warm and genuine by showing MI adherent behaviours in terms of reflective listening, affirming, seeking collaboration with the client, emphasizing autonomy of the client, and directing and advising with permission of the client. Care workers who work according to MI abstain from MI non-adherent behaviours, including confronting, directing and advising without permission of the client (Moyers, Manuel, & Ernst, 2015).

A first hypothesized mechanism of action in MI studies is that by applying MI skills, the therapist evokes self-motivational speech or client 'change talk' that will predict client outcomes (Magill et al., 2014). 'Change talk' refers to client statements in favour of behaviour change, such as desires, abilities, reasons and needs to change (Miller & Rollnick, 2004; 2013). Young adult substance use treatment studies show that therapists can directly influence clients' 'change talk' by applying MI adherent behaviour, including reflective listening, particularly during conversations (Gaume, Bertholet, Faouzi, Gmel, & Daeppen, 2010). 'Change talk' in turn predicts MI adherent therapist behaviour (Gaume et al., 2010). There is some evidence that 'change talk' is associated with improved client outcomes in substance abuse treatment with adolescents (Baer et al., 2008; Strang & McCambridge, 2004). Recent research with young adults specifically suggests that 'strong' 'change talk' with a higher intensity of inclination towards change (i.e., client utterances such as 'definitely' or 'I swear') is more predictive of positive outcomes than 'weak' 'change talk' with a lower intensity of inclination towards change (i.e., client utterances such as 'probably' or 'I guess') (Gaume et al., 2016).

A second hypothesized MI mechanism is that the therapist reduces or avoids client resistance by softening counter-change or 'sustain talk' of the client. 'Sustain talk' refers to client statements in favour of maintaining (the undesirable) behaviour, such as desires, abilities, reasons and needs *not* to change (Miller & Rollnick, 2013). There is evidence that 'sustain talk' of clients is

more likely to be followed by MI non-adherent therapist behaviour, and vice versa (Gaume et al., 2010; Moyers & Martin, 2006). Moreover, both adolescents' 'sustain talk' and therapists' MI non-adherent behaviour are associated with poor outcomes of treatment (Apodaca & Longabaugh, 2009; Magill et al., 2014).

MI seems to be relevant particularly for implementation by professionals in the context of residential youth care. First, research suggests that MI is useful for treatment of substance abuse problems of adolescents in secure residential care (Stein, Lebeau et al., 2011). Second, MI seems to be specifically relevant for adolescents in care, considering its positive results with clients who show comparable problems, such as substance abuse (Burke, Arkowitz, & Menchola, 2003; Jensen et al., 2011) and risky behaviour (Lundahl & Burke, 2009). Third, MI is particularly appropriate for adolescents because MI focuses on autonomy of individual clients. Autonomy and independence are often important issues during adolescence (Feldstein & Ginsburg, 2006; Naar-King & Suarez, 2011). Fourth, MI seems to work best for clients with severe problem levels (cf. Arkowitz, Westra, Miller, & Rollnick, 2008; Lundahl & Burke, 2009), which is often the case for adolescents in residential treatment.

Despite its relevance, still surprisingly little attention has been paid to MI in the context of residential youth care. To our knowledge, the only studies were conducted in juvenile correctional facilities in the United States. Some studies focused on MI effectiveness and found that incarcerated adolescents who received MI had lower rates of drinking combined with driving, and alcohol and marijuana use after release compared with adolescents who received relaxation training (Stein et al., 2006; Stein et al., 2011; Stein, Clair et al., 2011). Two other studies focused on MI training and found training to be associated with positive changes in professionals' MI knowledge and responses to written vignettes (Hohman, Doran, & Koutsenok, 2009) and delict scenarios on video (Doran, Hohman, & Koutsenok, 2011). None of the studies focused on the applied skills of care professionals *in practice* by observing interactions between adolescents and professionals. Therefore, it is unknown whether and how care workers apply MI skills in interaction with adolescents during residential care.

Study aims

This study aims to analyse communicative interactions between adolescents and care workers during one-on-one conversations from a MI perspective. We will use observation research by means of audio recordings because, in contrast to interviews and questionnaires, observations can provide more objective information about the actual behaviour and skills of both adolescents and professionals. The study addresses the following research questions:

- What type of MI adherent and MI non-adherent behaviours do care workers show during one-on-one conversations with adolescents?
- What type of motivation for change do adolescents show in terms of 'change talk' and 'sustain talk' during one-on-one conversations with care workers?
- What are the interactions between MI (non-) adherent behaviours of care workers and adolescent behaviours during one-on-one conversations?

