

Does intense contact with people with disabilities lead to more inclusive behaviour within professional practice?

Background

A Flemish training program for pre-service teachers and pre-service special educators organises a sports camp where the participants have intense and direct contact with people with disabilities. These pre-service special educators are trained in orthopedagogy, which can be defined as the theory of support within a problematic parenting or educational situation. In this sports camp, pre-service teachers and special educators can immerse themselves and experience the world of people with disabilities. This sports camp is based on the contact hypothesis which assumes that such a "bath" of direct contact will improve the inclusive behaviour of the pre-service professionals. This inclusive behaviour, which refers to acting in accordance with the UN Convention on Persons with Disabilities (United Nations, 2006), is required of these pre-service teachers and special educators as they will be employed in education and support services for persons with disabilities.

This sports camp, however, requires a lot of man-hours for guidance and preparation from the training program and is very expensive in accommodation costs. In addition, it is also very demanding for the training program to set up a complete sports camp with 80 pre-service teachers and special educators, 40 participants with different types of disabilities, 2 nurses and 5 teacher educators on an annual basis. On top of that, one does not know whether such a sports camp is effective on the pedagogical inclusive behaviour of these pre-service professionals. Therefore, the objective of this study is to examine whether this sports camp is effective in terms of an increase in inclusive pedagogical behaviour.

The introduction of this sports camp for pre-service teachers and special educators as a compulsory part of their training program is partially based on the findings of Hunt (2004) who states that one of the best strategies to work on positive attitudes is to incorporate, combined with knowledge-based courses, as much **direct contact** as possible with people with disabilities during their **training program** in higher education (Hunt & Hunt, 2004; Werner & Scior, 2016). For example, Hassanein (2015) already claimed that training programs should have a practical component in which, in addition to theoretical aspects, attention is also paid to direct contact with people with disabilities as an essential part of a curriculum (Hassanein, 2015). This idea of direct contact as a real-life experience with people with disabilities as part of a training program is very similar to the study of Lawson, Cruz and Knollman (2017). They found that community service learning containing direct contact with people with disabilities, has a positive impact on the attitudes towards people with disabilities (Lawson et al., 2017) and we find the same conclusion for other social professionals (Haskell, 2010; Werner & Scior, 2016). This contact can take different forms, for example Krahe and Altwasser (2006) found that students who play **sports** together with people with a physical disability reduced their negative attitudes towards people with a physical disability as also described in the contact hypothesis (Allport et al., 1954; Hunt & Hunt, 2004; Lawson et al., 2017). The contact hypothesis was the basic element for the design of this compulsory sports camp in the training program.

According to the **contact hypothesis** (Allport et al., 1954), in direct face-to-face contact with each other, **attitudes** towards people from other social groups can be influenced (Armstrong et al., 2017). A lot of research has been done using this theory on racial groups, religious groups and other themes (Andrighetto et al., 2012; Lau et al., 2014; Paas & Halapuu, 2012), but there is not yet much research which relates the contact

hypothesis to persons with disabilities and their teachers or other social professionals (Satchidanand et al., 2012). One exception is the study of Sharma et al. who surveyed a sample of 1060 pre-service teachers in a multi-national comparative study to explore pre-service teachers' attitudes towards inclusion, concerns about inclusion and sentiments towards persons with disabilities. Their results indicated that pre-service teachers who reported previous contact with pupils or students with disabilities had more positive attitudes towards inclusion than pre-service teachers without contact (Sharma, Forlin, Loreman, & Earle, 2006). In this study of Sharma and colleagues, the demographic variable "contact with a person with a disability" was used, which means that it is not always about direct and intense contact with an equivalent status as in the theory of the contact hypothesis. The literature above shows that the experience, the intensity of the contact and the equivalent status is very important in changing attitudes, which is why this study goes further in exploring that link and not just a dichotomous answer on having contact with people with a disability.

The question then arises whether such an experiential "bath", based on the contact hypothesis, does indeed have an impact on the pre-service teachers' and special educators' attitudes and whether they indeed feel better prepared to work with people with a disability. In other words: does this mandatory sports camp work? This question wrongs reality by its simplicity. That is why one has to look beyond behaviour as a stand-alone concept since reality is much more complex. The **theory of planned behaviour** provides an answer to this complexity by giving insight into the different antecedents of behaviour (Ajzen, 1991).

