

NATURE-ASSISTED THERAPIES FOR ADULTS WITH MENTAL DISORDERS IN THE NETHERLANDS: AN ARISING POSSIBILITY FOR GGZ PSYCHOLOGISTS ?

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PREFACE

The present report is the outcome of an ACT group project at Wageningen University, written during an eight-week project under the supervision of PhD candidate R.M. Pijpker. The objective of this research was to get an overview of attitudes towards nature-assisted therapies, possible barriers and opportunities for both traditional- and outdoor psychologists by multiple research methods. This project can contribute in making a first step in providing opportunities to put nature-assisted therapies on the map as an option for treatment in the Dutch mental healthcare sector.

Our supervisor and commissioner R.M. Pijpker, who is also the leader of this WUR Science Shop project, was commissioned by *de Buitenpsychologen* to help answer questions regarding the implementation and acceptance of nature as a treatment room for adults with mental disorders. The WUR Science Shop collaborates with external commissioners in order to carry out research projects that have societal impact. The WUR Science Shop is also funding this project.

De Buitenpsychologen experience a lack of recognition in their work field as psychologists, but also in a broader context such as regular healthcare, employers, medical doctors and insurance companies. A concrete request towards the WUR Science Shop is to gain scientific support for complementation of nature-assisted therapies in the Dutch mental health care system.

TABLE OF CONTENTS

Contact Information	2
Preface	3
Glossary of terms and definitions	7
Executive Summary	9
Introduction.....	15
<i>Problem statement and scope of the study</i>	<i>17</i>
<i>Project purpose and research question.....</i>	<i>17</i>
Theoretical Framework.....	18
<i>Biophilia theory.....</i>	<i>18</i>
<i>Informational variables.....</i>	<i>19</i>
<i>Attention restoration theory.....</i>	<i>20</i>
<i>Restorative effect of nature</i>	<i>21</i>
<i>Cultural values</i>	<i>22</i>
<i>Self-fulfilment and self-growth</i>	<i>22</i>
Spiritual growth.....	22
Aesthetic enjoyment	23
Methods	24
<i>Methodological design.....</i>	<i>24</i>
<i>Literature research.....</i>	<i>24</i>
<i>Qualitative research method</i>	<i>24</i>
Expert interviews	25
Interviews with traditional and outdoor psychologists	25
<i>Quantitative research method.....</i>	<i>25</i>
Online survey for traditional psychologists.....	25
<i>Data analysis.....</i>	<i>26</i>
Qualitative data.....	26
Quantitative data	26

Results	27
<i>Nature-assisted therapies in the Netherlands and abroad</i>	<i>27</i>
Literature study: nature as part of the mental healthcare system	27
Interviews: nature as part of mental healthcare system according to experts	29
<i>Interviews: psychologists' view on nature-assisted therapies</i>	<i>33</i>
<i>Interviews: Attitude towards nature-assisted therapy</i>	<i>34</i>
Traditional psychologists.....	34
Outdoor psychologists (using NAT)	35
<i>interviews: Possible opportunities for nature-assisted therapies in the Netherlands.....</i>	<i>36</i>
<i>Interviews: possible barriers for nature-assisted therapies in the Netherlands.....</i>	<i>42</i>
<i>Questionnaire:</i>	<i>46</i>
Discussion.....	56
Conclusion	65
Recommendations to the commissioner.....	67
Indications for further research	69
Acknowledgements	70
References.....	71
Appendix A. Interview questions for traditional psychologists (Dutch).....	77
Appendix B. Interview questions for outdoor psychologists (Dutch).....	79
Appendix C. Questionnaire (Dutch)	80
Appendix D. Coding scheme	85
Appendix E - Pie charts for values of demographic variables	87
Appendix F. Tables for analyses on opportunities with demographic data from questionnaire	88
Appendix G. Tables for analyses on opportunities with demographic data from questionnaire	95
Appendix H. Additional info from traditional psychologists' interviews	102

GLOSSARY OF TERMS AND DEFINITIONS

Basis-GGZ – Mental health care for clients having light to moderate mental health disorders and complaints.

Care farming – A therapeutic use of farming practices for the stated purpose of providing or promoting healing, mental health, social, or educational care services. People might be required to spend time at care farms to do the activities.

COST Action 886 – The European Cooperation in Science and Technology (COST) is a funding organisation for the creation of research networks, called COST Actions. These networks offer and open space collaboration among scientists across Europe (and beyond) and thereby give impetus to research advancements and innovation. The main objective of the Action is to increase the scientific knowledge on the best practices for implementing green care in agriculture with the aim of improving human mental and physical health and the quality of life.

Garden therapy – Also known as therapeutic gardening, is the use of garden space and/or activities to help people enhance their health and well-being.

General practitioner – A medical doctor, the key in the world of healthcare who treats all common medical conditions and refer patients to hospitals and other medical services for urgent and specialist treatment. They focus on the health of the whole person combining physical, psychological and social aspects of care.

Green Care – A conceptual framework carried in COST Action 866: Green Care in Agriculture which provides a number of perspectives in the context of social and psychological theory and enquiry.

GZ-psychologen – Dutch term for certified health psychologists working the basic mental healthcare.

Health – A state of physical, mental, and social well-being and not merely the absence of disease or infirmity (World Health Organisation, 1946).

Holistic approach – An approach used to provide support that looks at the person's physical, mental, emotional, social, and spiritual well-being as a whole. It takes mental and physical health, lifestyle, relationships and environment into account.

Horticultural therapy – A form of therapy that uses plants as therapeutic tool and the aim is to reach therapeutic goals independently of agricultural production success.

Human-nature relationship – It can be understood from an interdisciplinary perspective, through the biophilia concept of humanity's affiliation with nature as well as related concepts and measures to describe human connectedness to nature. It goes beyond the extent to which an individual believes or feels they are part of nature, an adaptive synergy with nature as well as longstanding actions and experiences that connect human to nature.

Mental disorder – A behavioural or mental pattern that causes significant distress or impairment of personal functioning. Many have been described with signs and symptoms that vary widely between specific disorders. Particularly in this study, the term addressed to considerably mild mental disorders such as anxiety, depression and burnout.

Mental healthcare practitioner – A mental healthcare practitioner is commonly group and classified according to the skill level and specialisation in mental health.

Mental healthcare professional – A healthcare professional is a highly skilled workers in profession that may provide healthcare treatment and advice based on formal training and experience. As for mental healthcare professional, the work focus is on mental health issues, such as psychologist, psychiatrist, and psychotherapist.

Nature – The basic or inherent features, character, or qualities of physical world collectively. It includes plants, animals, landscape, and other features and products of the earth, as opposed to human or human creations.

Nature area – A broad term to define both wild, deserted areas and places designated as “green areas” by government and municipal authorities, such as meadows, backyards, parks and other open spaces.

Nature-assisted intervention – An umbrella term for a diverse range of therapies such as garden therapy, care farming, green exercise, and other form of nature-assisted therapies. It focuses on doing the activities by making use of nature (e.g. plants, animals) as the main tool for the intervention. Activities can be performed

Nature-assisted therapy – Abbreviated to NAT, a type of therapy that complements traditional therapy by integrating nature as a tool for therapeutic treatments. It uses nature as a treatment room instead of indoor setting to allow clients to engage with nature.

Nature-based intervention – Abbreviated to NBI, focus on the place, outdoor settings or dominated by natural elements, natural milieu, the qualities within, and the type of biotope (landscape, flora, fauna, etc.). It is place dependent and performed in outdoor environment as a part of the intervention, such as forest, garden, parks, farms, and beaches.

Outdoor psychologist – Psychologist whose form of therapies are combining outdoor settings with indoor settings and make use of nature environment.

POH-GGZ – Mental health care facility at a General Practitioner’s practice, to make an estimation about whether referral to a *basis-GGZ* or *specialistische-GGZ*

Specialistische-GGZ - Mental healthcare for clients having severe, complex or returning mental disorders and complaints.

Traditional psychologist – Psychologist who are doing their therapy practices only in the indoor settings.

Well-being – The state of being comfortable, healthy, or happy. A higher level of well-being means that in some sense the individual’s or group’s condition is more positive in terms of physical vitality, mental alacrity, social satisfaction, a sense of accomplishment, and personal fulfilment.

Wilderness therapy – Also known as outdoor behavioural healthcare, is an adventure-based therapy treatment modality for behaviour modification and interpersonal self-improvement, combining experiential education, individual and group therapy in a wilderness setting.

Introduction

The 21st century is accompanied with a sharp increase in diagnosed mental health disorders, mainly located in urbanized parts of the world. The increased demand for help however cannot be supported by the current amount of psychologists, resulting in long waiting lists and putting constraints on the Dutch GGZ. Additionally, psychologists experience high work-load, leading to feelings of distress and burnout symptoms. New solutions are therefore highly needed to reduce the burden on the healthcare system. One rising option is to use a natural environment as a setting for therapies, taking into account its restorative effect on the human mind. This practice is called nature-assisted therapy (NAT). The Western world is slowly recognizing the curative effects of nature on human health and well-being. Nevertheless, in some parts of the world, such as the Scandinavian countries, have already well established the use of nature in therapy treatment offers. In the Netherlands, *de Buitenpsychologen* are psychologists in the *basis-GGZ* who work outdoors, performing nature-assisted therapies. Experienced by *de Buitenpsychologen* is a lack of knowledge and prejudice against NAT and the feeling that many people don't recognize it as an established therapy option being provided. In this project, the first step in exploring the undiscovered potential of nature-assisted therapies will be taken to bolster complementation of NAT in the Dutch *basis-GGZ*.

Research questions

The following main research question will be addressed in this research: What are the perspectives of traditional- and outdoor psychologists on NAT in the Netherlands? The main research question was divided into four sub-questions: 1) What is already known about using nature-assisted therapies in the mainstream mental healthcare system in the Netherlands and abroad?; 2) What is the view of traditional- and outdoor psychologists according to the use of nature-assisted therapies in treating adults with mild mental disorders in the Netherlands?; 3) What are the (possible) opportunities that traditional- and outdoor psychologists (expect to) experience in using nature-assisted therapies in the Netherlands?; 4) What are the (possible) barriers that traditional- and outdoor psychologists (expect to) experience in using nature-assisted therapies in the Netherlands?

Methods

The following methods were used to obtain data in order to answer the main- and sub research questions: 1) a literature review on the state-of-the-art for the general human-nature relationships, with a scope on benefits to human physical and mental health and well-being; use of nature for improving mental health in the Netherlands and abroad, especially the success cases in the Scandinavian countries. 2) Qualitative methods: Interviews with experts (academic researchers and professors) on human-nature relationships and NAT were undertaken, which were interpreted through a color-coded scheme. These were followed by Interviews with both traditional- and outdoor psychologists about their perspective on NAT, perceived opportunities and barriers and necessities and feasibility of its implementation in *de basis-GGZ* which were analyzed with a coding scheme. 3) Quantitative method: A questionnaire was conducted amongst traditional psychologists to gain insights in demographics and view about the use of NAT in the Netherlands. The open questions in

the questionnaire were analyzed with color coding, whereas for the descriptives and close ended questions the statistical programme R was used. A *Cronbach's test*, *Pearson correlations*, *independent t-tests* and *one-way ANOVAs* were executed to summarize the different items across the questionnaire and compare answers between demographic groups.

Results

Sub-question 1

The use of nature to promote good health has existed for centuries and proven as an effective approach for treating mental disorders which has been used around the world. Although many terms are being used in different areas to address the use of natural elements in promoting health and well-being, the idea is quite similar. People are encouraged to engage with natural elements in indoors and/or outdoors settings in both active and passive ways. In Europe, the implementation of using a natural environment for healthcare is commonly found Nordic countries as they consciously seek out nature to have a better quality of life. The successful case in these countries is also supported by the integrated healthcare system within each country as well as Nordic as a whole and the same case happens in Austria. In addition, some experts argue that a way to bring the Netherlands to implement nature-assisted therapies into the healthcare system is by providing a sufficient amount of evidence-based role model that fits the involved authorities and its feasibility.

Sub-question 2

Traditional psychologists have a more neutral view between criticism and enthusiasm on NAT, when compared to outdoor psychologists. Some of the interviewed traditional psychologists already went outside during therapy sessions, while not being aware of the existing terminology and methods of NAT. A positive opinion towards benefits of nature for human wellbeing was observed, however a neutral view for NAT and future use was obtained. Outdoor psychologists have more in-depth insights about nature-health relations and reacted more enthusiastically about topics related to NAT. Significant positive correlations were found for viewpoints about NAT & future views on implementation of NAT, viewpoints about NAT & work stress and future views on implementation of NAT & views about nature. Female respondents significantly answered more positively for answers about viewpoints on NAT, future implementations of NAT and influence of work on personal feelings of distress. For age grouping, younger respondents gave a more positive response on possibilities for implementing NAT. Furthermore, full-time working psychologists seem to be more familiar with NAT, and employees of an institution saw more positive future perspectives for NAT.