We expect that care workers who haven't had a specific training in MI, will show different types of MI non-adherent behaviours since research suggests that they (intuitively) apply an external regulatory approach of control while promoting desirable behaviour (e.g., Bastiaanssen et al., 2012; Henriksen et al., 2008). Consequently, we also expect that adolescents will mainly show 'sustain talk' during conversations since 'sustain talk' of clients is more likely to be elicited by MI non-adherent behaviour of care workers. With regard to the third research question, we expect MI adherent behaviour of the care worker to be followed by 'change talk' of the adolescent, and vice versa, and MI non-adherent behaviour to be followed by 'sustain talk', and vice versa.

Method

The present study is part of a research project in the Netherlands that focuses on the development and evaluation of a MI-based treatment programme for group care workers and teachers during one-on-one conversations with adolescents in (secure) residential youth care. The research project focuses on group workers and teachers because they interact with the adolescents on a daily basis and can be seen as a key factor in eliciting positive changes among the adolescents (cf. Englebrecht et al., 2008; Knorth, Harder, Huyghen, Kalverboer, & Zandberg, 2010).

During this project there are two measurements which consist of audio recordings of one-on-one conversations. The first round (T0) consists of a baseline measurement at a moment the care workers have not yet received a specific training in Motivational Interviewing. The second round (T1), after the workers do have received training in Motivational Interviewing, implies a measurement to assess whether the care workers are using more MI skills.

For the present study, we used audio recordings of one-to-one conversations between adolescents and group care workers from T0. This measurement aims to identify the contents of the current one-on-one conversations. We specifically observed sequences in interactions between youth and professionals for the present study. Since none of the participating teachers made audio recordings of their one-on-one conversations with adolescents, we only used recordings of group care workers.

Setting

Group care workers of six residential groups from three residential youth care facilities were involved in the present study. These facilities are located on five sites in the north of the Netherlands. An important component of care and treatment in all facilities are the activities at the residential groups consisting of a maximum of eight to twelve adolescents. Of the six participating groups, three provide compulsory treatment and three provide voluntary treatment, both to young people aged 12 to 23 years old with psychiatric and behavioural problems.

Group care workers all function as a so-called *coach* for individual adolescents. During their stay all adolescents are assigned to a coach. The assignment to care workers as coach is mainly based on the order of placement. The coach is involved

in the adolescents' individual treatment planning and is the most important group care worker for the adolescent during his/her stay. On special occasion the coach has a one-on-one conversation (i.e., coach conversation), with the adolescent. Usually these one-on-one conversations take place once a week or every other week and have a counselling purpose.

Procedure

The managers of the three facilities selected the residential groups – two per facility – that would participate during the study. Eligible participants in the study were all care workers who were employed in the selected groups. We did not use other selection criteria. This resulted in a total of 43 care workers. They were informed about the research project by the researchers during focus groups and by e-mail, including an information flyer. They also received specific instructions for making the recording. One of the instructions was to record a one-on-one conversation with an adolescent, preferably for whom the care worker functioned as a coach. They were instructed to record a *usually occurring* one-on-one conversation, so that we were able to draw a clear picture of the common approach during conversations in practice.

All adolescents were informed about the recording by their coach and had to give permission for the recording. In first instance, we planned to make video recordings of the conversations, but due to practical problems and resistance by the care workers we used audio recordings.

This resulted in audio recordings of 27 one-on-one conversations between group care workers (i.e., coaches) and adolescents. The other 16 care workers (37.2%) were unable to make a recording due to personal problems, practical problems (e.g., had to go to school during the MI training), refusal of the adolescent to participate, and problems within the facility.

By analysing the conversations the research team found out that, on average, each conversation had three objectives (e.g., change targets), ranging from one to six. The conversations had a large variety of objectives, including for example sex education, being less involved in fights, and no drugs abuse. The duration of the conversations ranged from 1:13 minutes to 55:41 minutes, with an average (mean) duration of 17:35 minutes. Most of the conversations remained quite superficial: the change targets were not discussed very thoroughly by workers, and the subjects that were talked about during the conversations often changed.