The theory of planned behaviour states that one always has an **intention** to perform certain **behaviour**. Ajzen (1991), in his original theory, states that these intentions are antecedents of the behaviour. In this case, the intention is the willingness

to include a person with a disability or the willingness to behave inclusively. The intention to behave in a certain way is generated by a person's beliefs about the behaviour. These beliefs consist of three elements, namely the behavioural beliefs also known as the **attitudes** of a person, the more normative beliefs called the **subjective norm** in a given situation and the **perceived behavioural control** one has mostly conceptualized as self-efficacy (Azjen, 1991).

Attitudes of pre-service professionals consist of a cognitive, affective and behavioural component (Triandis, 1971). For (pre-service) professionals it has been shown that women have more positive attitudes than men towards people with a disability (Avramidis & Norwich, 2002; De Boer et al., 2012; Satchidanand et al., 2012; Werner & Grayzman, 2011). In addition, age also plays a role and older professionals often have less good attitudes than their younger colleagues (Avramidis & Norwich, 2002; De Boer et al., 2012; Satchidanand et al., 2012; Werner & Grayzman, 2011).

The **subjective norm** is the normative guideline that exists in a certain situation, which are the beliefs held by the individual about significant others' attitudes toward the behaviour. A study by Werner and colleagues (2011) showed that subjective norms are a strong predictor for professionals to work with people with disabilities. In other words, the way in which the important people around the professional look at supporting or including people with disabilities (in a certain situation), plays a major role (MacFarlane & Woolfson, 2013; Werner & Grayzman, 2011). For example, if your friends, peers, teachers or family all attach great importance to tolerance, positive language on people with a disability and are in favour of inclusion, chances are that you will behave in an inclusive way in the presence of these friends as well. It is a form of social pressure that people experience.

Self-efficacy is the belief or perceived behavioural control that a person has in his or her own ability to set a certain behaviour (Bandura, 1997; Eagly & Chaiken, 2007). For teachers, we know that self-efficacy contributes to more and better implementation of inclusive strategies and that it is very much related to the attitude a teacher has (Yada et al., 2018; Yada & Savolainen, 2017). We agree with Satchidanand (2012) that there is very little research for other social professionals in this field on self-efficacy itself or the relationship with attitudes for that matter (Satchidanand et al., 2012). There is for example only limited research available on increasing self-efficacy in supporting parents in dealing with their child with disabilities (van Wingerden et al., 2018), but no research on self-efficacy of other professionals.

According to the theory of planned behaviour, the pre-service professional's attitudes, the subjective norm in the situation and the pre-service professional's self-efficacy all have an effect on the pre-service professional's **intention**, which in turn is the greatest predictor of the pre-service professional's **behaviour**.

When it comes to pre-service professionals who will be employed in (inclusive) education, in support teams or in pedagogical guidance of (adult or minor) persons with a disability, inclusive **behaviour** is expected. Inclusive behaviour in itself is very difficult to measure. The concept that closely resembles this to measure 'inclusive pedagogical behaviour' is the concept of Ainsworth (1969): pedagogical sensitivity. This is a concept that has traditionally been used in schools, nurseries, community groups and residential care centres. Pedagogical sensitivity is described by Ainsworth et al. (1969) as a framework that consists of four aspects: (1) alertness in perceiving signals; (2) interpretation of perception and empathy; (3) the quality; and (4) tempo of the response. This means that professionals must be able to correctly interpret children's behaviour and respond to it adequately (M. D. S. Ainsworth, 1969; Mary D. Salter Ainsworth et al.,

1974). A pedagogically sensitive professional can create a positive pedagogical climate. A safe, positive pedagogical climate is of great importance for the development and inclusion as described in the UN Convention on persons with disabilities (United Nations, 2006).

This sports camp was set up to increase the experience with people with disabilities because the training programme believes that direct contact with people will lead to better attitudes towards people with disabilities and that these pre-service professionals will therefore behave more inclusively in professional practice. The previous paragraphs suggest that **contact with people with disabilities** can result in positive changes in professionals' attitudes and moreover that these attitudes (and self-efficacy) are antecedents for the intention to behave in a certain way along with the subjective norm. The purpose of this study was to explore the effects of a five-day sports camp as a compulsory course with intense **contact on the attitudes, self-efficacy and behaviour** of pre-service professionals regarding people with disabilities, following the theory of the contact hypothesis (Allport et al., 1954) and the theory of planned behaviour. Within this study, the following three research questions were examined:

- What are the **attitudes** and the level of **self-efficacy** of pre-service teachers and special educators towards the participants (with physical or/and cognitive disabilities) of the sports camp?
- Will pre-service teachers and special educators' **attitudes, self-efficacy and behaviour** change when they have intensive and long-term contact with people with disabilities?
- Will pre-service teachers and special educators' attitudes, self-efficacy and subjective norm each predict **behaviour**, mediated by behavioural intention?