Sub-question 3

When it came down to identifying the opportunities NAT could offer to traditional- and outdoor psychologists, both interviewees and questionnaire respondents had similar opinions. Interviewees mentioned improved personal well-being and benefits for the treatment sessions (e.g. conversation flow and ambiance), not only for the clients but for the psychologists themselves as well. These benefits offered by nature could also positively influence the lifestyle and cognitive mechanisms of clients and psychologists. As for the questionnaire respondents, no evident distinction was made between psychologists and clients, as they stated physical activity, improved lifestyle and the benefits

of being outdoors (calming effect, fresh air, the use of metaphors or different nature elements) would be the main opportunities of NAT. Regarding appointments, both interviewees and questionnaire respondents affirmed that, to some extent, an improved contact between clients and psychologists could be achieved by using NAT. Practicalities were largely mentioned in the interviews, revealing the extensive amount of opportunities of working outdoors (the easy access to greenery everywhere and the ability to go outside in (almost) any weather condition).

Another important topic discussed in the interviews was the possible opportunities that the current COVID-19 pandemic situation could unravel to this practice. Lastly, the opportunities chosen by the questionnaire respondents were compared within demographic groups. Psychologists working in urban areas chose improvement for their own wellbeing as one of the main opportunities of NAT, and the ones living in suburban areas claimed “Fresh air” to be one of the main benefits provided by NAT. This opportunity was also highly perceived by full-time working psychologists. Lastly, younger aged respondents (25-34 and 35-44 years old) chose “increased relaxed atmosphere during the consult” as one of the most relevant opportunities, whereas older aged (55-64 years old) stated opted for “Extension of your possibilities as a psychologist”.

Sub-question 4

The most frequently chosen barriers were: clients (privacy), accessibility and nature. Barriers for nature were composed of weather conditions and natural inconveniences, such as absence of public toilets, ticks, etc. and were more frequently chosen by males and respondents from rural areas. As for barriers regarding clients, the most mentioned ones were clients’ privacy, perception or judgment and comfort zone. Remarkable was that the barrier about the clients’ comfort zone was most mentioned by older aged people (55-64 years old). As for accessibility, the variety of space to do things in surroundings was mentioned since the location of the workplace plays an important role in whether or not green areas are easy to access. Workspace location was mentioned as a barrier by more males and by psychologists working in urban areas.

Discussion

Sub-question 1

Based on the insights gathered from existing literatures on the idea of using nature as part of health treatments, sample cases, and experts, it is indicated that the general trend on demands for having a more holistic and innovative approach for health-related topics is rising. As countries that have already been complementing natural elements as part of health treatments, Austria, Sweden, and other Nordic countries can be a leading example for other countries that are still working on their process such as the Netherlands. By adopting some lessons from successful cases in other areas, there are also possibilities to reduce the needs of extensive mental healthcare treatments and the number of healthcare consumption. Further, an integration from the involved authorities regarding the healthcare system is one thing that can be learned from the concepts used in those countries for the Netherlands to head into the similar direction in terms of implementing NAT into the mental healthcare system.

Sub-question 2

The difference in views about NAT between traditional- and outdoor psychologists might be explained due to implementation of NAT and in depth insights about nature-health relation outdoor psychologists do and have. Due to the traditional psychologists' more neutral view on NAT, a result in neutral outcomes for future possibilities might be obtained. Future possibilities might appear more attractive once interest grows, effectiveness of treatment outdoors is proven and knowledge is spread. The link between viewpoint and future perspectives on NAT can be explained by the fact that certain personal views might influence opinions on possible opportunities for the future of NAT. The relation between NAT and work stress can be explained by experiencing a high work-related stress whilst working in institutions and, as a consequence, ended up opening their own practice, creating also more possibilities for implementing NAT or other forms of therapy according to their own preferences. Therefore, the increased feelings of stress may result in a more interesting view for NAT. The disagreement about linking feelings of distress to the work situation, can be explained by the fact that most of the interviewees and almost half of the questionnaire respondents have their own practice. The significantly more positive values for viewpoints on NAT, future implementations of NAT and influence of work on personal feelings of distress can be explained by previous studies relating gender and positive views of nature. To explain the different view within age, adjusting aspiration levels downwards to meet the reality of their actual life situations does satisfaction with circumstances by adjusting aspiration levels downwards to meet the reality of their actual life situations more frequently by older individuals. As for full-time psychologists, the increased amount of working hours gives a higher chance of hearing or reading about NAT. Also, employees of an institution might see their current job situation as far from perfect, so other opportunities, such as NAT, could be of added value and an option to take into account for the future.

Sub-question 3

The Biophilia theory and Attention Restoration Theory (ART) state that exposure to nature can lead to improved levels of physical and psychological well-being, and can act as restorative environments by recovering mental fatigue. Physical activity can lead to improvement in self-efficacy, self-regulation and self-esteem. Minding appointments, opportunities such as a relaxed ambiance during the consult and a more natural conversation flow can improve relationships between psychologists and patients and have indirect beneficial outcomes. Practicalities like the easy access to greeneries even in small urban green areas, may promote benefits for both physical and mental health, by providing a place for stress recovery and social cohesion. COVID-19 pandemic was considered as an added opportunity for NAT, since sessions couldn't take place indoors, and together with the fact that people are looking more for nature areas, where they can be outdoors and still far enough from other people. The choice of fresh air and improving one's well-being made by urban and suburban psychologists can be due to the phenomenon of urban areas possibly depleting the cognitive attention system can be counteracted by spending time in green spaces whenever possible. The choice for fresh air by most full-time working psychologists can be related to the fact that many of them have to see around 8 clients a day, possibly leading to mental depletion. Lastly, younger aged participants (25-34 and 35-44 years old) chose "An increased relaxed atmosphere during the consult" to be an important opportunity, which can possibly be a result of their current lower practicing experience. Therefore, nature can become a helpful tool for helping the therapy course. As for older aged psychologists (55-

64 years old), they mainly chose “Extension of your possibilities as a psychologist”, probably since they have been in the same working regime for many years and might crave some innovation and update on their current knowledge and practices.

Sub-question 4

As for the barrier regarding privacy of clients, articles show that when working outdoors it might not be possible to guarantee privacy of clients since others might pick up (confidential) conversations. According to other research, the lack of knowledge about other forms of therapy use is not a specific barrier for NAT, but is experienced in other fields as well. Pushing a client out of their comfort zone can be seen as a beneficial action, but pushing too much can lead to a danger zone due to excessive anxiety levels instead. Determining this threshold can be hard for psychologists. As for accessibility, nature has become rarer and less accessible due to urbanization, causing barriers regarding NAT.

Conclusion

In general, to answer the main research question, it can be confirmed that most psychologists, both traditional and outdoor psychologists have a positive view of NAT, but in general the traditional psychologists are more moderate about their positive view, including some traditional psychologists that expressed their critique on NAT. Both traditional and outdoor psychologists would possibly encounter different kinds of barriers and opportunities. However, the negative effect of some barriers can partly be counterbalanced by other opportunities that were mentioned. In addition, both traditional and outdoor psychologists described having used several elements of NAT, such as walking outside during a consult. However, the traditional psychologists implemented this not merely because of their knowledge of the existence of NAT, as it was often lacking. The awareness of the potential of NAT can be enhanced by establishing its prominence and benefits for the Dutch GGZ. Additionally, more evidence-based literature about its effectiveness should be readily-made available to provide psychologists, clients and other parties the information about NAT to gain more trust in its promising capability for Dutch mental healthcare sector.

Limitations

Due to the limited amount of conducted interviews with experts, traditional- and outdoor psychologists, the used information in this report might not be fully representative for the overall population of psychologists working in the *basis-GGZ* in the Netherlands. Furthermore, since all interviewed psychologists had their own practice instead of working in an institution, only a limited amount of information is received and the opinions of psychologists in a mental health care institution are not fully taken into account. Additionally, the respondents rate of the questionnaire was also not sufficient and therefore no proper statistical conclusions could be drawn to support the outcomes from the data obtained from the questionnaire. Due to the limited amount of time, no more interviews could take place and the questionnaire was only available online for 2 weeks.

Recommendations

It was stated by most of the interviewed experts and some psychologists that the current time is, so far, possibly the most suitable to expand NAT in the Netherlands (and probably across the world), due

to people's increasing positive attitude towards nature. Nevertheless, and based on all the collected data for this project, some recommendations can be given to the commissioner. Firstly, it's highly recommended to improve scientific evidence on the direct benefits of NAT for mental health disorders. Secondly, once this evidence arises, it should be shared to the main influencing stakeholders to try to obtain legal, financial and educational support. In the meantime, recommendations are also directed to psychologists and other practitioners, who can already start complementing their practices with NAT. For a successful project involving NAT, collaboration is essential, together with entrepreneurship. Some barriers perceived by traditional psychologists and other stakeholders need to be demystified and a common language to unify concepts and practices should be created across regions, nations or even continents. At last, some professional skills should be taken into account by the psychologists for them and their clients to obtain the best results possible from NAT practices.

INTRODUCTION

The world has been witnessing a sharp increase in mental disorders throughout the past decades, with an ongoing, continuous growth of accompanied disease burden (Kramer, 1980; WHO, 2019). This does not only have a significant impact on the health of many individuals, but also has extensive social, economic and human rights consequences worldwide, such as people not having access to mental healthcare whereas stated that every individual should have access to regular healthcare (WHO, 2019). The Netherlands is no exception to these high prevalence levels of mental disorders, with more than four out of ten (42.7%) Dutch individuals stating they were diagnosed with a DSM-V axis-I disorder in their life (de Graaf et al., 2012; Trimbos-Instituut, 2020). DSM-V axis-I disorders are the most frequently occurring mental disorders in the population, including anxiety-, mood-, eating-, psychotic-, dissociative- and substance use disorders (Smit, 2016). The most commonly found mental disorders in the Dutch population within the DSM-V axis-I disorders are anxiety-, mood-, and eating disorders with often a high chance of relapse (Ali et al., 2017).

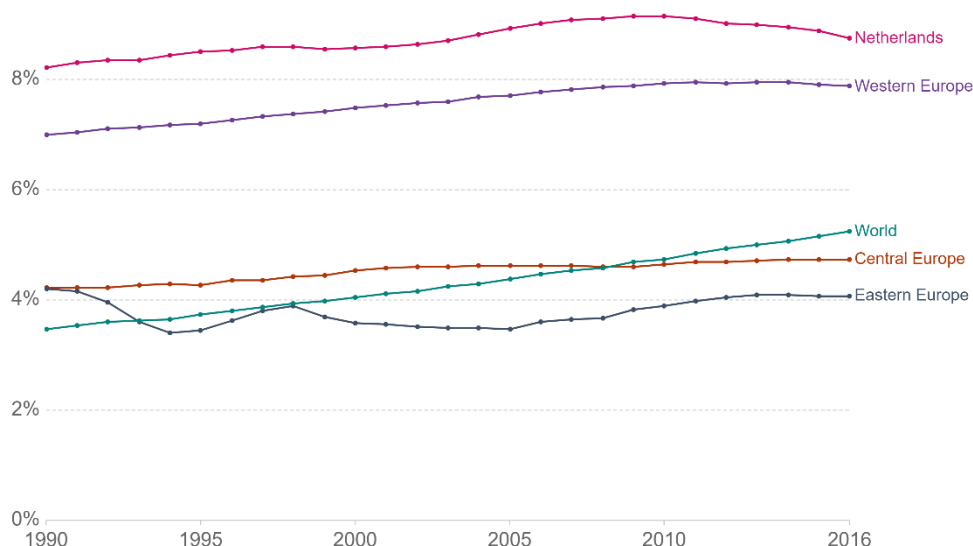


Figure 1 – Mental health disorders as a share of total disease burden, 1990 to 2016. Source: IHME, Global Burden of Disease

Within mental disorders, distinctions can be made according to the amount of mental disorders occurring simultaneously; one, two or more. The Dutch mental healthcare system has different gradations: *POH-GGZ*, *basis-GGZ* and *specialistische-GGZ*. The *basis-GGZ* (in English called basic mental health care) focuses on clients having light or moderate mental disorders, referred to by the general practitioner (GP) when *POH-GGZ* is not sufficient. The *POH-GGZ* consists of a collaboration between the GP and a practice assistant focussing on mental health. Due to the increased waiting lists and burden on mental healthcare practitioners, a high percentage of the mental health clients do not receive mental healthcare. 24.4% of the clients with one mental disorder make use of healthcare facilities, compared with 53.6% of the clients with more mental disorders (Graaf, 2010).

Ultimately, not receiving treatment that is needed for the mental health condition(s) might result in an increase in the amount of mental disorders or comorbidities including physical problems, such as

high blood pressure, cancer, cardiovascular diseases, etcetera. Stated is, that the higher the number of mental disorders people are having simultaneously, the higher the disease burden is experienced and (together with possible physical complaints) higher costs of healthcare are reached. As stated in a report about the severity of a mental disorder as a predictor of intensity of needed healthcare, clients having three mental disorders simultaneously, experience the mental disorder 3.6 times more severe when compared to clients having one mental disorder (Trimbos-Instituut, 2012). Accordingly, the number of clients in need for specialized mental healthcare (*specialistische-GGZ*) can increase due to long waiting lists, high healthcare costs and inefficient treatments. The main focus of this academic consultancy proposal lies within the *basis-GGZ*.

Additionally, when taking into consideration the high workload professionals in mental healthcare experience due to the increasing number of mental healthcare clients, it leads to affective distress and lower blood pressures, both indicators for a low daily well-being (Ilies, Dimotakis, & de Pater, 2010). This should be taken into account, especially with the expected increased workload of healthcare workers during and due to the COVID-19 pandemic. The increased workload can ultimately lead psychologists to experiencing burnout and/or stress symptoms or other mental disorders themselves, resulting in malfunctioning or not being able to perform their jobs.