Coding process

Each audio recording was transcribed by a team of two Master students, three research assistants and the lead researcher of the project by using the software programme F4. After that, each recording was coded according to the following procedure:

1. Listening to the recording and reading the transcript of the whole conversation, and clarifying change target(s) according to the objectives during the conversations;
2. Coding behaviour counts of the care worker by the MITI (see below at 'Instruments');
3. Coding behaviour counts of the client by the MISC (see below at 'Instruments').

The transcripts were coded by the lead researcher and the project leader, two research assistants and two Master students. The two Master students, the lead researcher and the project leader first studied the MITI encoding scheme, and followed a MITI training of four hours by a member of MINTNed. After completing the training, they trained the two research assistants in the MITI coding system. The coders studied the manual of the MISC accurately. After this self-study the coders assessed and coded two transcripts individually and discussed - supervised by the project leader and the main researcher - their findings in detail. This resulted into a *coding agreement list* which was designed to ensure the coders to interpret the MISC likewise.

All the 27 transcripts were, for both the MITI and the MISC, coded in order to achieve consensus. First the researchers, one research assistant and two Master students coded two transcripts individually. Then they compared their individual coding and discussed differences in coding. Based on mutual agreement, final codes were assigned. Eight transcripts were coded in consensus by the project leader, one research assistant and two Master students. Nine transcripts were coded in consensus by two Master students, and reviewed by the project leader or a research assistant. Eight transcripts were coded by pairs consisting of a research assistant and the lead researcher or project leader.

Instruments

Care workers' MI adherent and non-adherent behaviours. MI adherent and MI non-adherent behaviours by care workers were measured by the Dutch version of the Motivational Interviewing Treatment Integrity Code (MITI 4) (Moyers, Rowell, Manuel, Ernst, & Houck, 2016). The aim of the MITI is to assess MI skills applied by therapists (care workers) during observed conversations with clients. The MITI 4 (Moyers et al., 2015) consists of two components: global scores and behaviour counts. Each conversation is given a *global score* on four dimensions: empathy, partnership, softening 'sustain talk', and cultivating 'change talk'. In contrast to global scores, *behaviour counts* give no overall impression of the quality of the conversation; each occurrence of the behaviour of the care worker in focus is scored. For the present study, we only used the ten behaviour counts because we were mainly interested in the type of MI (non-) adherent behaviours and adolescents' responses to these behaviours during the conversation. Behaviour counts are intended to capture specific behaviour of the care worker.

The behaviour counts for care workers are: (a) 'Giving Information' (GI): gives the client neutral information; (b) 'Persuade without permission' (Persuade): tries to influence or convince the client to change; (c) 'Persuade with permission' (Persuade With): persuades the client, but while doing so s/he seeks collaboration with the client or supports autonomy of the client; (d) 'Questions' (Q) that are asked to the client; (e) 'Simple Reflection' (SR): repeats what the client already said, which goes not far beyond the client's original statement; (f) 'Complex Reflection' (CR): this reflection adds substantial meaning or emphasizes what the client already said; (g) 'Affirm' (AF): accentuates something positive about the client; (h) 'Seeking Collaboration' (Seek): tries to share power or recognises the expertise of the client; (i) 'Emphasizing

Autonomy' (Emphasize): the responsibility of making decisions about and actions pertaining to change are attributed to the client; (j) 'Confront' (Confront): the professional confronts the client, for example by correcting, criticizing, disagreeing or arguing with the client.

With regard to 'Questions' (Q) we additionally made a distinction between 'Open Questions' (OQ) and 'Closed Questions' (CQ). The behaviour counts 'Affirm', 'Seeking Collaboration' and 'Emphasizing Autonomy' are considered to be MI Adherent (MIA) behaviour; 'Persuade without permission' and 'Confront' are considered to be MI Non-Adherent (MINA) behaviour.

The recommended MITI basic competence and proficiency thresholds for professionals that are considered as 'sufficient' refer to the use of 40% 'complex reflections' (i.e., the number of 'complex reflections' divided by the total number of 'complex' and 'simple reflections') and to a 1:1 reflection-to-question ratio during conversations with clients.

Recent research shows good reliability of the MITI 4 (Moyers et al., 2016).