Methods

This study was a quantitative design study in which we explored an intervention with an online pre-, post- and follow-up survey in combination with standardized observations during the intervention.

The **intervention** was a five-day sports camp in which 80 pre-service teachers and special educators and 40 people with physical or/and cognitive disabilities participated. This sports camp consisted of five days with three shared meals, three joined sports sessions and one leisure activity scheduled daily in a sports hotel. It is a sports camp in which two pre-service social support workers and one pre-service teacher are each assigned as a support team for one or two participants with a physical or/and cognitive disability.

Participants

Second-year pre-service teachers and special educators were randomly assigned to a participant with a disability to take care of, live and play sports together with 40 adult sport camp participants with physical or/and cognitive disabilities. Table 1 shows that the group of pre-service teachers and special educators consisted of 63 women and 14 men ($N_{total} = 77$). Seven of the pre-service teachers and special educators had some kind of disability¹ themselves (9.1%) and 69 pre-service teachers and special educators already

¹ For the definition of persons with a (functional) disability, we used the following description in the questionnaire: "Persons with a (functional) disability are persons with long-term physical, mental, intellectual or sensory impairments which, in interaction with various thresholds, may prevent them from participating fully, effectively and on an equal footing with others in society" (UN, 2006, p.5).

had professional experience with persons with disabilities (89.6%). The sample consisted of 14 pre-service teachers (18.2%) and 63 pre-service special educators (81.2%).

Table 1 Participant characteristics

Variable		N	(%)
Gender	Male	14	18.2
	Female	63	81.8
Disability	Yes	7	9.1
Training program	Pre-service teacher	14	18.2
	Pre-service special educator	63	81.8
Experience	Yes	69	89.6

Notes. $N = 77$

The participant group of this sports camp consists of 40 (young) adults from 16- to 65-years old who have various physical limitations ranging from deafness, blindness, muscle diseases, spasticity, cognitive impairments as well as non-congenital physical injuries with (para)plegia.

Procedure

First of all, there was a pre-measurement, a post-measurement and a follow-up measurement for the sample of 77 pre-service teachers and special educators. The response rate in the pre-measurement was 96% ($N = 77$), for the post-measurement 66% ($N = 53$) and for the follow-up measurement 51% ($N = 41$). These measurements were taken online one month before, immediately after and 2 months after the sports camp. This **questionnaire** was conducted online using Qualtrics and the data was pseudonymised by assigning a code to the pre-service teachers and special educators.

Second, there were participatory **behavioural observations** based on a standardized observation scheme on pedagogical sensitivity (Ainsworth et al., 1974) during the intervention. Three co-researchers were each randomly assigned to 5 pre-service teachers and special educators who they observed for 5 minutes 3 times a day during the sports sessions with the participants. A sports session was chosen because that is where the equality between pre-service professional and participant is highest and therefore the pedagogical sensitivity is most natural. There were observation data of 10 pre-service teachers and special educators instead of 15 pre-service teachers and special educators as planned because of low quality of the data of one of the co-researchers.

The pre-service teachers and special educators received an informed consent form at the start of the pre-measurement as part of the online questionnaire. The content of the form was also explained verbally by the researcher present at the start of the study. The pre-service teachers and special educators and sports camp participants were informed about all aspects of the research. The number of the approval given by the Ethics Committee is G-2018041215.

Instruments

This study measurements were built around the theoretical model of **the theory of planned behaviour** (Ajzen, 1991). Instruments were used to measure the five components of this theory. The complete conceptual model with used instruments is also shown in Figure 1.

Attitudes

Attitudes of the pre-service teachers and special educators were assessed by **ATDP-scale** (Yuker & Block, 1986). The Attitude Towards Disabled Persons O-Version Scale (ATDP-O) has 20 statements about people with disabilities. Participants fill out

how much they agree or disagree with the statements on a six-point Likert scale (+3 = I very much agree, up to -3 = I very much disagree). Five items are scored inverted for internal validity, the sign of the sum is reversed and the numerical value of 60 is added to the sum of the scores for a total score. Higher scores represent a more positive attitude towards persons with disabilities. This scale has good psychometric properties with median coefficients for reliability and validity across studies of .80 (Yuker & Block, 1986). The Cronbach's alpha of this scale in our study were 0.69 for the pre-measurement, 0.80 for the post-measurement and 0.82 for the follow-up measurement.