As discussed earlier, the expectation of more people experiencing mental disorders in the near future, and the increased demand for healthcare professionals, leads to the need for innovative approaches that are trying to improve traditional types of therapies. These innovative approaches are needed in order to diminish waiting lists, offer individual treatment options or diminish workload for professionals are still needed.

Some of these innovative approaches show promising results and in addition provide a more holistic view for treating mental disorders (Cooley et al., 2020). A holistic approach takes into account the client's mental and physical health, lifestyle, relationships and environment when treating the client which might lead to diminished relapse rates and longer lasting effects of the treatment (Heck, 2008; Drake et al., 2005; Hunter & Storat, 1994). At the same time, research shows that using nature and its elements has potential beneficial effects for the recovery process of clients with mental disorders (Berget, et al., 2010; Haubehofer et al., 2010; Karjalainen et al., 2010). For the purpose of this project, we define nature-assisted therapy (NAT) as a type of therapy that complements traditional therapy by integrating nature as a tool for therapeutic treatments. NAT uses nature as a treatment room instead of the traditional indoor setting. Using an outdoor setting supports clients to engage with nature and has possible extra beneficial effects for the individual's mental and physical health (Haubehofer et al., 2010; Karjalainen et al., 2010). In addition, healthcare professionals themselves report less stress when treating their clients outdoors instead of indoors (Cooley et al., 2020). Although NAT is likely to benefit both clients and healthcare professionals, it is not yet commonly used and accepted in the Netherlands. There is still a lack of recognition towards NAT since it might be perceived as an alternative approach with no added value or value at all. Additionally, there might be possible prejudices against NAT. However, there might also be some potential barriers for treating clients outdoors. Working outdoors implies weather unpredictability, exposure to external factors such as other people or animals and/or the acceptance and willingness of clients to be treated under these uncertainties (Berget et al., 2010).

Nature-assisted interventions existed for centuries and are more commonly used in Nordic countries, such as Denmark and Sweden. Nature-assisted interventions can be considered as an umbrella term for a diverse range of therapies such as garden therapy, care farming, green exercise and NAT (Corazon, Stigsdotter, Moeller & Rasmussen, 2012; Haubenhofner et al., 2010). Swedish research shows that using garden therapy is associated with many positive experiences such as interacting with other people and nature (Adevi & Mårtensson, 2013). In addition, garden therapy has beneficial effects for physical and psychological wellbeing (Adevi & Mårtensson, 2013). These results show that NAT might have beneficial effects and can be used as an additional treatment possibility in the Netherlands as well.

PROBLEM STATEMENT AND SCOPE OF THE STUDY

In summary, two trends previously mentioned lead to the need to research NAT as a complementary treatment option in the Netherlands. Firstly, the expectation of more people experiencing mental disorders in the near future and the consequent rise in workload on professionals, leads to the need for a more holistic approach with possibly long(er)-lasting effects. Secondly, the accumulating scientific evidence that supports the possible effectiveness and extra benefits of using nature as a tool for therapy.

As mentioned in the introduction, there is still a lack of recognition of NAT. Professionals within the health care sector and clients might not have (sufficient) knowledge on the existence of these therapies. Psychologists working in the *basis-GGZ* as certified health psychologists (in Dutch called “*GZ-psychologen*”) might not be aware of the added value and beneficence that the use of nature as a treatment ‘room’ could bring them. In addition, there might be possible prejudices against alternative types of therapies like mentioned above, once individuals become aware of it.

This leads to the following problem statement, defined as the undiscovered potential of NAT through the possible lack of recognition and prejudice experienced by traditional psychologists. This research focuses on both *GZ-psychologen* and outdoor psychologists working in the *basis-GGZ*, treating adults with mild mental disorders.

PROJECT PURPOSE AND RESEARCH QUESTION

As mentioned in the introduction, the long-term goal of the commissioner is to put NAT on the map as a treatment-possibility for adults suffering from mental disorders, specifically mild mental disorders, which contains treatments in the *basis-GGZ*. This research aims to tackle the project’s problem statement, by identifying attitudes towards NAT, and possible barriers and opportunities for complementing standard therapies, experienced by both traditional- and outdoor psychologists. With multiple research methods, this project was able to investigate whether these possible perceived barriers are associated with plausible prejudices and/or lack of knowledge, and if the perceived opportunities can be reinforced to help promote NAT as a complementary therapy option. This project can make a first step in promoting NAT as a complementary therapy option in the Dutch mental healthcare sector.

The main research question is: **'What are the perspectives of traditional and outdoor psychologists on NAT in the Netherlands?'** In order to answer this main research question, the sub-questions are written below:

1. What is already known about using nature-assisted therapies in the mainstream mental healthcare system in the Netherlands and abroad?
2. What is the view of traditional- and outdoor psychologists according to the use of nature-assisted therapies in treating adults with mild mental disorders in the Netherlands?
3. What are the (possible) opportunities that traditional- and outdoor psychologists (expect to) experience in using nature-assisted therapies in the Netherlands?
4. What are the (possible) barriers that traditional- and outdoor psychologists (expect to) experience in using nature-assisted therapies in the Netherlands?

THEORETICAL FRAMEWORK

In order to shed more light on human-nature relationships, which are fundamental in explaining the efficacy and potency of NAT, several relevant concepts and theories will be listed and clarified in this theoretical framework. The theories listed here all serve to increase the understanding of the strength and success of NAT. Per theory, the relevance and association with NAT will be further explained. In general, most theories boil down towards the essential drive of humans to be in contact with nature, and thus stress the crucial role nature landscapes can have in therapeutic settings.

BIOPHILIA THEORY

The first theory explores reasons for humans to be in contact with nature and forming connections with other organisms. This can partly explain why nature can be a safe and efficient environment to receive and provide therapy. It has been argued by Wilson, the founder of sociobiology, that the natural environment is important to human history (Kellert & Wilson, 2013). This importance will be further explained using the biophilia hypothesis, which was introduced by Wilson (1984). Wilson defines biophilia as an "innate tendency to focus on life and lifelike processes" (Wilson, 1984, p.1). It describes humans' innate psychological tendency to seek connections with nature and other forms of life. It is essential for humans' developmental processes and necessary for both physical and mental growth. The hypothesis can be associated with human competitive advantage and genetic fitness. Humans' cognitive and emotional mechanisms have been shaped by their long history of being hunters, gatherers, and farmers. Due to this history, humans have always been interacting with nature to increase their fitness, which has led to a better capability of "extracting, processing and evaluating information from the natural environment" (Gullone, 2000, p. 295). Additionally, humans that could adapt their approach and avoid (i.e. biophilia and biophobia) responses to specific stimuli and dangers were favoured in human evolution (Ulrich, 1993). Furthermore, this biophilic tendency also might increase the possibility for achieving individual meaning and personal fulfilment, and it is also fundamental for a human ethic of care and conservation of nature (Kellert & Wilson, 2013). Individual meaning and personal fulfilment will be further elaborated on in the theory concerning

“self-fulfilment and self-growth”. In conclusion, the long history of humans and their interdependence with nature, has led to adapted cognitive and emotional mechanisms revealing a human’s sense of security and devotion towards nature.

INFORMATIONAL VARIABLES

Different aspects of a certain natural landscape can provide us with information about how that landscape will develop if a certain track will be continued. When receiving therapy in nature, humans are triggered to analyse and take up this natural landscape. Humans have an innate drive to explore and analyse their natural surroundings (Kaplan & Kaplan, 1989). In addition, the study of Li, Dey & Forlizzi (2010) found that personal informatics, such as walking in nature (exercise), could stimulate and serve as a self-reflection tool, which is deemed necessary in reaching therapeutic goals. It is thus considered relevant to elaborate how and why humans have an intrinsic motive to perform this exploring behaviour and why NAT could provide that extra stimulation to the human mind.

Nature areas are considered a vital aspect of life for humans (Kaplan & Kaplan, 1989). In this subchapter, “nature area” is understood as a broad term to define both wild, deserted areas and places designated as “green areas” by government and municipal authorities, such as meadows, backyards, parks and other open spaces. Humans are wired to gain information from these natural areas, given the fact that their survival depended on it for thousands of years. They do this by constantly gathering and updating information and knowledge from their physical surroundings, such as movements by other species and spatial information (Kaplan & Kaplan, 1989). In evolutionary terms, humans are drawn to nature areas that maximize this knowledge gathering. According to Kaplan, Kaplan & Brown (1989), knowledge gathering consists of two components; the first one is “Understanding”, since humans prefer sceneries that have an orderly structure in which certain elements recur. The second component is “Exploration”, in which humans appreciate being challenged by nature areas that trigger them to explore further. In addition, knowledge gathering can also be further divided into two scenes; the direct scene, which entails what we can directly see from the current point of view in the landscape, and the inferred scene, which concerns what is likely to be seen when the current path is continued. Combined in a two-by-two table, these four components of knowledge gathering, called Informational Variables, which can be found in Table 1. These Informational Variables are not only connected with the physical context, but also with cognitions and feelings of the perceiver as well (Kaplan et al., 1989). Taken together, the four interrelated concepts provide the perceiver information about how one could function in it, which can also be relevant when receiving NAT, as being cognitively stimulated by a certain natural landscape might

Table 1 - The four interrelated components of Informational Variables in landscapes

Knowledge gathering	Understanding	Exploration
<i>Direct Scene</i>	1. Coherence	2. Complexity
<i>Inferred Scene</i>	3. Legibility	4. Mystery

The combination of different components that consist of human knowledge gathering result in four different combinations of landscape levels. The first level is Coherence, which describes the fitness of the different elements of that landscape taken together. The second level is Complexity, which concerns the amount of different visible elements, as a natural landscape can be anything between poor and rich in these different elements. The third level, Legibility, concerns the distinctiveness of that area, the degree to which the current landscape continuation can be predicted. The last level is called Mystery, which hints that more unpredictable elements in the landscape will be discovered, the more levels a certain scenery possesses, the more attractive it will become to humans (Kaplan et al., 1989). Of all the four knowledge gathering levels, only Mystery proved to be a significant predictor for landscape preference. In contrast to repetitive areas that are predictable and have no mysterious elements, wild, complex and unpredictable landscapes are perceived as less boring and more cognitively stimulating.

ATTENTION RESTORATION THEORY

The biophilia and Information Variables theories already demonstrated specific beneficial elements of NAT that indoor therapy is not able to provide. This subchapter will concern the Attention Restoration Theory (ART). It will disclose how mental fatigue and the limited attention span of humans can be reset in restorative environments, such as green areas. This theory can therefore explain the relevance of providing and receiving therapy in nature areas.

As stated earlier, there is a growing body of evidence pointing towards the psychological benefits of nature areas on humans (Kaplan, 1995). Moreover, there is an increasing interest in the use of nature areas as restorative environments for both physical and mental health (Ohly et al., 2016). A theory that is often used to explain this effect is the ART. In order to focus on an important duty, one needs to put in a lot of mental effort, known as voluntary attention. This allows for distracting triggers (such as a phone notification) to be filtered out and suppressed by our voluntary attention system, so one can accomplish the relevant task.

Nowadays, more than 50% of the world population lives in urban areas, which puts an additional strain on the limited mental capacity for voluntary attention. As a result, this additional strain of stimuli can easily result in a depletion of voluntary attention and thus can lead to mental fatigue (Ohly et al., 2016; Kaplan, 1995). In this vision, nature landscapes might be an ideal context to restore human voluntary attention. The following paragraph will further unravel the mechanism of ART behind voluntary attention restoration in nature areas.

It is assumed that, apart from sleep, humans need additional strategies, such as spending time in nature, to recover from mental depletion of the use of voluntary attention (Kaplan, 1995). While both attention systems (voluntary and involuntary) work through suppression and inhibition of competition, it is likely that involuntary attention is non-exhaustive, in contrast to voluntary attention. Another term for involuntary attention Kaplan (1995) coined is fascination. Fascinations can take shape in many different activities, such as reading an exciting book, birdwatching, but also in more general forms like taking a walk in a nature area. In addition, being present in a nature area also allows for reflection of one's thoughts and feelings. As stated by Kaplan (1995), the effect of reflection while being in a state of fascination can further augment the cognitive restoration of voluntary attention (Ohly et al., 2016; Kaplan, 1995).

According to ART, spending time in restorative environments can benefit individuals in multiple ways. The first one is being away: natural areas are regarded as settings to distance oneself from daily stressors. The second component is fascination. Nature areas offer a lot of fascinating stimuli that foster our drive for curiosity and exploration of the landscape. The third component, extent, entails that humans are part of a larger consistent area, even if the certain landscape is a relatively small area, such as in a Japanese garden. The last component is compatibility, since humans like to function in a specific nature area and feel in harmony with that area. Examples of these functions can be certain activities such as hiking, bird spotting, gardening, fishing and fire building (Kaplan, 1995). Taken together, these components reinforce the use of “involuntary” or undirected attention and thereby allow our voluntary attention capacity to be restored (Ohly et al., 2016; Kaplan, 1995).

RESTORATIVE EFFECT OF NATURE

As mentioned above in the biophilia theory, an affiliation with nature was evolutionary beneficial for the human species (Ulrich, 1993). Humans’ affiliation with nature is reflected in both their frequent visits to green areas and their joy in making contact with other species (Gullone, 2000). Even now, this affiliation with nature has many benefits. In this section the focus is on the restorative effects of nature, mostly on psychological health. Just like the cognitive aspects of the human attention capacity, the emotional aspects of the human mind can also be restored in green areas.