Adolescents' motivation for change. Motivation for change among adolescents was measured based on the content of 'change talk' and 'sustain talk' of adolescents during the one-on-one conversations, thereby using the Motivational Interviewing Skills Code (MISC) encoding scheme, version 2.5 (Houck, Moyers, Miller, Glynn, & Hallgren, 2013). The MISC 2.5 consists of a global score for client self-exploration and behaviour counts. For the present study, we only used the behaviour counts because we were mainly interested in the type of 'change and sustain talk' of adolescents during the conversations.

Each utterance of the adolescent was coded as positive (+) if it reflected inclination toward, and as negative (–) if it reflected inclination away from changing the target behaviour. 'Change (+) talk' or 'sustain (–) talk' could be coded into the following categories: (a) 'Commitment' (C): intention regarding the introduction or maintenance of a behaviour change or implementation of a behaviour change strategy; (b) 'Reasons' (R): why one should change or not change; (c) 'Ability' (A): (dis)belief in one's own capacity or capability to change the target behaviour; (d) 'Desire' (D): a wish for (no) change including statements regarding a client's motivation for change; (e) 'Need' (N): the necessity for changing or maintaining the target behaviour; (f) 'Taking Steps' (TS): the client made a recent behaviour change against or toward the target behaviour; (f) 'Other' (O): utterances which are not well categorized as categories above, but are about changing or maintaining the target behaviour.

Utterances that did not fall within the previous categories were coded 'FN' (Follow/Neutral/Ask). In such cases the response of the adolescent follows along with the care worker, but it does not involve a change of (towards or against) the specific target behaviour. When the adolescent asks a question, seeks advice or opinion of the worker, or requests for information this code is also used.

Table 1. Characteristics of the care workers (N=27) at time of recording

	M	SD (range)
Age	38.7	8.5 (23-54)
	N	**%**
Gender [male]	14	51.9
Level of education		
Secondary vocational education	10	37
Higher Education	17	63
Ethnicity		
Dutch	21	77.8
Antillean	1	3.7
Surinamese	1	3.7
Dual nationality (including Dutch)	4	14.8

Table 2. Characteristics of the adolescents (N=22) at time of recording

	M	SD (range)
Age	16.3	1.4 (13-19)
Length of stay in months	5.6	5.0 (0.5-24)
	N	**%**
Gender [male]	14	63.6
Measure of placement [voluntary]	13	59.1
Intelligence level		
Below average	4	18.2
Average	18	81.2

Currently, there is no information available about the reliability and validity of the MISC 2.5.

Participants

Background data, based on information from the care workers, for the 27 care workers and the 22[1] adolescents who participated in the one-on-one conversations are respectively shown in tables 1 and 2.

All care workers were qualified for working with youth. Part of their former education is training in communication skills, like showing empathy and active listening. The care workers did not receive any specific

1 Five adolescents participated in two one-on-one conversations

training in Motivational Interviewing, although some of them indicated that they had knowledge about MI.

Data analysis

We analysed and described the overall frequencies of care worker MI (non-) adherent behaviours, adolescent 'change talk' (CT), 'sustain talk' (ST), and 'neutral' responses. For each conversation, we calculated a MI adherent behaviour percentage: the number of MI adherent behaviours divided by all MI adherent and non-adherent behaviours. We also calculated a CT percentage: the number of CT utterances divided by all adolescent utterances. In addition, we selected fragments from the conversations to illustrate care worker behaviours, adolescent behaviours and interactions between the two.

Results

MI adherent and non-adherent behaviour of care workers

During the conversations 25 care workers showed, in total, 35 times (18.6%) MI adherent behaviours and 153 times (81.4%) MI non-adherent behaviours. Two care workers showed neither MI adherent nor MI non-adherent behaviours during their conversations (with talks' durations of 1:13 and 5:20 minutes, respectively).

Based on the prevalence of MI (non-)adherent behaviour, three care worker groups can be distinguished: first, nine care workers (33.3%) used MI non-adherent behaviours only; second, thirteen care workers (48.1%) used both MI adherent and non-adherent behaviours; and third, a group of three care workers (11.1%) mainly used (relatively small amounts of) MI adherent behaviours.

According to the prevalence of MI (non-) adherent behaviour, 'Persuasion without permission' of the adolescent (61.2%) is most often used by the care workers, followed by 'confronting' (20.2%). These two MI non-adherent behaviours are shown by 23 (85.2%) and 13 (48.1%) group care workers, respectively.