Subjective norm

Subjective norm is often specified as the perception a person has of the way in which he or she should behave on the basis of the applicable norm of that moment which is installed by important persons in his or her environment (Ajzen, 1991). In this intervention, it concerned the fellow pre-service teachers and special educators but also the teachers of the pre-service teachers and special educators. This scale is self-constructed and has 7 items with examples such as 'the other students find it important to learn new skills in the context of supporting people with disabilities' or 'the teachers find this sports camp an important part of the training program'. These items are assessed on a four point Likert scale ranging from totally disagree (1) to totally agree (4). The higher the score, the higher one estimates the subjective norm in terms of pro-inclusion. The Cronbach's alpha of this scale in our study was 0.53.

Perceived behavioural control

Perceived behavioural control was operationalized in this study as **self-efficacy** (Eagly & Chaiken, 2007). For this we used a very simple self-constructed question with a slider. The item we used was the following: 'How competent do you feel to support the

persons with disabilities?'. The slider could be moved over a continuum ranging from -1 for 'not at all competent' to 1 for 'fully competent' and all possibilities in between.

Intention

Intention was measured by a self-constructed scale consisting of three items. These three items measured the intention to work professionally with this group later on, such as: 'What is the probability on a scale from zero to ten that you will choose this target group with a physical or/and cognitive disability later on in your profession? The items were then assessed on a scale from zero to ten, where zero stands for 'no chance at all'. The Cronbach's alpha of this scale in our study was 0.84.

Behaviour

The **behaviour** of the pre-service teachers and special educators was assessed by **observation**. They were observed on the first and last day during a sports activity by a team of researchers and scored via a standardized observation tool on pedagogical sensitivity. Ainsworth (1974) developed this observation method for parents (mothers) and it consisted of several natural observations of the mother and child. Later, this method was further expanded and used for social professionals and teachers (Diemel, z.d.; Rohaan et al., 2017). The four components of pedagogical sensitivity were observed: (1) with three items for alertness in perceiving signals, (2) three items for interpretation of perception and empathy, (3) four items for the quality of the response of the pre-service professional and (4) three items for the tempo of the response of the pre-service professional. These different items were scored on a scale ranging from one to four where one stands for 'never or not' and four stands for 'always'. The assessment ranges from highly insensitive to highly sensitive, with higher scores meaning higher pedagogical sensitivity. The observation was done by means of a standardized form on paper. The

observers were trained in advance in a number of sports sessions with regular participants. The Cronbach's alpha of this scale in our study was 0.84 for the measurement on the first day and 0.91 on the measurement of the last day.

In addition to these scales for measuring the factors of the theory of planned behaviour, some demographic variables such as **gender**, **training program** and having a **disability** themselves were added that might have an influence on the antecedents of intention, namely attitudes, subjective norms and self-efficacy.

Analysis

The data were loaded into SPSS 24 (pseudonymised data) and matched according to pre-, post-, and follow-up-measurement. For the first research question, the averages were calculated and differences (when relevant) were explored based on demographic variables using t-tests.

The test for normality showed a normal distribution for the measurements of attitude $W(35) = 0.97$ to 0.98 , $p > 0.05$, but a non-normal distribution for the measurements of self-efficacy $W(35) = 0.74$ to 0.79 , $p < 0.05$ and behavioural measure (pedagogical sensitivity) $W(10) = 0.85$, $p < 0.05$. As a consequence, to answer the second research question an ANOVA for repeated measurements was used for attitudes, the Friedman test for self-efficacy and the Wilcoxon test for behaviour. In order to answer the third research question, the Spearman test for correlation was used. Figure 1 gives an overview of the conceptual model for this study and shows the relationships between the variables.