Several studies can illustrate this effect. One way to illustrate this is the “view through a window” study from Ulrich (1984), which showed that gall bladder surgery clients who had a natural window view of trees, as opposed to the other clients having a view of a brick wall, had shorter postoperative hospital stays, behaved in a way received fewer negative evaluative comments from nurses and needed less pain killers. Besides positive effects on recovery, being exposed to nature leads to an enhanced psychological well-being, decreased stress levels related to urban living and the promotion of physical well-being (Ulrich, 1993). Green areas also provide space for emotional relief (Zhou, 2010). A study from Hartig, Mang and Evans (1991) shows that participants who took a forty minute walk following experienced induced stress, had a more positive affect and performed better on a cognitive task than participants who took a walk in an urban area or who read or listened to music. Another study shows that people suffering from mild to major depressive disorders, when being exposed to nature, had an improved mood and they felt more motivated to recover (Berman et al., 2012).

However, not only natural green areas, but also non-natural green areas (such as urban green spaces) have been proven to have a restorative effect on (psychological) health. Not only do they promote physical activity and health (Bedimo-Rung, Mowen & Cohen., 2015), these areas also provide space for social and recreational activities (Zhou, 2010) and can boost cultural life (Baycan Levent & Nijkamp, 2004). This can decrease feelings of social isolation, and can enhance emotional well-being. Green areas also literally provide space for rest and serenity in crowded, overbuilt urban areas, where noises and other stimuli can be reduced (Zhou, 2010). All of these mentioned benefits can improve psychological health, especially when taking into account the restoration of mental fatigue that is related to modern, urban life. Eventually, nature-assisted therapies can be used to get away from the noise and overstimulation of urban lifestyle. In addition, it has been suggested that nature can positively affect the physical and psychological human health and thus fosters accomplishing therapy

goals. Nature also has the potential to improve someone's mood and improve their motivation to recover from their psychological complaints (Berman et al., 2012).

CULTURAL VALUES

In this paragraph, the history and importance of cultural values regarding human-nature relationships will be explained. Traditionally, humans have been valuing aspects of nature through its entire history. The Western modern approach of nature conservation is called "Arcadian tradition", which is mainly centered around cultural, moral and aesthetic values, rather than objective ecological ones (Van Koppen & Spaargaren, 2019; Van Koppen, 2000). This cultural view on nature conservation emerged laterally towards urbanisation and industrialisation of Western societies. The majority of people are not in direct contact with nature anymore and welfare has generally increased. This cultural shift towards urban living has been associated with a number of mental disorders, such as mood disorders, anxiety disorders, and schizophrenia (Peen et al., 2010). Furthermore, it has been noticed that there is an intrinsic drive to return to nature in the form of leisure activities, such as painting, caring for animals and plants and camping (Van Koppen & Spaargaren, 2019). The modern human drive towards nature helps explain the major position cultural rationales have concerning nature conservation in modern Western society (Van Koppen & Spaargaren, 2019).

In non-Western cultures, cultural values towards nature are an equally crucial perspective. Nonetheless, the expression of these values differ from those pronounced by the Arcadian tradition (Van Koppen & Spaargaren, 2019). However, the global spread of this tradition goes hand in hand with industrialisation and globalisation. In nature conservation policies, this can lead towards a cultural conflict between different socio cultural motives and interpretations of nature conservation (Van Koppen & Spaargaren, 2019). Since the majority of humanity is now living in urban areas, NAT can also be regarded as a strategy to get in touch with and return to nature again. Because most Dutch residents live in urban areas (CBS, 2016) - such as "de Randstad" - it can be assumed that NAT can be a valuable therapy option for adults with mental disorders in the Netherlands.

SELF-FULFILMENT AND SELF-GROWTH

In this paragraph, humans' capability of obtaining self-fulfilment and self-growth out of spirituality and aesthetic enjoyment will be elaborated.

SPIRITUAL GROWTH

Nature can provide a sense of spiritual enhancement for humans, as well as contribute to self-fulfilment, which will be elaborated on below. According to Johnson (2002), wilderness can foster personal and spiritual growth in six main ways. First mentioned is the Enduring benefit. In nature, humans, who have a comparatively short and dynamic lifecycle, compared to differential elements in nature, will come face to face with ancient, timeless life cycles and objects (such as mountains). The second benefit is the Sublime, which means that humans are astonished by the immensity and power of nature. This can be experienced when looking at a five hundred year old oak tree. The third benefit is called Beauty, that refers to the abstract concept of the aesthetic experience of nature. Fourth benefit is Competence, meaning the experience of physical effort, overcoming obstacles and

challenges. Experience of Peace is the fifth benefit, meaning that nature provides an opportunity to calm human senses. The last benefit, Self-forgetting states that being in nature can result in the loss and identification with the ego (Ashley, 2007). Thus receiving therapy in nature cannot only foster in accomplishing therapy goals, but can also lead to increased sense of spirituality, compared to indoor therapies. Besides, spirituality can be an extra dimension for self-growth and self-fulfillment, as was mentioned in the current paragraph.

AESTHETIC ENJOYMENT

Nature can also provide a sense of self-fulfilment and a distinctive kind of pleasure for individuals. Aesthetic pleasure is often given low priority in many debates, because it is seen as a non-necessity, falling behind proprietary human needs. Nevertheless, aesthetic experiences can be life-enhancing, invigorating and may lie at the heart of many positive nature experiences (Brady, 2006). Furthermore, the aesthetic value of green areas can influence the matter of enjoyment in humans, as well as their environmental awareness and satisfaction with nature. Aesthetics are also part of Kellert's nine perspectives of human-nature relationships (Kellert, 1983; as found in Gullone, 2000), which are utilitarian, naturalistic, ecologicistic-scientific, aesthetics, symbolic, humanistic, moralistic, dominionistic, and negativistic valuations of nature. These sets of attitudes express humans' physical, emotional and intellectual association with nature that describe human evolutionary dependence on nature. This contributes to both survival benefits as well as personal fulfilment (Gullone, 2000). The aesthetics value explains humans preference of natural design over human design, which was found in many studies. Additionally, the naturalistic perspective describes humans' satisfaction they gain in contact with nature, which is characterized by fascination, wonder and awe at nature's beauty, complexity and diversity. Finally, the humanistic perspective describes humans' experience of a deep emotional connection with recognizable aspects of nature and its individual characteristics (Gullone, 2000), which will be further explained below.

Aesthetic value is being influenced by the characteristics of a green space, such as vegetation density, naturalness and safety, which were mentioned above. These characteristics can influence how they are being perceived in terms of attractiveness, which then influences how much they are being enjoyed through the distinct senses that green areas provide. The matter in which they are being enjoyed differs per individual. Aesthetic judgement can be seen as an (inter)subjective point of view (Brady, 2006). However, aesthetic preferences, with a preference of natural scenes over urban scenes, are consistent across culture and other demographic variables (Gullone, 2000). Elements that are being perceived are "colours, shapes, textures, and sounds" (Zhou, 2010; p. 175), which generate aesthetic enjoyments for people. Contact with nature, whether visual or through other senses, can lead to pleasure and gratification in individuals (Zhou, 2010). To provide an example, sounds from rustling leaves in a green space may lead to a sense of peacefulness (Smardon, 1988). Green spaces may also stimulate the mind and imagination, because of the exposure to diversity of nature (Zhou, 2010; Chen & Jim, 2008). Aesthetic engagement can enliven and expand the imagination, as well facilitate humans' feeling of life (Brady, 2006). Aesthetic enjoyments can aid NAT in such a way that feelings of relaxation and serenity are being amplified. Through the sensory stimuli that are triggered by nature, the mind can be stimulated.

METHODS

METHODOLOGICAL DESIGN

In order to answer the main research question and the corresponding sub-questions, an exploratory research with a mixed-method approach was used. Qualitative methods were used to research experts' opinions regarding the field of green care, outdoor psychology and nature-based interventions, in order to get insight into the current trends. This, in combination with literature research, gave insight into what is currently known about the effect of nature in human health and well-being, and more specifically about the use of NAT for mental disorders. Lessons could be learned from other countries, on their use of NAT, to understand what the best approach should be for the Netherlands, taking into account how the current national mental healthcare system is structured. Qualitative methods were also used to research attitudes of traditional and outdoor psychologists towards NAT. Outdoor psychologists are already using this type of therapy, which led to the need to also identify possible barriers and opportunities they experience by using it. In addition, outdoor psychologists could identify which barriers and opportunities they would expect for their traditional colleagues to experience when complementing current therapies with NAT. Lastly, multiple traditional psychologists were asked to identify possible perceived barriers and opportunities in using NAT. Simultaneously, quantitative methods were used to find statistical trends on the population level among traditional psychologists in the Netherlands. This included the prevalence of attitudes, barriers and opportunities, and possible associations between this data and characteristics of psychologists, such as gender, age and rural versus urban areas.

LITERATURE RESEARCH

Literature reviews are essential for researchers to identify the growing discussion on the researched topic based on previous findings. This method provides a background knowledge to the context and to see whether there are patterns or trends that might influence the research process as well as the possible predicted outcomes. The main objectives of doing a literature review process is to provide an overview on the discussed topic, identify the knowledge gap between each literature that has been published, helping to formulate research direction, illustrate examples on what have been done in the previous years for NAT inside and outside of the Netherlands.

QUALITATIVE RESEARCH METHOD

Due to the current COVID-19 pandemic, it was impossible to conduct any in-person or face-to-face interviews. Therefore, online interviews were conducted to get into different perspectives on NAT. This approach could bring some obstacles to the interview, since technical problems could always arise, resulting in a less efficient communication. Nevertheless, advantages were also taken from it, such as solving spatial distance complications. Interviews were conducted in a one-on-one format by using the online platform *Zoom*. This online platform provided the opportunity of having the closest experience as in-person interviews, as they allow the users to access both audio and video features. Furthermore, the online interview sessions were recorded to keep track of the data collecting process.

Prior to engaging in these interviews, the interviewees were asked to fill in a consent form to verify their permission to record the interview session.

EXPERT INTERVIEWS

The aim of these interviews was to obtain diversified opinions on human-nature relationships and NAT, mainly from researchers and scholars. These answers would then have a solidified scientific support behind them. For this we reached people from different fields of study and different countries to amplify our spectrum of responses. A total of seven individuals were interviewed, between May 28th and June 4th of the year 2020. Interviewees were contacted via email and interviews took a maximum of 50 minutes. The number (between six and fifteen) and type of questions varied per interview, since different respondents had different background knowledge on the topics. Questions mattering the scientifically proven benefits of nature to human health and well-being were asked, specifying it to NAT. The practical feasibility of NAT in the current times and across different European countries was also questioned along with raising awareness towards nature and NAT.

INTERVIEWS WITH TRADITIONAL AND OUTDOOR PSYCHOLOGISTS

As mentioned previously, traditional and outdoor psychologists were interviewed to understand how they perceive NAT. A total of 7 individuals were interviewed, consisting of 3 traditional psychologists and 4 outdoor psychologists. Respondents were reached through social media, direct contact or email to institutions. A total of 17 questions were asked to traditional psychologists, regarding the following topics: Experience with psychology and psychotherapy, relation between humans and nature, visions on NAT and future possibilities. A total of 17 questions were asked to outdoor psychologists, regarding the same topics as mentioned for traditional psychologists. Each interview took a maximum total of 60 minutes. Original interview questions are shown in Appendix A and B.

QUANTITATIVE RESEARCH METHOD

ONLINE SURVEY FOR TRADITIONAL PSYCHOLOGISTS

To get insight on the trends of traditional psychologists' perspectives towards NAT and what characteristics of these psychologists they are associated with, an online survey was conducted and distributed to certified *GZ-psychologen* in the Netherlands. The questionnaire was conducted online, using the program *Qualtrics*. The questionnaire was set up in Dutch and distributed via multiple means such as social media, email, and institutions such as *Nederlands Instituut voor Psychologen (NIP)* and several mental healthcare institutions across the Netherlands. A total of 22 questions were asked. Respondents had to judge statements regarding their general vision of nature and more specific, NAT, on a *5-point scale* ranging from 'totally disagree' to 'totally agree'. In addition, there were three close-ended (with options for 'other') questions for getting to know how traditional psychologists got in touch with NAT and for the barriers and opportunities. Traditional psychologists also had to judge statements regarding their personal experience of working in the mental healthcare sector, such as stress and work pressure. This is judged on a *5-point scale* ranging from 'never' to 'always' (with also an option to not answer the question). Four open questions were asked about NAT, to get broader insight into respondents' perspectives. Lastly, demographic questions were also asked. A full list of all

questions within the questionnaire is shown in Appendix C. The questionnaire took 10-15 minutes to be filled by the participants.

DATA ANALYSIS

QUALITATIVE DATA

During all interviews, one team member performed the interview, whereas another team member was notulating. To be able to relisten words being said, the interviews were recorded with permission of interviewees. After the conversations were fully written down, coding of the interviews took place. A list of codes was made before analyzing the interviews (top down) and during coding (bottom up) also additional codes were added. Several color codings were made for the following topics: demographics, clients, stress and coping, work methods, surroundings, attitude, barriers, opportunities, feasibility, necessities and possibilities. For attitudes, barriers, opportunities, necessities and possibilities subdivisions had been made to make clear distinctions. An overview of the coding schedule is added in Appendix D. Every interview was analyzed by one researcher and another one checked the coding that was done. Afterwards, results were discussed and the coded interviews were used to answer research questions 2, 3 and 4 or give background information about the interviewed psychologists.