The MI adherent behaviours 'affirming' (7.4%), 'seeking collaboration' with (5.3%) and 'emphasizing autonomy' of (5.9%) the adolescent are rarely used during the conversations. These behaviours are shown by ten (37.0%), eight (29.6%) and six (22.2%) care workers, respectively.

On average, the care workers used 'questions' 3.1 times more often than 'reflections' during their conversations. Two care workers, who had the shortest conversations, did not use 'reflections' at all. The 27 care workers on average used, relative to 'simple reflections', 33.4% 'complex reflections' during their conversations, ranging from 0% to 100%.

Change and sustain talk of adolescents

On average, the 22 adolescents used 13.5% 'change talk' and 13.5% 'sustain talk' during the conversations. A majority (73.0%) of adolescents' utterances are 'neutral'. Besides 'neutral' responses, one adolescent only used (small amounts of) 'change talk' during her conversation (of 2:25 minutes). All other adolescents used both neutral responses, 'change talk' and 'sustain talk'.

Overall, adolescents equally use 'change' and 'sustain talk' during the conversations.

Change talk. In total, adolescents used 'change talk' 240 times during the conversations. They often use this type of talk in terms of 'reasons' for change (24.9%). In the following fragment, an adolescent (A) mentions different reasons for having a job during the conversation with his care worker (C):

C: Because what are you going to work for? [OQ]
A: For money. [R+]
C: For money? [CQ]
A: Yes. [FN]
C: And and what do you want to have money for? [OQ]
A: Yes. For daily necessities and uhh well I don't know. Food. [R+]
C: Yes. To be able to do what you want. [CR]
A: Yes to live. [O+]
C: Yes. Yes, that is now, but if you look at one year from now? [OQ]
A: Well yes to pay my rent. [R+]

In 33 cases the utterances specifically refer to an adolescent's 'desire' (13.8%), in twelve cases to 'ability' (5.0%), and in eight cases to the adolescent's 'need' (3.3%). An utterance of adolescents' 'ability' to get to school on time is, for example: 'I just need to focus to be on time. I can really do that'. Besides different types of utterances for change, 47 utterances refer to adolescents' 'commitment' for change (19.6%). An example of an utterance of adolescents' 'commitment' for going back to school is: 'Yes, that is why soon I will go back to school'. 'Taking steps' (5.0%) is, besides 'need', the least often used type of 'change talk'. The following statement of an adolescent illustrates 'taking steps': 'Yes I see that I just have made leaps forward. And that I think about things better than I did before'. 'Other' types of 'change talk' (28.8%) include hypotheticals ('Yes. I can just talk with him if needed. If there is something I can also talk to him.') and problem recognition statements of the adolescents ('Well, not all fine of course, there are some things now and then').

Sustain talk. In total, adolescents used 'sustain talk' 241 times during the conversations. 'Reasons' against change are often (56.8%) used as a type of 'sustain talk' by the adolescents (e.g., 'No but, if you, yes, if you have had some booze and you went into town with a couple of friends. Then you have a fight once in a while'). In 17 cases the utterances specifically refer to a 'desire' of the adolescent (7.1%) and in four cases to the 'ability' to change (1.7%). No adolescent mentioned a 'need' against change. Five utterances refer to the adolescents' 'commitment' against change (2,1%). 'Taking steps' (1.2%) is the least often used type of 'sustain talk'. The following fragment illustrates negative 'commitment' by the adolescent:

C: No, so it is not like you immediately go looking for a fight. Seek out a fight. That is not it. [SR]
A: No. There has to be a reason to do so. [R-]
C: Exactly. You do not avoid it. [CR]
A: No. [C-]

An example of negative 'taking steps' with regard to getting into fights mentioned by the same adolescent is: 'Well, then [i.e. very recently] I also stepped up to it. Had a little quarrel'.

'Other' types of 'sustain talk' (31.1%) include hypotheticals ('..if I ever want to give

my phone number then I will do that, but it is not that I want to make a treatment goal of that..'), problem denial or oppositional statements ('Yes, but I am opposed to it..') by the adolescent.

Interactions between care workers and adolescents

Adolescent responses. Table 3 shows the responses of adolescents to MI adherent and MI non-adherent behaviour of care workers. When a care worker, for example, 'confronts' the adolescent, a possible reaction of the adolescent can be 'change talk'. Therefore the response of the adolescent is sequential to the specific behaviour of the care worker.