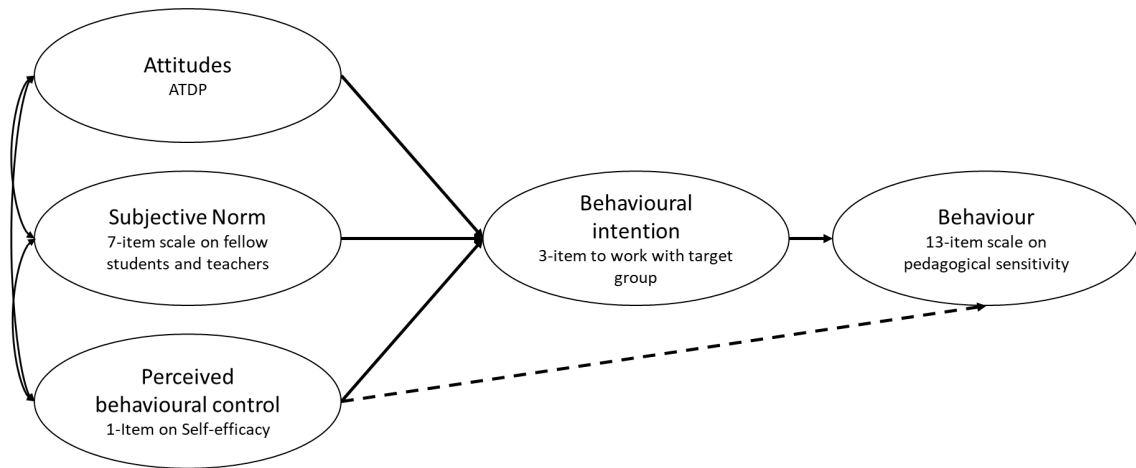


Figure 1. Overview of the conceptual model of the relationship between attitudes, subjective norms, and perceived behavioural control, the intention and behaviour towards people with a disability.

Results

What are the attitudes and the level of self-efficacy of pre-service teachers and special educators towards the participants (with physical or/and cognitive disabilities) of the sports camp?

Attitudes were measured with the ATDP scale which has a range from 0 to 120. The attitudes in the pre-measurement are above the centre of the scale ($M = 81.74$; $SD = 9.91$), slightly more above the centre of the scale in the post-measurement ($M = 84.66$; $SD = 11.82$) and a little less above the centre of the scale but not lower than the pre-measurement ($M = 84.14$; $SD = 12.75$) as also shown in *Figure 2*.

Self-efficacy was measured using a slider that could move over a continuum from -1 to 1 where the results indicate that the feeling of self-efficacy in the premeasurement is on the low side ($M = 0.20$; $SD = 0.68$), rises in the post-measurement to the rather

positive side ($M = 0.40$; $SD = 0.60$), but then decreases again but not lower than the pre-measurement ($M = 0.31$; $SD = 0.58$).

Will pre-service teachers and special educators' attitudes, self-efficacy and behaviour change when they have intensive and long-term contact with people with disabilities?

To get an answer to the question whether there is a difference in **attitudes** after prolonged and intense contact, an ANOVA for repeated measurements was carried out. Results of the ANOVA for repeated measurements show that there is **no significant difference** for **attitudes** $F(2, 68) = 2.74, p = 0.52$.

The Friedman test to explore the differences in self-efficacy shows that there is **no significant difference** between the different times of measurements $X^2(2) = 4.62, p = 0.09$.

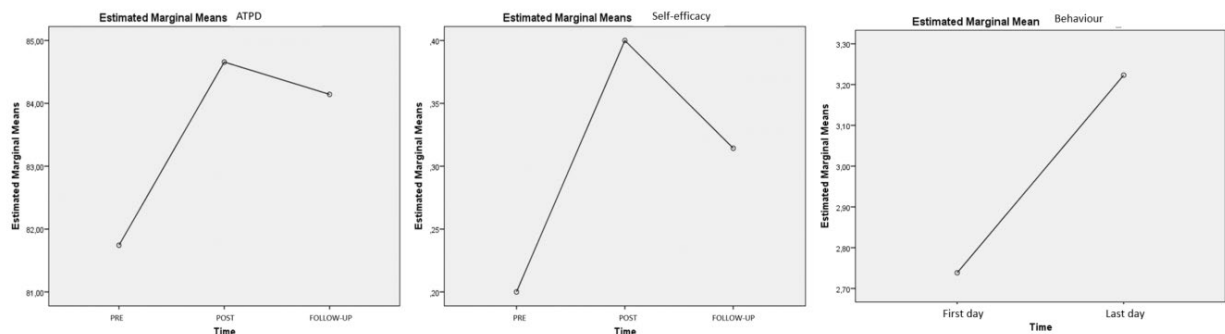


Figure 2. Graphs of Attitudes and Self-efficacy on the different measurement moments (pre-post-follow-up) and Behaviour (first & last day)

To explore the difference between the **behaviour** on the first day and the behaviour on the last day, a Wilcoxon signed-Ranks test was performed. There is an

increase in averages ($M = 2.74$; $SD = 0.56$ and $M = 3.22$; $SD = 0.55$, see *Figure 2*) but the Wilcoxon signed-Ranks test indicated that the 5 days sports camp **did not elicit a statistically significant change** in behaviour in pre-service teachers and special educators ($Z = -1.63$, $p = 0.10$).