QUANTITATIVE DATA

The collected data from the online questionnaire was transferred to an excel file, and the program "R" was used for the statistical analysis. Both (bi)nominal and ordinal questions were present in the survey, so different analyses were held for the collected data. First, a *Cronbach's* test was performed to determine whether closed-ended questions within a certain topic were consistent and therefore could be analysed together. After, the mean values were calculated for topics with standard deviation and the Skewness and Kurtosis values to observe the distribution. A *Pearson* correlation test was executed in order to determine whether correlations between topics were present. Lastly, an independent t-test was done in order to determine whether there were significant differences between topics and certain demographics. As for the open-ended questions, all answers were analysed separately and grouped.

LITERATURE STUDY: NATURE AS PART OF THE MENTAL HEALTHCARE SYSTEM

As mentioned in the introduction, nature-based therapies include a series of different therapy categories such as Horticultural Therapy, Nature Assisted Therapy and Care Farming (Stigsdotter et al., 2011). Using nature to promote good health has existed for centuries. Prisons, hospitals and monasteries have historically used outdoor areas as therapeutic spaces (Sempik et al., 2010). The terms that are being used around the world to address the concept of using the natural environment for healthcare may vary from one to another. Although all countries have the resources needed for nature-based interventions, many of these countries have an inadequate community mental healthcare provision which creates a limit for them to have a practical implementation for this approach (Bloomfield, 2017). However, for over 2 decades, research into NAT and rehabilitation for healthcare has increased progressively (Währborg et al., 2014). The increasing number implies the raising awareness on the need to incorporate nature into healthcare treatment and to find more evidence to support the concept in order for it to be commonly implemented in the healthcare system. To strengthen this point, studies show that NAT can have a significant improvement on psychological, social, physical, and intellectual therapeutic goals in diverse client categories along with their disease's symptoms (Annerstedt & Währborg, 2011).

The implementation of using the natural environment for healthcare is commonly found in Nordic countries as they believe that experiencing the natural world would progress towards a state of pure being and happiness (Edlev, 2020). As confirmed by nearly 90% of survey respondents in Denmark, Norway and Sweden, people in the Nordic countries believe that the search for a better quality of life is the main drive for them to seek out nature, landscape and cultural environments (Norwegian Ministry of the Environment, 2009). Their view on the importance of nature for society is addressed in the Nordic Environmental Plan 2013 – 2018 (Nordic Council of Ministers, 2012), in which one of the objectives is to make landscape and environment resources available to stimulate the welfare, well-being and outdoor activities of the region's entire population. As a sample case, the Sweden's Public Health Agency holds responsibility on the government's objectives for outdoor recreation as an attempt to encourage more people to be outdoors in nature to maintain their good public health (*Folkhälsomyndigheten*, 2018). This short list of official reports indicates the Nordic countries' full support on nature-based interventions for healthcare and how they are ahead in plans in regards to highly immersing the natural environment into their healthcare system.

Nature-based interventions in Sweden have been proven to be effectively beneficial to decrease the healthcare consumption as a result of either improved health or an improved capacity to cope with long-lasting illness (Währborg et al., 2014). This outcome is a result of varieties of interventions in regards to nature-assisted therapies that have been practiced such, as horticultural therapy and wilderness therapy. Although the goals and expected outcomes may vary for each type of therapy, the procurable evidence of NAT is relatively higher in quality compared to other forms of therapies that are not involving natural elements (Annerstedt & Währborg, 2011). Additionally, the unified

healthcare system in Sweden all the way from its municipalities to the national level, as well as the Nordic countries' regulations regarding the use of the natural environment, has its own benefits and holds an important role in favoring experiments with nature-assisted approaches for treating mental health issues. However, according to the Organisation for Economic Co-operation and Development (OECD) in 2019, Sweden's care coordination and timeliness of services for patients with cancer, mental illness, Alzheimer's disease and other dementias are still considered as important challenges to improve in the following years.

In Austria and other parts of Europe and around the world, the term Green Care is widely used (Green Care, n.d.). Green Care is a conceptual framework carried in the European Cooperation in Science and Technologies (COST) Action 866: Green care in Agriculture which provides a number of different perspectives in the context of social and psychological theory and enquiry (Sempik et al., 2010), by encompassing the use of nature and animal interventions to promote health and well-being. Unlike the Netherlands whose care farms are primarily involving private farmers, green care in Austria and also Germany, is mainly a responsibility of the healthcare professionals (Westlund, 2014). The key therapeutic triangle in this green care concept are the therapist, the client, and their connection to the natural environment which all together provides nature-based benefits for various groups in need, such as groups of vulnerable or socially excluded people (Sempik et al., 2010). In addition, although complex interventions through the green care concept are considered to be the best evidence for its effectiveness in treating mental disorders and mostly taken care by the healthcare professionals, the regulated greening of medical, social and psychiatric services remains to be seen. It seems that the unregulated access to all level medical care is linked to some undesired healthcare system developments and its essential primary care functions (Pichlhöfer & Maier, 2015).

In the Netherlands there's not yet a clear defined strategy on the country's approach towards nature-based therapies and how to organize the different actors across regions. Care farms have been a growing activity in the Netherlands in the past few decades, going from 75 institutions in 1998 to more than 1000 in 2009 (Hassink et al., 2014). This type of therapy is defined as: "the therapeutic use of farming practices" (Care Farming UK, 2014). The sectors' expansion started after 1995, when care farms officially became funded by a new regime element, the *AWBZ*. The *AWBZ* (*Algemene Wet Bijzondere Ziektekosten*) is the Dutch's collective health insurance for the costs of long-term care in the Netherlands. This implied that care services would be reimbursable by the Dutch government if institutions had an *AWBZ* accreditation. In 1999, multiple organizations got together to collaborate in organizing political support for the development of the new sector. This was obtained with the creation of the National Support Center Agriculture and Care, which was subsidized by the Ministry of Agriculture and the Ministry of Health, Welfare and Sports until 2008. Four years after implementing these financial benefits, a third help came for funding care farm therapies. In 2003, a new style of *PGB* (*Persoonsgebonden Budget*) was created, broadening the range of funding response to clients: mental illnesses, ageing people and youth with multiple problems were now included. The aim of *PGB* was to strengthen the position of clients by giving them a budget which they can spend according to their own needs (Hassink et al., 2014). These and other national/regional supports were essential for the sector to grow. It was estimated by one of the biggest care farmers' foundations that around 75% of the care farmers would not have started their care activities without their support (Hassink et al., 2014).

Horticultural therapy by itself is not a very well-known nature-based therapy in the Netherlands, but many care farms include it in their activities (Elings & Hassink, 2006). Contrarily, countries like Germany, Austria and the UK amply use horticultural therapy in many sectors such as hospitals, rehabilitation centres, nursing homes, schools and day centres (Hassink & Van Dijk, 2006). This therapy is considered a specialization of creative therapy and currently only few courses on this topic can be followed in the Netherlands, amongst other things, at Utrecht Polytechnic. Opposite to care farming, horticultural therapy uses plants as a therapeutic tool and the aim is to reach therapeutic goals independently of agricultural production success (Elings & Hassink, 2006). In the Netherlands, the trendy priority goes towards successful agricultural production (care farms), perhaps undermining the importance of the clients' therapeutic goals.

NAT is the last nature-based therapy discussed in this part of sub-question 1. NAT is defined as “an intervention with the aim to treat, hasten recovery, and/or rehabilitate patients with a disease or a condition of ill health, with the fundamental principle that the therapy involves plants, natural materials, and/or outdoor environment, without any therapeutic involvement of extra human mammals or other living creatures”. (Annerstedt & Währborg, 2011). Usually, it consists of traditional therapy principles but performed outdoors, sometimes also including the environment as an active tool for the practice. Some of the nature-assisted therapists in the Netherlands are also certified psychologists, meaning that often treatments can be covered by health insurances. Nevertheless, since it's still a minor practice, general practitioners, who redirect most their clients to medical specialists, won't yet be recommending NAT due to the lack of familiarity with it and the limited evidence on its extra therapeutic benefits (Hassink & Van Dijk, 2006).

INTERVIEWS: NATURE AS PART OF MENTAL HEALTHCARE SYSTEM ACCORDING TO EXPERTS

All the seven experts interviewed for this project agreed that there has been a general increase in people's awareness for the importance of nature in human life and well-being. This awareness is slowly resulting in a higher demand for nature elements in everyone's lives. One of the experts stated that: “...there is a growing interest in the whole society, in the group of clients or potential clients, but also in the community of therapists and people who develop training or offer something in this area.” (D. Haubehofer-van Meel, personal communication, May 28, 2020). Thus, the interest from the main stakeholders is growing, and a reason presented by many of the interviewees was that people are also looking for more holistic approaches to deal with human health, combining physical and mental health, social surroundings, educational development, and others (D. Haubehofer-van Meel, personal communication, May 28, 2020). Clients look for alternative treatment solutions, where they can benefit not only from the contact with the professionals but also with themselves and the external world. Two of the interviewees affirmed: “...people are looking more towards nature to find solace and peace and quiet so connecting to nature is no longer something to be laughed at.” (A. Beerens, personal communication, June 3, 2020) and “The green space also offers a lot of opportunities for reflection and for more spiritual aspects.” (J. Hassink, personal communication, June 2, 2020). When people are not familiar with such a concept of using nature as a therapy tool and they are suggested to try it, usually the reaction is positive and there is no reluctance to the idea, like mentioned by one of the interviewees: “If I ask them what would you like [...] Most of them love to be outside, because they're working all day inside, in an office, and later on on the couch [...] That one hour a week or

every two weeks is very special” (*de Buitenpsychologen*, personal communication, May 28, 2020). In addition, professionals search for innovative treatment approaches, not only for the sake of their clients but also for themselves. These new approaches can bring additional benefits to the traditional therapy and uncover opportunities during treatment sessions. “They feel this work [outdoor therapy] is much more rewarding [...]. When you’re indoors you’re in a confined space, but when you go outside there is no such space [...]. This is both beneficial for the treatment and client and even for them as professionals” (A. M. Palsdottir, personal communication, June 4, 2020).

Although the interviewed experts say the demand for NAT and nature-based interventions is generally increasing, it was also stated that this isn’t necessarily the best solution for everyone. For example, people that have any type of apprehension or intolerance towards natural elements are not so suitable for this type of treatment (e.g. allergies or phobias). Therefore, the main stakeholders are simply aiming to see NAT on the same level of opportunity as other therapies. One of the experts stated “Nature-based therapies [...] will be sooner or later accepted as one possible option, next to others like art therapy, or dance therapy [...]. It will find its place between others as having the same possibilities, the same options, the same pros and cons, the same strengths and weaknesses [...]. It should not be seen as the only solution but it will be seen as one solution having the same worth than other therapeutic offers” (D. Haubehofer-van Meel, personal communication, May 28, 2020). Something that was also discussed with all seven experts and reached a consensus was the enormous variety of possibilities within a “nature setting”. Using nature as a tool can be as broad as using as many natural elements as possible. Contrasting examples can be a forest or a park, a rural area or a more urban one, a wild field where spontaneous nature grows or a very well managed garden. There’s no right definition of what type of nature should be used, but instead, all of it can be considered beneficial. As stated by some interviewees: “When it comes to the health effect of nature, it doesn’t have to be wild at all. Ornamental plants in the living room can have that effect too.” (M. Jacobs, personal communication, June 2, 2020), “It doesn’t have to be pristine nature [...] rural areas can also be very nice, pleasing and restoring” (H. Staats, personal communication, May 28, 2020).

By talking with experts from outside of the Netherlands, it was possible to get some insight on how this topic is approached and evolving in other European countries. Some countries, such as Austria, Germany and Italy adopted the umbrella term “Green Care”, that tries to unify the different activities that use nature as a tool for improving people’s well-being. It was stated that green care is “some kind of platform to make them stronger and easier to be heard in society, in politics, for the economy and so on” (D. Haubehofer-van Meel, personal communication, May 28, 2020). But this inclusive approach is not approved nor established by all countries that perform, as defined in this project, NAT. In most of the Scandinavian countries (Sweden, Norway, Denmark and Iceland), a more selective approach was undertaken, where terms were carefully thought to define different fields of expertise within “nature-based solutions” (A. M. Palsdottir, personal communication, June 4, 2020). As stated by the experts, a division was necessary in order to obtain support from legal authorities and the medical field, and the terms should be objective and scientifically correct, to be able to achieve this. “Working with the medical sector you have to be really precise, you have to have very good definitions, and have to be transparent. We use the term Nature-based interventions [...] interventions can be everything from rehabilitation, promotion and prevention [...] and nature-based [...] is about the outdoor setting” (A. M. Palsdottir, personal communication, June 4, 2020). With these different inputs it was concluded that there’s not only one right answer for bringing NAT to the

spotlight of alternative therapies. Different solutions can be found within different social, cultural and governmental contexts.