Table 3 indicates that MI adherent or non-adherent behaviours of care workers are not consistently followed by 'change talk' or 'sustain talk' by the adolescent. Especially MI non-adherent behaviour is often followed by 'neutral' behaviour of the adolescent. This is illustrated by the two following fragments.

In the first fragment the care worker asked the adolescent beforehand what his future would look like if he is still using drugs. The adolescent answers that he wants to be a "controlled" blower: someone who only uses drugs on days when he does not work. The care worker does not believe that the adolescent is able to do that, and confronts the adolescent with that.

C: I don't believe that. [Confront]
A: (Laughs). No, I knew it. [FN]
C: Yes, now, I'm absolutely not go with that. I also don't believe in that. You are not going to make me believe..(....).. that you smoke dope on a Friday and Saturday night and on a Sunday, Monday, Tuesday, Wednesday, Thursday you don't. Because every user has his weakness. [Confront]
A: Of course. [FN]

Table 3. Response of adolescents to care workers' MI adherent and MI non-adherent behaviour

	Response adolescent									
	CT		ST		CT and ST		FN		None	
Behaviour care worker	N	%	N	%	N	%	N	%	N	%
MI adherent	5	14.3	2	5.7	-	-	15	42.9	13	37.1
Affirm	3	21.4	1	7.1	-	-	4	28.6	6	42.9
Seeking Collaboration	-	-	1	10.0	-	-	9	90.0	-	-
Emphasizing Autonomy	2	18.2	-	-	-	-	2	18.2	7	63.6
MI non-adherent	11	7.2	12	7.8	2	1.3	108	70.6	20	13.1
Persuade without Permission	9	7.8	9	7.8	1	0.9	77	67.0	19	16.5
Confront	2	5.3	3	7.9	1	2.6	31	81.6	1	2.6

Note: CT = Change Talk, ST = Sustain Talk, FN = Follow/Neutral/ask a question, None = no reaction.

Table 4. Response of care workers to adolescents' change and sustain talk

	Response care worker													
	MI adherent		MI non-adherent		Question		Reflection		GI		Combined behaviour counts		Other	
Behaviour adolescent	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Change talk	2	1.1	15	8.6	91	52.0	21	12.0	1	0.6	5	2.9	40	22.9
Sustain talk	1	0.5	15	8.2	96	52.8	34	18.7	2	1.1	9	4.9	25	13.7
Change and sustain talk	2	5.1	-	-	19	48.7	8	20.6	-	-	4	10.3	6	15.4

Note: GI = Giving Information.

In the second fragment a care worker tries to 'persuade' the adolescent without permission. The aim of this conversation is that the adolescent talks with her parents about (unpleasant) situations.

A: I don't talk a lot with my parents anyway.
C: No. Why is that? [OQ]
A: I don't know. Besides I was alone, yes I actually have never done that a lot, talking a lot with my parents. [FN]
C: Ok, but these are very important things to discuss, I think. [Persuade]
A: Yes [FN]

In both fragments, the adolescent responds 'neutrally' by going along with the care worker.

MI adherent behaviours of care workers are also regularly followed by 'neutral' behaviour of the adolescent. In the following fragment the care worker seeks consensus with the adolescent about the television remote control. The adolescent responds with a question instead of telling what she wants.

C: But how do we agree on that? What do you want? [Seek]
A: Well just like uhm, I don't know, can I have it in the evening or only in the rest hour? [FN]

In 33 cases (see right column in Table 3) there is no response of the adolescent to the care worker, because the care worker does not wait for a response of the adolescent (see the example below).

C: No, well look you're 18 so it is what you want. And I think it would be good if we are going to look for a job and that we make clear agreements with school and the compulsory education, so we know what to expect. For the conversation Tuesday, that we speak some time before, but I think that's a good idea. Do you still have time? [Emphasize and CQ]
A: Yes, take your time, the boy can wait. [FN]

Care worker responses. Table 4 shows the responses of the care workers to 'change talk' and 'sustain talk' of the adolescents. If an adolescent, for example, uses 'sustain talk', a possible reaction of the care worker can be to ask a question. Therefore the response of the care worker is sequential to

the specific talk (i.e. utterance) of the adolescent.