Will pre-service teachers and special educators' attitudes, self-efficacy and subjective norm each predict behaviour, mediated by behavioural intention?

Given the fact that the theory of planned behaviour indicates that attitudes, subjective norm and self-efficacy are antecedents of intentions and that intentions in turn are a predictor of behaviour, a Spearman's correlation was used to determine which factors are related to the behaviour on the first day and which factors are related to behaviour on the last day. Furthermore, the factors related to behavioural or attitude change and change in self-efficacy were also explored.

Table 2 Correlations of variables in the TPB

Correlations Spearman's Rho

	Attitudes (pre)	Attitudes (post)	Subjective Norm	Self-efficacy (pre)	Self-efficacy (post)	Intention (last day)	Behaviour (first day)	Behaviour (last day)	Behavioural change	Attitude change	Self-efficacy
Attitudes (pre)		0,77**	-0,18	0,05	0,25	0,10	0,21	0,13	0,06	-0,10	-0,4

Attitudes (post)	1	-0,18	0,18	0,45*	0,16	0,27	-0,40	0,47	0,50*	0,16
Subjective Norm				*					*	
Self-efficacy (pre)			1	0,36*	0,51**	-0,30	0,21	-0,26		0,68*
Self-efficacy (post)				*						*
Intention				1	0,35**	0,69	-0,17	0,62	*	*
Behavioral change (last day)										
Behavioral change (first day)							1	-0,53		
Behavioral change								1	0,78*	0,49
Attitude change									1	0,29*
Change in self-efficacy										1

** . Corr. is significant at the 0.01 level .

*. Corr. is significant at the 0.05 level .

Behavioural change = Behaviour last day – Behaviour first day, Attitude change = Attitude (post) – attitudes (pre), change in self-efficacy = Self-efficacy (post) – Self-efficacy (pre)

Given the fact that the theory of planned behaviour indicates that attitudes, subjective norm and self-efficacy are antecedents of intentions and that intentions in turn are a predictor of behaviour, a Spearman's correlation was used to determine which factors are related to the behaviour on the first day and which factors are related to behaviour on the last day. Furthermore, the factors related to behavioural or attitude change and change in self-efficacy were also explored.

Table 2 shows the Spearman Rho correlation values of the main study variables, indicating that **intention is significantly related to the subjective norm** ($r_s = 0.23$, $p < 0.05$) and **Self-efficacy** (pre-measurement $r_s = 0.51$, $p < 0.01$ and post-measurement $r_s = 0.35$, $p < 0.01$) but not to **attitudes** (pre-measurement).

Next to that, both the behaviour on the first and last day is not significantly related to any of the main study variables. The **change in behaviour** is significantly related to the **change in attitudes** ($r_s = 0.78$, $p < 0.05$) and the change in attitudes is significantly related to the **change in self-efficacy** ($r_s = 0.29$, $p < 0.05$).

Discussion

A Flemish training program for teachers and special educators annually organizes a compulsory sports camp for people with a disability as a form of experiential learning. This sports camp was created according to Hunt's idea that such a camp with a lot of direct contact will prepare students better for working with people with disabilities later on in their professional environment (Hunt, 2004). This camp, however, requires a lot of investment to organize (both in time and resources) and the training program doesn't really know if this sports camp works. The aim of this study was therefore to find out whether this mandatory sports camp could cause a behavioural change that would make pre-service teachers and special educators behave more inclusively.

This study was a quantitative design study in which we explored an intervention with a pre-, post and follow-up survey online in combination with standardized observations during the intervention which was an existing five day sports camp in which 80 pre-service teachers and special educators and 40 people with physical or/and cognitive disabilities participated.

Results show that the pre-service teachers and special educators **have fairly positive attitudes** towards people with a disability which increase immediately after the sports camp with then a slight drop in the follow-up-measurement, but not lower than the pre-measurement. Different results were found for feelings of self-efficacy where pre-service teachers and special educators have a **reasonably low sense of self-efficacy** at the start, which then increases during the sports camp. The follow-up measurement showed a decrease but it was not lower than the pre-measurement. The attitudes and feelings of self-efficacy are significantly higher immediately after the sports camp than

before (but not in the follow-up). The results also show an increase in pedagogical sensitive behaviour when comparing the first and last day of observation. However, this difference is not significant.