Despite the increasing interest in using nature as a tool for mental healthcare treatments and the successful examples previously mentioned from other countries, it is too soon to say that implementing NAT in the Dutch mental healthcare system will be as easy. Compared to Austria, Sweden, and some other Scandinavian countries, the Netherlands is relatively lacking behind these countries in terms of using nature as part of the healthcare treatments. In the Netherlands, people who are working close to nature are divided into different fields and it is hard to find common ground between these groups (*de Buitenpsychologen*, personal communication, May 28, 2020). Even in the healthcare system itself, the knowledge is shared into different forms such as medical and education, which might lead to different approaches towards each form for its practical implementation.

In the case of the Netherlands, “the Dutch culture is a lot about working hard and controlling and of course export is a very large thing in Holland for something like tulips, cheese and for example technical agricultural solutions” (A. Beerens, personal communication, June 3, 2020). Due to this hard working attitude, the Dutch tended to focus more on the technical matters and prefer to have more control for the things happening around them rather than letting nature do its own work. Consequently, the described capacity pinpoints a disconnectedness of the society to their natural surroundings within the Dutch culture because one cannot technically control the uncertainty that nature can bring up. Thus, this could be a logical cause for the Netherlands to take more time than its neighbour countries in realising the benefits that nature offers to human’s health and it becomes a thing that needs to be worked on.

The importance of being aware and staying connected to nature in the Netherlands is not yet fully institutionalised nor delivered through an official education curriculum system, even though it could play a significant role in raising people’s awareness to their nature surroundings (J. Hassink, personal communication, June 2, 2020). This affects the way the Dutch mental healthcare system perceives nature as an eligible option for treating people with mental health issues. In addition, there is not enough evidence that can be brought up to support the need to implement NAT through the system. The lack of awareness on how nature can have a direct benefit to our health could possibly be a barrier for NAT to be widely recognised and practiced by healthcare professionals, namely certified psychologists or therapists. However, over the past decade, there is a growing awareness narrative in the Netherlands for the importance of reconnecting people to their natural surroundings. The physical space to expand the awareness is relatively small in the Netherlands compared to other countries such as France or Italy, “...but that is a reason to be very cautious of what we do with nature and a reason to be very grateful for all the trees and all the greens that we do have and to treat that well.” (A. Beerens, personal communication, June 3, 2020).

According to experts, terms that are commonly used in the Netherlands when they talk about nature-human relationships and its relation to healthcare are ‘care farming’ and ‘horticultural therapy’ (J. Hassink, personal communication, June 2, 2020; A. Beerens, personal communication, June 3, 2020). In practice, ‘care farming’ activities involve farmers and their natural environment to provide and promote services related to physical and mental health. The idea of this form of activities is to help people build up their sense of belonging as a community, by participating in farmers’ daily activities in an interactive way towards the green environment as well as the animals. By putting the idea of

'care farming' into actions, it is expected that people would appreciate the combination of attitudes of these farmers, green environments as well as the interaction with animals. The interactive approach that is provided by 'care farming' is expected to have a positive impact on both farmers and the other people who are involved in it (J. Hassink, personal communication, June 2, 2020).

Another form of nature-based healthcare treatment that has been practiced in the Netherlands is 'horticultural therapy'. The idea of using this type of therapy is to allow people in need to stay connected to elements of nature by engaging with plant-based activities. For urban communities, having a green space in their area of living could be the closest thing they can have to be able to connect to nature. Using outdoor areas as a therapeutic setting might not be seen as common because "...going outdoors is always something that people do for leisure and for silence, restoration" (A. Beerens, personal communication, June 3, 2020). While the idea of having a restorative landscape has always been present in the agricultural society that we used to have, in an urbanised society, green spaces have become a cultural question that we need to work with. Thus, in a bigger context, 'horticultural therapy' helps to facilitate people's needs in rediscovering their connection to nature by engaging with natural elements.

While more people realise the importance of using nature as a tool for treating people with mental health issues, finding a way to widely implement the concept could be intricate if stakeholders involved are not yet fully prepared to support it. In this case, the national government can hold an important role in making NAT concept to be widely accepted and in making it work in the country's healthcare system. Once the government is in favour of fully participating, and is committed to allow the concept to work under signed law and regulation, it will facilitate the healthcare authority and social insurance authority to implement the concept, in the Netherlands' case, NAT (A. M. Palsdottir, personal communication, June 4, 2020). In order to do this, the involved stakeholders need to push the government to unify the authorities by providing evidence of successful implementation for NAT within and outside of the Netherlands. Also, it is important to take into account the direct connection between each given example as well as its feasibility to the authorities in the context of implementing NAT into the Netherlands' healthcare system.

To end on a positive note, these perceptions sustained by the government and health insurances might actually be reaching a turning point when it comes to supporting NAT practices. With the current COVID-19 pandemic, humanity is experiencing an extensive adjustment on what is considered priority for the policy makers, especially in times of global emergency. The interviewed experts mentioned that an exponential growth in concern and demand for good health quality is also calling to involve nature and its benefits to the picture. "What COVID is about is that our collective immune system is not strong enough. And working in nature is proven to be a very good strengthening of the immune system. The therapeutic place outside it actually is for free and it's the best thing for your immune system." (A. Beerens, personal communication, June 3, 2020)

"Since Corona, all the sudden you see Swedish people gathering in groups in the park, having picnics, laying down in blankets, they didn't do that before." (A. M. Palsdottir, personal communication, June 4, 2020).

INTERVIEWS: PSYCHOLOGISTS' VIEW ON NATURE-ASSISTED THERAPIES

The interview questions that were used for interviewing the traditional and outdoor psychologists can be found in appendix A and B. Color codings were used to make clear distinctions between traditional psychologists and outdoor psychologists. Traditional psychologists have a **blue color coding**, whereas outdoor psychologists have a **green color coding**. Furthermore, in contrast to the interviews with experts, no direct quotes will be cited here, since the interviews were in Dutch. Direct citations are therefore not possible, because their statements would then have to be translated.

Descriptives of subject-population

The interviews with traditional psychologists were conducted with three different psychologists. To guarantee anonymity, the interviewees will be called; interviewee 1, interviewee 2 and interviewee 3. The interviewed outdoor psychologists are called; interviewee 4, interviewee 5, interviewee 6 and interviewee 7.

Table 2 - Traditional psychologists

	Interviewee 1	Interviewee 2	Interviewee 3
Surroundings	5 minutes walk to green area with heath	Own practice: located in area with fields, agriculture, field roads and animals Clinic: Crowded street, 10 minutes walk to green area	Meadows on walking distance and forest on 5-6 minutes driving distance
Title	<i>GZ-psycholoog</i> in own practice	Basic psychologist, being educated for <i>GZ-psycholoog</i> . Working in specialized healthcare clinic	<i>GZ-psycholoog</i> in own practice
Clients	Children, adolescents and adults	Own practice: every age category Clinic: children and adolescents	Aged over 18 years with no maximum age

Table 3. Buitenpsychologen

	Interviewee 4	Interviewee 5	Interviewee 6	Interviewee 7
Surroundings	Lots of nature areas	Depends per city in. In some cities there	Lives 600 meters away from the forest	By car it is 10 minutes to the forest

		is more nature or a beach nearby		
Title	<i>GZ-psycholoog, outdoor psychologist</i>	Health & work psychologist (not <i>GZ</i>), outdoor psychologist	Remedial educationalist (in Dutch: <i>orthopedagoog</i>), <i>GZ-psycholoog, outdoor psychologist</i>	Forensic psychologist (but works in the regular <i>GGZ</i>), outdoor psychologist
Clients	Master psychologists	People who have become or are in danger of becoming sick at their workplace. Especially people with burn-out complaints.	Broad → people with trauma, eating disorders, addiction, etc.	Adults with depression, personality disorders, anxiety and such

Table 4. dates interviews

Interviewee 1	June 10th, 2020
Interviewee 2	June 10th, 2020
Interviewee 3	June 11th, 2020
Interviewee 4	June 11th, 2020
Interviewee 5	June 11th, 2020
Interviewee 6	June 12th, 2020
Interviewee 7	June 11th, 2020

INTERVIEWS: ATTITUDE TOWARDS NATURE-ASSISTED THERAPY

TRADITIONAL PSYCHOLOGISTS

Considering the work methods, feelings of personal stress and coping mechanisms of interviewees 1,2 and 3, the view and attitude towards use of NAT in treating adults with mild mental disorders is described. As for the work methods and feelings of personal stress, the obtained results are put in appendix H. All interviewed traditional psychologists explained that nature was involved in treatments offered, however in a low frequency. Interviewee 1 believes that complementing NAT helps in practicing what you preach; telling clients to go outside on a more frequent basis whilst sitting in a room for nine hours a day might be contradictory. During the session with interviewee 2, she

mentioned feeling contradictory about telling clients to go outside more often and not implementing it on a personal level. Interviewee 2 made use of outdoor therapy sessions very frequently in the past, and was very enthusiastic about it, without being explicitly aware of the term NAT. Reasoning behind lowering the frequency of outdoor therapy sessions was unknown by interviewee 2, however after the interview new considerations were pronounced about going outdoors during therapy sessions again. Whilst having a look on the perspective of clients towards NAT, thoughts of interviewee 2 were positive; when a psychologist is enthusiastic about a way of treating, some of the clients will become enthusiastic as well and for those who are not, there is always another treatment option. Interviewee 3 mentioned that the combination of the words 'outdoor' and 'therapy' were new, however nature is in certain ways already involved in personal practice in ways of making use of nature inside the treatment room and in low frequencies in outdoor settings. The experiences in outdoor settings were very well-experienced by both the clients as interviewee 3 themselves. Overall, interviewees 1 and 2 have a more balanced view towards NAT, where they combine enthusiasm with criticism, whereas interviewee 3 was generally more enthusiastic. Detailed descriptions of given opportunities and barriers will be provided in the next parts. All traditional psychologists interviewed questioned themselves afterwards what was holding them back to not implement outdoor therapy sessions more frequently.

OUTDOOR PSYCHOLOGISTS (USING NAT)

The attitudes towards NAT of the interviewed outdoor psychologists show both similarities and differences. For this topic statements of all interviewees were taken into consideration. All interviewees agreed that nature has positive effects on human health and wellbeing. This shows their understanding of the importance of the effects of nature. Interviewee 4 stated that people need nature and that the urbanization process has negative effects for human wellbeing. However, she thinks that it is important to work in 'real' nature since she thinks that it has more influence than working in a landscaped pasture. Interviewee 7 mentioned that losing the connection with nature is a loss in such a way that humans are less able to get close to their feelings and intuition. She links this to the human history of being hunters and gatherers and therefore being one with nature. Interviewee 5 stated that she feels really relaxed when working in nature. In addition, she thinks that this also applies for her clients. Interviewee 5 mentioned that she recently experienced that nature can help with coming up with different insights and especially more experience-oriented insights than just cognitive ones. The interviewees believe in the positive effects of NAT and therefore implemented it in their job. The interviewees also mentioned the attitudes of others regarding NAT, which vary from positive to negative. For example, interviewee 4 perceived that the colleague-psychologists around her are interested in the use of outdoor psychology as well, but that they have never dared to try it before. However, this is not always the case, since interviewee 5 mentioned that she thinks that her colleague-psychologists think NAT is a hassle, but she never talked about it with them explicitly. Moreover, the use of outdoor psychology is not always taken seriously. Interviewee 7 stated that her director compared outdoor psychology to tree-hugging.

Motivation (for using NAT)

It was mentioned by the interviewee 4, 5 and 7 that they experienced work-related stress and feelings of discontent, sometimes resulting in burn-out symptoms and dropping out of work, due to being

protocol-bound and working with a tight schedule. To cope with these stress and burn-out symptoms, the interviewed outdoor psychologists went outside and exercised more. By experiencing the positive effect nature had on their well-being, such as comfort and stress-reduction, the interviewees were motivated to implement this in their work and private lives. They could see the benefits for both themselves and their clients. Interviewee 6 mentions wanting to share the healing effect of nature after experiencing it herself, and interviewee 5 thinks that both her own and her client's mood will be improved. For most interviewees, seeing these benefits has led to an implementation of NAT into their therapy or practice. The possibility of determining one's own pace combined with the implementation of NAT, is what eventually led to reduced stress levels, as well as more satisfaction in their work.

Difference in attitude between traditional- and outdoor psychologists

There were a few differences between the two interviewed groups in regard to their view and attitude on NAT. While the outdoor psychologists make a conscious decision to implement NAT, the traditional psychologists admitted to use outdoor elements in their therapy as well, without being aware of it. In fact, they were enthusiastic about the positive effects of nature in their therapies independently of their knowledge and awareness of the existence of NAT. On the other hand, the outdoor psychologists choose to implement NAT precisely because they are aware of and believe in the positive effects of nature on human well-being. Their being more experienced in using NAT than the traditional psychologists, leads to more detailed and knowledgeable preferences. The outdoor psychologists logically have more in depth insights about nature-health relations. Thus, they consciously implement it in their work and private lives. For the traditional psychologists however, it feels conflicting to encourage their clients to go outside more without applying this in their consults or own private lives. Additionally, in general, the outdoor psychologists are positive about NAT, while the traditional psychologists have a more balanced view between criticism and enthusiasm.