Table 4 indicates that both 'change and sustain talk' (or a combination of those two) are not consistently followed by MI adherent or MI non-adherent behaviour of the care worker. In five cases the care worker responds with MI adherent behaviour to adolescent 'change talk' or 'sustain talk'. This is illustrated by the following two fragments. In the first fragment the care worker responds to 'sustain talk' with an affirmation.

A: Yes, but I don't notice that I've learned something. [O-]
C: Well I think, that since you came, and I see now and then.. I do think that you've learned something. [AF]

In the second fragment the care worker responds to 'change talk' with an affirmation. The aim of the conversation was to increase the adolescent's motivation for school.

A: Yes, though. Because I want a diploma, so.. [D+]
C: Well it's very positive that, well, you want to get your diploma. [AF]

In 30 cases the care workers respond with MI non-adherent behaviour to adolescents' 'change talk' or 'sustain talk'. The next fragment illustrates 'persuasion without permission' by a care worker as a response to 'change talk' of an adolescent. The aim of the conversation was less fighting by the adolescent.

A: Yes, I don't do that here. I'm not going to fight here, because the care workers are all around. [R+]
C: No, but I think that it is also not wise to fight. You have enough things on your mind. I think there are other things you better could work on. And I think, in this kind of situations, you can setting your boundaries here very well. Or choose for yourself. Not let it affect you. [Persuade]

The second fragment, from the same conversation as above, shows an example of a 'confrontation' of the care worker as a response to 'sustain talk'. The adolescent first gives a reason for fighting.

A: Then I have something to do. [R-]
C: I think you have plenty to do. And by the way… [Confront]

Both 'change talk' and 'sustain talk' (and combinations of these) are mostly followed by a question from the care worker. In 18 cases the care worker shows combined behaviours as a response to 'change/sustain talk'. In most cases (12) the care worker responds with a 'reflection' and a 'question' (e.g., 'I can see that you're getting a bit sad. How come?'). Other combinations used by care workers are MI non-adherent behaviour and a 'question' (three times), MI non-adherent behaviour and a 'reflection' (two times), and MI adherent behaviour and a 'question' (one time). In 71 cases the care worker gives an 'other' response, such as utterances that are not finished or that have a structuring function (e.g., statements that indicate what is going to happen during the conversation).

Discussion

The aim of this study was to analyse 27 one-on-one conversations between residential youth care workers and adolescents from a MI perspective. As expected, the results show that the care workers often use MI non-adherent behaviours in terms of 'persuasion without permission' and 'confrontation' of the adolescent. A third uses only these MI non-adherent behaviours and almost half of the care workers use a mixture of MI non-adherent and adherent behaviours. In other words, most care workers try to change adolescents' attitudes or behaviours by advising the adolescent without asking what is best for him/her, by telling the adolescent how s/he should behave, or by confronting the adolescent with his/her behaviours. This is consistent with other findings that residential care workers often try to change adolescents' attitude or behaviour by applying an external regulatory approach of control and thereby try to promote desirable behaviour (e.g., Bastiaanssen et al., 2012; Englebrecht et al., 2008). Research suggests, however, that such a confrontational or controlling approach is ineffective or even counterproductive in changing client behaviours (Apodaca & Longabaugh, 2009; Lipsey, 2009).

The residential care workers rarely use MI adherent behaviours, including 'affirming', 'seeking collaboration with' and 'emphasizing autonomy' of the adolescent. Moreover, they use 'reflections' three times less often than 'questions'. That is below the MI competence and proficiency threshold of the 1:1 reflection-to-question ratio during conversations (Moyers et al., 2015). The poor use of 'emphasizing autonomy' of and 'seeking collaboration' with the adolescent suggests that care workers are dominant or have an expert role in their relationship with adolescents. This dominance is inconsistent with the basic principles of MI (Miller & Rollnick, 2013) and does not fit with the need for autonomy by adolescents (Feldstein & Ginsburg, 2006; Naar-King & Suarez, 2011). A possible negative consequence of this care worker dominance is that adolescents experience a lack of participation during care (see also Ten Brummelaar et al., 2014; Van Nijnatten & Stevens, 2012).