So, to answer the first and second research question, it may be assumed with caution that this sports camp caused a slightly positive change in the attitudes, self-efficacy and behaviour of pre-service teachers and special educators (although they are not always significant). This corresponds to the literature which states that contact with people with disabilities is the key to **more positive attitudes and higher self-efficacy** (Yada et al., 2018)

These attitudes and feelings of self-efficacy, in turn, are a good predictor of intention and, subsequently, behaviour (MacFarlane & Woolfson, 2013; Werner & Grayzman, 2011). Given that there are few studies focusing on this link, especially in the landscape of people with disabilities and the professionals working with them, this article focused on that connection between the contact hypothesis and the theory of planned behaviour.

To make this connection, a regression analysis was performed using a Spearman's Rho test and the results show that the subjective norm and self-efficacy are significantly linked to intention, but attitudes are not. In addition, the behaviour of the first and last day cannot be predicted on the basis of the factors included, but it appears that the behavioural change is significantly related to the attitude change, which in turn is significantly related to the change in self-efficacy. The answer to the third research question therefore reads as follows: the subjective norm and self-efficacy are antecedents of intention, as also represented by the theory of planned behaviour (Ajzen, 1991). Attitudes, on the other hand, were not antecedents of intention and intention in turn was not an antecedent of behaviour.

Limitations and Implications for future research

This study also has a number of limitations. First, we only have a **small sample size** of about 80 pre-service teachers and special educators which might be insufficient to run a regression analysis. It was an existing sample to which we could not change anything. In addition, we only had a very small number of observations which made it possible to include behaviour as a variable in the regression model. Future research should make better use of this measure of behaviour via observation.

Secondly, in our opinion, it also plays a role that this **sports camp is an obligatory part of a training program**, which means that there must be some social desirability in the answers. Even though we have extremely emphasized in the briefings and in the study protocols that the lecturers would not have access to the data in any way, we think that this could possibly play a role in the results we have found. In future research, it is recommended to use other data collection methods in addition to these surveys that are less threatening. Participatory art-based methods for example, in the form of a photovoice, babble booth or anonymous message board.

Thirdly, it was an intervention that was fixed in advance with a group that already existed and which **prevented us from installing a control group** of pre-service teachers and special educators who had "no contact" with people with disabilities for a week to compare the different groups. Still, most research done in the past only checked for the variable "have you had contact in it with a person with a disability" and this contact was often not specified. So these are many different forms of "having contact" with a person with a disability. We did not have a control group for this study but we strongly assume that the contact with the people with disabilities was as equal as possible and in a long term intensive way. That way, we could determine what the added value of this contact is for the pre-service teachers and special educators next to the questioned variable if the

pre-service teachers and special educators had ever had contact with a person with a disability.

Finally, in addition to the existing group of participating pre-service teachers and special educators, we already had an **existing group of participants with specific disabilities**. For reasons of privacy, we cannot review the participants' complete files or report even more specifically on the type of disability someone had. From literature, we know that people with serious and complex disabilities often generate more negative attitudes than people with mild and minor disabilities (Subban & Sharma, 2006). We see the same for people who, in addition to their disabilities, also exhibit behavioural problems (Yada & Savolainen, 2017). In future research, this difference in disabilities could also be taken into account and, above all, the view of the participants of a disability should be given a place somewhere in the research design.

Implications for practice

So is it worth making all these efforts to set up such a sports camp in order to improve attitudes, self-efficacy and pedagogical behaviour? The results are not always significant, but there is an increase in attitudes, self-efficacy and pedagogical sensitive behaviour. With these small non-significant increases, we still think we can lay a foundation towards a positive response on this question towards the training program. Even with these small effects, we think it would be opportune to set up such a sports camp because every small contribution to the possible growth in positive attitudes, self-efficacy and behaviour seems to us a step in the right direction. So, given the increase in attitudes and feelings of self-efficacy, this study is **a plea for direct and intense contact with people with disabilities as part of the curriculum**. In addition, the results showed that a subjective norm is strongly correlated to intention, therefore it remains important to

create a correct and inclusive climate around persons with disabilities by applying a **pro-inclusion subjective norm** in the training program of pre-service teachers and special educators as this appears to be an important predictor towards the intention to behave inclusive.

References

- Ainsworth, M. D. S. (1969). Maternal sensitivity scales. *Power*, 6, 1379–1388.
- Ainsworth, Mary D. Salter, Bell, S. M., & Stayton, D. F. (1974). *Infant-mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals*.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179–211.
- Allport, G. W., Clark, K., & Pettigrew, T. (1954). *The nature of prejudice*.
- Andrighetto, L., Mari, S., Volpato, C., & Behluli, B. (2012). Reducing competitive victimhood in Kosovo: The role of extended contact and common ingroup identity. *Political Psychology*, 33(4), 513–529.
- Armstrong, M., Morris, C., Abraham, C., & Tarrant, M. (2017). Interventions utilising contact with people with disabilities to improve children's attitudes towards disability: A systematic review and meta-analysis. *Disability and Health Journal*, 10(1), 11–22.
- Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration / inclusion: A review of the literature. *European Journal of Special Needs Education*, 17(2), 129–147. <https://doi.org/10.1080/08856250210129056>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York : Freeman,.