INTERVIEWS: POSSIBLE OPPORTUNITIES FOR NATURE-ASSISTED THERAPIES IN THE NETHERLANDS

Traditional psychologists expect to experience different opportunities when complementing current therapies with NAT in the Netherlands or they already experience some (to some extent) due to going outside on a low frequency. On the other hand, outdoor psychologists, who already use NAT also gave insight into opportunities they experience or the opportunities they would expect their traditional colleagues would experience. Opportunities can be categorized in different groups, including opportunities for psychologists' wellbeing, clients' wellbeing, consults, practicalities and innovative initiatives. Lastly, opportunities within the context of the COVID-19 pandemic and examples within surroundings are taken into account, which could potentially make it easier for complementing current therapies with NAT.

Psychologists well-being

Theme 1: improved general wellbeing

Interviewee 2 stated that being outside and using NAT is beneficial for the psychologists' overall wellbeing.

Theme 2: improved lifestyle during and after consults

Interviewee 1 and 7 mentioned the improvement in lifestyle for psychologists when using NAT. It would be good for everyone to make more conscious decisions about their lifestyles. When you offer NAT to clients, you will automatically do this. Interviewee 7 additionally mentioned, since working at her own NAT practice, that she did not need to take long walks after working hours as she had sufficient physical activity during the day.

Theme 3: positive influence of nature on cognitive mechanisms

Interviewee 1 brought up the opportunity for psychologists themselves to close yourself off from the world and to focus on yourself or your surroundings when being in nature. All outdoor psychologists acknowledged that being in the natural environment helps them to gain new perspectives and adaptively cope with work-related stress. Interviewee 6 added that her own and the clients' mood was just "different" after a therapy session outside. Interviewee 7 mentioned that she experiences difficulties with sitting still for a long while, so NAT helps her to calm down, clear her head and increases the ability to deal with emotionally heavy topics.

Theme 4: work variety

Additionally stated by interviewee 7 was that using outdoor therapy was also considered as an opportunity to have more work variety during their day, by switching between providing therapy in the outdoor and indoor setting.

Theme 5: avoiding protocols

Another aspect of opportunities for increased wellbeing of psychologists is the fact that interviewees 4 and 7, who work for themselves, commented that they were very happy to be able to let go of the mental healthcare protocol as implied by the healthcare insurance companies. Instead, they felt like they could do what they thought was best in the interest of the therapeutic process, the client and themselves. Furthermore, interviewee 7 addressed that providing NAT also challenged her to question how she wanted to be as a psychologist without the rigid context of a working office and a protocol to follow. Interviewee 7 additionally mentioned that having to see 8 clients per day when you are working for an employer, is just too much.

Clients' wellbeing

Theme 1: improved general wellbeing

According to the traditional psychologists, interviewee 2 and 3 focused on the general wellbeing of clients, with interviewee 2 suggesting it is beneficial to go outside and use NAT, engage with different sensory experiences (light, energies, odours), and interviewee 3 suggesting it could also improve one's progress and lead to fewer complaints when the client feels connected to NAT.

Theme 2: increased physical activity

Interviewees 1 and 2 mentioned the increased level of physical activity. Interviewee 1 mentioned that some clients are very restless and thus would appreciate being physically active. In addition, interviewee 1 suggested that it would be helpful to make NAT a standardized method for psychologists, because clients do not follow her advice; they do not go outside by themselves, even if you advise them to. Interviewee 1 in addition suggested it could be helpful to practice what you preach by going outside with the clients to let them experience it.

Theme 3: improved lifestyle during and after consults

Interviewee 2 mentioned that improvements obtained from using NAT would not only show improvement during therapy sessions, but also afterwards. She expressed the hope for a profitable side-effect that clients will also develop a pattern or a habit to go outside more by themselves. Indeed, both interviewee 1 and 7 presumed that the ones who followed NAT also spend more time in nature in general. Interviewee 1 acknowledged the need for this lifestyle improvement by noting that individuals are working very hard in the indoor environment, which leads to many burnout complaints, heart and vascular diseases and other health problems. Furthermore, Interviewee 7 acknowledged that one of the reasons she became an outdoor psychologist is that she wanted to spend more time outdoors herself.

Theme 4: positive influence of nature on cognitive mechanisms

Multiple interviewees noticed the positive influence of nature on cognitive mechanisms of clients. Interviewee 1 mentioned that being in nature provides the opportunity to close yourself off from the world, to focus on yourself or your surroundings, and to obtain a new perspective on things. Interviewee 3 addressed that NAT could lead to clients to feel understood and to have trust in the outside world. Additionally, interviewee 4 mentioned that it is easier for clients to retain information, as they are literally away from their regular setting, at least for a while. Lastly, interviewee 6 assumed that the clients approach their problems with a different perspective after 45 minutes of walking in nature.

Theme 5: privacy

According to privacy of a client by meeting at another location, interviewee 3 brought up that she considered this as an opportunity. She expressed that she went outdoors with a client, because the client did not feel comfortable with other people seeing her going into her practice. So they decided to take the consultation outside. Additionally brought up by interviewee 6, was that being in a quiet natural environment rarely causes running into other people.

Theme 6: less consults and medication

Interviewees 4 and 7 claimed that because of the physical aspect of NAT, the clients will already feel significantly better and recover more quickly from mental disorders, also by needing less consults. No exact number could be given, but it was estimated that this could vary between a decrease of 2 to 4 sessions per client. Interviewee 5 supported this statement, by indicating that clients with depressive complaints can further improve due to exercise. Interviewee 5 also speculated that when clients exercise more often in nature, they might need less tranquilizers.

Theme 7: possibility to determine own direction

Interviewee 1 discussed the option to make clients responsible for searching a route to walk during the consultation and to give them the opportunity to take control.

Consults

Theme 1: more relaxed ambiance during consult

According to interviewees 1, 2, 4, 5 and 7 being in nature helped the natural conversation flow. Interviewee 1 and 7 mentioned that some clients do not want to look their psychologist in the eyes. Interviewee 2 and 7 mentioned that clients might find it easier to talk when walking next to each other, instead of looking at each other. According to interviewee 7, walking outside might help these types of clients who experience difficulties in communicating with their psychologist. Interviewees 5 and 7 also assumed that in general, clients seemed to be more relaxed, more in touch with their feelings and enjoyed being in a natural environment.

Theme 2: more natural conversation flow and improved contact

In addition to direct benefits of the wellbeing of both psychologists and clients, some opportunities for the consultation were identified. Interviewee 1 mentioned a more relaxed ambiance, in a sense that she already experienced that clients responded differently and more relaxed when having therapy sessions outside. In line with this, both interviewee 1 and 2 used walking or playing outside as a strategy to let the younger people they are working with, open up to them. Moreover, for interviewee 6, the conversations in nature also felt more equal, blurring the strict indoor role boundaries between psychologist and client. This corresponds to interviewee 3, who also explained that by using NAT the psychologist opens up to a client outside a treatment room, showing that she is connected with the client. These circumstances make the client feel welcome to share his or her experiences and difficulties.

Theme 3: use of symbols or external tools

Lastly, interviewee 7 brought up that most clients were better able to explain specific psychological concepts, like an internalised critical voice of their neglectful primary caregiver. They managed to do so by using different objects in nature as metaphors that refer to these often emotionally loaded topics, such as a very ugly rock. Also, interviewee 3 uses nature for different symbols that a psychologist can use within the consult, such as the weather or trails within the forest. A client can be figurally standing at a crossroad in his or her life, and seeing this situation in real life can help the client. Lastly, natural elements could be used as external tools within the consult, for example using water, fire and soil.

Practicalities

Theme 1: able to do it anywhere, anytime

According to interviewee 1, NAT can be used anywhere, you do not even have to have access to an indoor treatment room. In addition, you can even meet clients at their work and have a walk in that environment.

Theme 2: access to greenery

According to interviewee 2 you have access to greenery everywhere. Interviewee 3 mentioned that green areas are available even in urban areas. Interviewee 2 mentions that you have to search for it a bit more or have to adapt to these urban circumstances. However, she prefers greenery nearby such as a garden, field, park or farm. Interviewees 5 and 6 mentioned living really close by a nature area, so they could just cross the street or hop on their car for a short drive to the parking lot of a forest area . For interviewee 5 and 6, the close proximity of these nature areas also facilitates the possibility of being flexible in their planning, meaning that they could decide on the short term whether a session needs to be indoors (for example during an intake) or whether they can go outside with their client.

Theme 3: higher workload

Interviewee 2 came to the realization during the interview itself, that she was able to see more clients in a row during the time when she had more outside consults. She is of the opinion that when going outside as a psychologist, you can handle much more, do a better job and do the job for a longer period of time, when compared to sitting inside continuously.

Theme 4: the weather

Interviewee 2 and 3 also mention the weather, and the ability to use NAT in every circumstance such as rain, sun and snow. Even if NAT is always doable, interviewee 2 does not want to go outside when there is any type of rainfall. Interviewee 5 stated that in the past two years, she learned that you can always go outside, the only thing you have to take in mind is that you have to prepare yourself, for example by bringing an umbrella or raincoat to outdoor sessions.

Theme 5: practical reasons

However, interviewee 2 did not only go outside due to those particular reasons, but also because of more practical reasons, such as walking the dog together with clients if there is no time in between clients.

Innovative initiatives

Theme 1: possibilities resulting from innovative initiatives

One of the psychologists (interviewee 7) also elaborated a bit on innovative possibilities as an indirect benefit of NAT. Depending on your own level of creativity as a psychologist, you can try out numerous innovative approaches of NAT, such as the metaphorical use of different elements in nature, which can also stimulate the client.

COVID-19

Theme 1: more experience

In the context of the worldwide COVID-19 pandemic, possibilities for using NAT were also discussed by interviewees. Interviewee 1 mentions that there is no other option for meeting face-to-face with clients than meeting in an outdoor setting. This situation, where all of us need to relate to each other in a different way, brings a lot of opportunities for using NAT. In line with this, interviewee 3 mentions

that more experience has come to the table for traditional psychologists to go outside. Interviewee 5 noticed colleagues are indeed experimenting with implementing therapy outdoors as a result of social distancing. These trials actually taught them that it worked out very well and that there are a lot of possibilities outdoors. In addition, interviewee 4 sketched that in times of a global pandemic, more people might discover the joy of being in nature and the potential it could offer as a therapy setting. This can possibly lead to an increased demand for outdoor psychologists. Two interviewees (5 and 6) also confessed being more outside themselves in their private lives. Lastly, interviewee 1 discussed the possibility to combine online with outdoor consults. This pandemic is the perfect opportunity to actually use NAT and possibly limit resistance of clients who have high privacy standards.

Examples in the surroundings

Theme 1: examples from colleague psychologists or organisations

The last opportunity mentioned by interviewee 4 brought up is that a role model, a colleague that has already been practicing NAT for a longer time, can help them overcome specific obstacles outdoor psychologists might face when practicing NAT. A fellow psychologist might help them develop innovative solutions for problems they might otherwise not be able to solve and advise them on different aspects. In line with this, interviewee 4 mentioned she had learned a lot by a curriculum she followed from *de Buitenpsychologen*, since it increased the knowledge on her topic. Interviewee 4 additionally thinks that larger organisations such as Pro Persona should hear about NAT and when enthusiastic, they can be used as an exemplary role for complementation of NAT. Interviewee 4 also stated that organisations have to let their employees try NAT out and give them the freedom to make their own choices to use this and the possibility of experiencing NAT with (unconstrained and free) pilots. Lastly, interviewee 3 also specified that support from colleagues and the *Nederlands Instituut voor Psychologen (NIP)* is also very important for complementation.

Theme 2: education

Interviewee 1 and 3 mentioned the opportunity for educational institutions to append NAT, since the new generation of psychologists will then automatically be introduced with this concept. According to interviewee 1, it is easier for psychologists to learn a new opportunity for treatments instead of changing habits and ways of treating after performing them in a certain manner. Interviewee 5 stated that NAT should become part of the Psychology Master in university and also during the GZ education, as this will create awareness.

Theme 3: increased popularity

Interviewee 5 stated that she thinks that NAT will be implemented more in the near future. She mentioned that it has become fashionable and that colleagues or coaches who are not psychologists picked up a form of walking coaching or outdoor coaching. She thinks that more psychologists will apply NAT and that clients will experience this as pleasant.

INTERVIEWS: POSSIBLE BARRIERS FOR NATURE-ASSISTED THERAPIES IN THE NETHERLANDS

Barriers that (might) occur according to both traditional- and outdoor psychologists when complementing current therapies with NAT in the Netherlands are described in different subheadings. Additionally, the possible barriers for NAT that outdoor psychologists think their traditional colleagues would experience are mentioned. Barriers are considered within the context of the workplace, clients, psychologists, resources, nature, COVID-19, concurrents, knowledge and recognition, access, intensity and covering of NAT. Themes within these main groups are identified.

Workplace

Theme 1: workplace flexibility and effort

Interviewee 1 and 2 both acknowledged differences between having your own practice and working within an institution. Interviewee 2 mentioned that within an institution, there are opinions of other colleagues and legal aspects, whereas within your own practice, you can decide on these aspects for yourself. Interviewee 1 mentioned clients would want to walk in another area to avoid seeing other people they know, which would result in too much organizational work, which could be even harder within institutions due to the need of seeing a certain number of clients a day. Added by interviewee 5, working in three different cities, is that it is difficult to plan traveling between cities and make a switch between indoor- and outdoor settings. Especially, when there is no natural surrounding nearby, having multiple therapy sessions outdoors in one day is experienced as difficult. However, when working near natural surroundings this was not perceived as a barrier. Interviewee 5 mentioned that colleague-psychologists might think that certain treatment methods are difficult and not suitable to use outdoors. In addition, she thought that some colleagues might find it difficult to logistically combine NAT with other tasks and indoor sessions. Lastly, interviewee 7 states that it is not feasible for her to do all the sessions outdoors. However, she tries to keep a balance between indoor and outdoor sessions. She is doing EMDR and intake sessions indoors as it is difficult to execute this outside and it is in addition more difficult to take notes.