Despite the fact that workers often use MI non-adherent behaviours, adolescents equally use 'change talk' and 'sustain talk' during the conversations. Instead of mainly using 'sustain talk', which we expected, adolescents mostly use 'neutral' responses to care workers during the conversations. One possible explanation for this finding is that the care workers did not focus on changing target behaviours of adolescents in-depth. Hence, the conversations remain mostly superficial which indicates the 'neutral' responses of the adolescents. Another possible explanation for the relatively high amount of 'neutral' responses is that adolescents go along with care workers to please them. In other words, adolescents' 'neutral' responses might function as attempts to satisfy external demands of the care worker (cf. Abrams, 2006; Harder, 2013; Ryan & Deci, 2000). This high frequency of 'neutral' responses by adolescents suggests that care workers can improve the one-on-one conversations with adolescents by a higher goal-orientedness and a more in-depth focus on behaviour change.

'Change talk' that is used by the adolescents most frequently refers to 'reasons for change'. 'Needs for change' and 'taking steps' are the least often used types of 'change talk' by the adolescents. However,

'taking steps' talk can be considered one of the strongest types of 'change talk', because it refers to statements of the adolescent that s/he made a recent behavioural change (Houck et al., 2013). Recent research suggests that 'strong' 'change talk' with a higher intensity of inclination towards change is a better predictor of positive outcomes than 'weak' 'change talk' with a lower intensity of inclination towards change (Gaume et al., 2016). Our findings indicate that adolescents rarely use 'strong' 'change talk' during conversations with care workers. Research is recommended to identify the conditions in which adolescents show more or less (strong) change language.

The expected links between MI adherent behaviour of care workers and 'change talk' of adolescents and between MI non-adherent behaviour and 'sustain talk' (Gaume et al., 2010; Moyers & Martin, 2006) do not appear in our study. MI adherent and non-adherent behaviours of care workers are not consistently followed by 'change talk' and 'sustain talk', but mostly by 'neutral' responses of adolescents. 'Change talk' and 'sustain talk' by the adolescent are neither consistently followed by MI adherent and MI non-adherent behaviours, but mostly by 'questions' of care workers. Our findings might be explained by the fact that care workers in our study were not trained in MI. Care workers' main response consists of asking questions to the adolescents. Future research should focus more on the type and quality of questions that residential care workers ask to adolescents during conversations.

Limitations

A first limitation is that a relatively small sample of care workers and adolescents participated in the present study. We only included care workers and adolescents who agreed to participate in the present study. The care workers and adolescents who refused to or could not participate might differ from the participating group. For example, adolescents who did not participate in the present study might be more problematic than adolescents who did participate. In addition, care workers who did not participate might have poorer interaction skills than care workers who did participate. Therefore, the results may not generalize to care workers/adolescents beyond the sample in the present study.

Secondly, care workers were instructed to record a usually occurring one-on-one conversation, enabling us to draw a clear picture of the common approach during conversations in practice. The content of the conversations did not reflect a MI approach. Consequently, a part of the care workers' behaviours could not be coded by the MITI encoding scheme that we used to interpret care worker behaviours. In addition, the conversations often had multiple objectives, which sometimes made it difficult to determine the specific behaviour change objectives of the conversation and to assess adolescent 'change talk' and 'sustain talk' with the MISC.

Implications

Despite several limitations, a major strength of the present study is that this is, to the best of our knowledge, the first study that analysed observations of one-on-one

conversations between care workers and adolescents in residential care practice from a MI perspective. Our findings show that care workers mainly apply MI non-adherent behaviours during conversations with adolescents when trying to change adolescents' attitudes or behaviours. Since MI non-adherent behaviours are ineffective in changing client behaviours (Apodaca & Longabaugh, 2009), an implication for practice is to provide MI training to residential care workers.

Our findings also showed that a part of the care workers' behaviours were not coded in terms of MI-conform behaviours. In addition, adolescents' utterances often lacked a reference to changing the target behaviour, also a key point in the MI approach. To make fuller use of the data we will consider to perform additional analyses using an inductive methodology. This could be done, for example, by Conversation Analysis (CA; Hall, Juhila, Matarese, & Van Nijnatten, 2014). CA is a method to investigate the communication between partners in verbal dialogues. Applying this methodology can be useful to gain a further insight into the communicative interactions between workers and adolescents in care and treatment settings (see, for instance, Jager et al., 2016).

Although building good alliances with adolescents in residential youth care settings is a complex process, by applying MI care workers have a methodology enabling them to build or work on therapeutic alliances that better fit with the needs of adolescents. Therefore, another implication for further research is to study the implementation and effectiveness of MI training for care workers in residential youth care practice.

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