- De Boer, A., Pijl, S. J., Post, W., & Minnaert, A. (2012). Which variables relate to the attitudes of teachers, parents and peers towards students with special educational needs in regular education? *Educational Studies*, 38(4), 433–448.
- Diemel, K. (z.d.). *Pedagogische Sensitiviteit in beeld?*
- Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social cognition*, 25(5), 582–602.
- Haskell, R. A. (2010). *Evaluating social work students' attitudes toward physical disability.*
- Hassanein, E. E. A. (2015). Changing teachers' negative attitudes toward persons with intellectual disabilities. *Behavior modification*, 39(3), 367–389.
- Hunt, C. S., & Hunt, B. (2004). Changing attitudes toward people with disabilities: Experimenting with an educational intervention. *Journal of Managerial Issues*, 266–280.
- Lau, H., Lau, C. Q., & Loper, K. (2014). Public opinion in Hong Kong about gays and lesbians: The impact of interpersonal and imagined contact. *International Journal of Public Opinion Research*, 26(3), 301–322.
- Lawson, J. E., Cruz, R. A., & Knollman, G. A. (2017). Increasing positive attitudes toward individuals with disabilities through community service learning. *Research in developmental disabilities*, 69, 1–7.
- MacFarlane, K., & Woolfson, L. M. (2013). Teacher attitudes and behavior toward the inclusion of children with social, emotional and behavioral difficulties in mainstream schools: An application of the theory of planned behavior. *Teaching and Teacher Education*, 29, 46–52. <https://doi.org/10.1016/j.tate.2012.08.006>
- Paas, T., & Halapuu, V. (2012). Attitudes towards immigrants and the integration of ethnically diverse societies. *Eastern Journal of European Studies*, 3(2).

- Rohaan, E., Bakx, A., & en Educatie, F. H. K. (2017). De ontwikkeling van pedagogische sensitiviteit in de lerarenopleiding basisonderwijs. *Tijdschrift voor Lerarenopleiders*, 38, 3.
- Satchidanand, N., Gunukula, S. K., Lam, W. Y., McGuigan, D., New, I., Symons, A. B., Withiam-Leitch, M., & Akl, E. A. (2012). Attitudes of healthcare students and professionals toward patients with physical disability: A systematic review. *American journal of physical medicine & rehabilitation*, 91(6), 533–545.
- Subban, P., & Sharma, U. (2006). Primary school teachers' perceptions of inclusive education in Victoria, Australia. *International Journal of Special Education*, 21(1), 42–52.
- Triandis, H. C. (1971). *Attitude and attitude change*. Wiley New York.
<http://library.wur.nl/WebQuery/clc/403072>
- United Nations. (2006). *Convention on the Rights of Persons with Disabilities (CRPD)*.
<https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>
- van Wingerden, E., Sterkenburg, P. S., & Wouda, M. (2018). Improving empathy and self-efficacy in caregivers of persons with intellectual disabilities, using m-learning (HiSense APP-ID): Study protocol for a randomized controlled trial. *Trials*, 19(1), 400.
- Werner, S., & Grayzman, A. (2011). Factors influencing the intention of students to work with individuals with intellectual disabilities. *Research in Developmental Disabilities*, 32(6), 2502–2510.
- Werner, S., & Scior, K. (2016). Interventions aimed at tackling intellectual disability stigma: What works and what still needs to be done. In *Intellectual disability and stigma* (pp. 129–147). Springer.

- Yada, A., & Savolainen, H. (2017). Japanese in-service teachers' attitudes toward inclusive education and self-efficacy for inclusive practices. *Teaching and Teacher Education*, *64*, 222–229.
- Yada, A., Tolvanen, A., & Savolainen, H. (2018). Teachers' attitudes and self-efficacy on implementing inclusive education in Japan and Finland: A comparative study using multi-group structural equation modelling. *Teaching and Teacher Education*, *75*, 343–355. <https://doi.org/10.1016/j.tate.2018.07.011>
- Yuker, H. E., & Block, J. R. (1986). *Research with the Attitude Toward Disabled Persons scales (ATDP) 1960-1985*.