Theme 2: safety

Interviewee 2 mentioned something about safety of the workplace. She stated that during an intense conversation outdoors with clients, paying attention to traffic is necessary to guarantee a safe environment and therefore is an obstacle regarding sessions. Regarding the legal aspect, interviewee 2 addressed the issue of legal responsibility if a client would get injured during an outdoor consult. An example of this is a client getting hit by a car when crossing roads. Interviewee 2 additionally mentioned this issue would be different for her in her own practice than for the institution she is working for, where she is not at risk of losing her job.

Clients

Theme 1: Client's privacy

According to interviewee 1 and 2, the privacy of clients could be hard to guarantee when using NAT. Interviewee 1 wondered how private the consultation will be when walking outside with clients, due

to the possibility of running into other people who also know that she is a psychologist (and thus know that her client is seeing a psychologist). She questions if clients will feel comfortable during outdoor consults. This is in line with interviewee 2, where she has the idea that clients from her own village do not want to walk outside with her, due to people recognizing her client as walking with a psychologist. She mentions that she often gets clients from outside her village, and that these clients are happy to walk around with her. She explains that seeing a psychologist is still a taboo in Belgium, which is also the case in the Netherlands, but to a lesser extent. This is in line with interviewee 5 mentioning that it can be difficult to guarantee the privacy of clients. As an example she said: 'imagine walking with your client in his or her own living environment, you can always come across someone along the way'. Clients might not like the fact that they can encounter other people and that those people can possibly hear what you are talking about. However interviewee 6 said that the privacy of your clients is especially a barrier for psychologists who have a practice in a busy urban environment. As an example she stated that when you are having a session with a client in the Vondelpark in Amsterdam you might encounter multiple people. She additionally mentioned that clients do not like the feeling that others might hear what you are saying.

Theme 2: Client's perception or judgement

The traditional psychologists mentioned barriers regarding clients' perception or judgement of NAT. Interviewee 1 addressed the issue that clients could not be willing to do NAT, and that clients not willing to do NAT will probably not choose to go to a psychologist who (also) uses NAT. Interviewee 2 mentioned that clients did not take it seriously when she suggested to go outside in the past. Those clients were of the opinion that they could also walk at home, and did not realize that the outdoor consult was similar to an indoor consult. Those clients do not qualify for getting NAT. In turn, interviewee 2 expressed that this holds her back from using NAT. In addition, interviewee 3 addressed clients' expectations as a barrier. She experienced that it is easy to think that clients still want to get what they expect to get what they want from within a therapy session, likeso sitting on chairs in an indoor treatment room.

Theme 3: Less opportunity to see or observe each other

Interviewee 1 mentioned that there is less opportunity to see or observe each other when walking outside.

Theme 4: Possibility of encountering someone interferes with feeling emotions

As another matter related to privacy, interviewee 1 expressed her doubts if clients would feel just as emotionally free outside as they feel inside, with the risk of coming across other people in an outdoor setting.

Psychologists

Theme 1: not automatized, not routinized

Statements of interviewees 1, 3, 4, 6 and 7 were taken into account for barriers related to (colleague) psychologists regarding use of NAT. Interviewee 1 expressed that she is not vigorous enough, because going outside is not part of her structure, routine or is non-automated behaviour. This leads to her not bringing up the possibility for clients to go outside, which she actually should do in her opinion. In

addition, it takes 3-4 times in a trajet to say 'let's go outside' before she actually goes outside with her client. According to outdoor psychologists 4, 6 and 7, NAT is outside the comfort zone of some psychologists. Interviewee 6 stated that some colleagues might find the structure of the room something that is supporting them. She additionally mentioned that outdoor psychology is another way of working and that people sometimes have to get used to it. Interviewee 4 stated that everyone around you is working in offices and also during your studies that this is seen as something normal. She stated that some people might not even get the idea to go outside as they do not know that the possibility exists.

Theme 2: drastic change

Both interviewees 1 and 3 considered using NAT as a radical change. Interviewee 1 described it as a more radical change than any other strategy, knowledge or protocol, because you have to make a completely different decision beforehand. Interviewee 3 described it as the need to broaden expectations, assumptions and paths, since psychologists are used to standardly sitting in an indoor treatment room for decades.

Theme 3: safety psychologists

Interviewee 6 mentioned that some colleagues might dislike walking alone in the forest with a client. As an example she said that some clients might have a forensic background or TBS. However, she stated that this is different for the basis-GGZ, but that she still does not know what her clients are up to when she is walking with them.

Resources

Theme 1: Time investment

Interviewees 1 and 2 mentioned barriers regarding resources, with time investment in particular. Interviewee 1 mentioned that she sometimes feels like it is a waste of time to go outside for therapy sessions. Interviewee 2, who already did go outside in the past with clients, goes outside to a lesser extent now due to her education and busy personal life.

Nature

Theme 1: Weather

Interviewee 1, 2 and 4 mentioned the weather, where for example rainfall is considered as a barrier to go outside. Additionally, interviewee 5 stated that it is especially difficult to take notes when it is raining.

Theme 2: Natural inconveniences

Interviewee 3 addressed discomforts that nature could bring, such as ticks and the fear clients could experience when being in nature. Things like this should perhaps be taken into account to lower the threshold for clients that cannot easily deal with nature's discomforts. This is in line with interviewee 4, stating that it is sometimes difficult that there is not always a public toilet available. She said that the availability of public toilets is a 'season-boundal' thing and that especially now with COVID-19 a

lot of them are closed. Interviewee 4 also stated that this could be a problem especially when her clients have to travel to her and do the session, as this will take approximately two hours in total.

COVID-19

Theme 1: Meeting in real-life becomes unnecessary

Contrarily to interviewee 1 and 3, interviewee 2 is of the opinion that COVID-19 did not contribute positively to complementing NAT with current therapies, since psychologists have learned that they can video call, so they stay inside even more.

Competition

Theme 1: E-health and social media as competitors

Interviewee 2 addressed that E-health and social media could be a serious competitor for NAT. During the rise of e-Health equipment and the constant growth of technological possibilities, the kickoff of implementing e-Health services in mental healthcare has started. As a consequence, e-Health will result in supporting clients from a distance, via a screen whereas NAT is seen as the complete opposite.

Knowledge and recognition

Theme 1: Lack of knowledge and recognition

Interviewee 2 addressed that NAT is not widely known. During the interview, interviewee 2 came to the conclusion that she 'accidentally' has been performing NAT while not being aware of it. The terminology "nature-assisted therapies" is not widely spread and therefore psychologists might not be aware of its possibilities or if they are complementing it already. In addition, she mentioned that public relations is needed to increase knowledge of NAT among society. According to interviewee 7, who stated that there is still a lack of evidence about the potential positive effects of outdoor psychology. Additionally, she mentioned that many people find outdoor psychology vague, alternative and floaty. However, when she properly explained the concept to her colleagues most of them tend to like the idea. Interviewee 1 and 2 shared thoughts about the increased amount of scientific evidence related to the effectiveness of nature-assisted therapies. Mentioned was that if scientific evidence demonstrates that a combination of outside- and indoor therapies is the most effective, people will start to go outside more often. In fact, scientific proof needs to outline the actual added value of nature-assisted therapies in order for psychologists to go outside with their clients This is in line with interviewee 7, mentioning that NAT should be investigated more as there needs to be more scientific-evidence. Furthermore in line with the need for scientific research, other parties, such as the government and health insurances, will additionally consider complementation when scientific evidence states that less sessions are needed and therefore mental health treatments reach lower cost. Interviewee 7 additionally stated, that health insurance companies might be willing to cover the costs for NAT when there is more scientific evidence.

Access

Theme 1: No variety or space to do different things in surroundings

Interviewee 2 indicated that only having a certain amount of time to see clients slowed her down, and in that time frame you will often walk the same route. She explained that this is very boring for her. A variety in doing this in the environment would be nice.

Theme 2: Accessibility of greenery

Interviewee 2 and 3 mentioned barriers regarding accessibility of nature when possibly using NAT. Even though interviewee 3 did mention the availability of urban greenery, she addressed that psychologists working in urban areas could possibly have to meet at other locations to have more access to greenery.

Intensity

Theme 1: intensity of the therapy

Barriers according to intensiveness were brought up by interviewee 4, 5 and 7. The interviewees stated that therapy sessions outside can take a lot of energy since you are walking a lot. Especially having multiple therapy sessions outdoors on one day can be physically intensive. Interviewee 4 stated that she can only see two clients outdoors a day, as it is otherwise too tiring for her.

Coverage of NAT

Theme 1: health insurance reimbursement

Only statements of interviewee 7 were taken into account for health insurance reimbursement as other interviewees did not mention anything about this topic. She stated that health insurance companies will only cover therapy with an outdoor psychologist when the person is a certified GZ-psycholoog. This could be a barrier for non-certified healthcare psychologists since their clients will not receive reimbursement for their therapy sessions and therefore might choose for another psychologist (who is certified).

QUESTIONNAIRE:

Demographic depiction of questionnaire respondents

A basic demographic description of the participants will be given here, including percentages per category. The specific totals (N) per category will be added to Appendix E in pie charts. Of the 43 respondents that initially filled in this questionnaire, 12 respondents filled it in only partially. Their answers were therefore removed, and 31 respondents' answers remained (total N = 31). 77% of the participants were female and 23% were male. In terms of age distribution, the range went from the age classes "between 25 and 34 years old" to "above 65 years old" (median = 45 to 54 years old, mode = 45 to 54 years old). The age distribution is shown in Appendix E. 32% of the respondents reported to work full time (>36 hours per week), 65% work part-time (<36 hours per week), and 3% is non-working. Most respondents, namely 55%, work independently, whereas the other 42% work for an employer, and 3% choose none of these. Regarding the working location, the majority of the respondents work in Zuid-Holland, and the others - from high to low - worked in Noord-Holland,

Noord-Brabant, Utrecht, Gelderland, and Limburg. Not all 12 Dutch provinces will be shown in the pie chart (Appendix E) because the respondents are apparently not divided among all of these provinces. In addition to this province distribution, 45% of the respondents work in a suburban area, 32% in an urban area, 16% percent in a rural area, and 2 participants chose none of these. Lastly, the participants' years of work experience were asked. 35% of the participants have worked for less than 10 years, 26% have worked between 11 and 20 years, 32% have worked between 21 and 30 years, and the other 6% have worked more than 31 years.

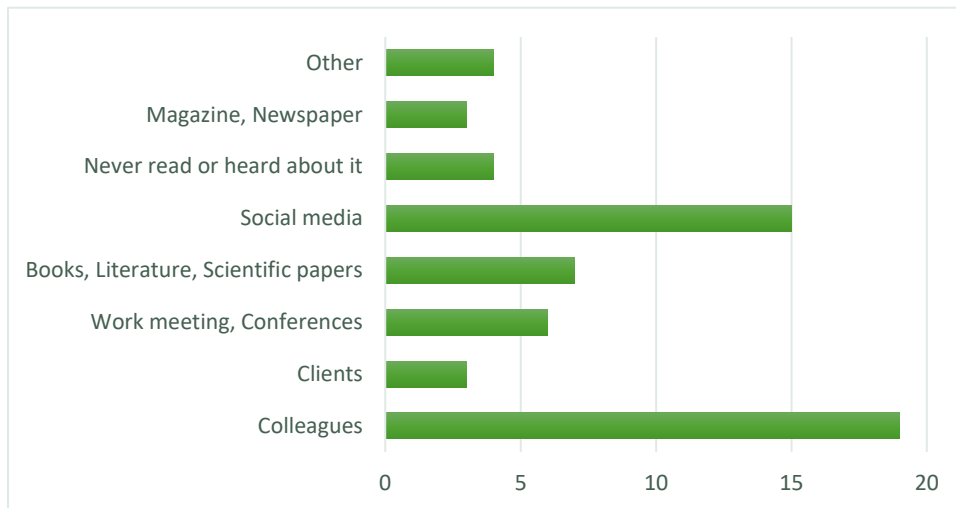


Figure 2 – Bar graph of how did respondents got to know about NAT. Nearly two thirds of the whole 31 respondents heard about NAT from their colleagues (61%), followed by websites and social media (48%). Work meetings or conferences (19%) and magazines or newspapers (9%) were the least used sources to learn about NAT. Clients were also not a good source to learn from NAT (10%). From all the respondents, only 6.6% had never read or heard about it before they filled this questionnaire.

Item analysis and further statistics of questionnaire

Within the questionnaire, five main opinion-related questions were respectively answered by respondents, including several items each about a variety of topics related to NAT. For those questions, only one answer could be chosen.

The five main opinion-related questions were respectively about five scales:

Q2 - General vision on the influence of nature (for now called “nature”);

Q3 - Personal knowledge on NAT (“BP”);

Q5 - Viewpoint on NAT (“viewpoint”);

Q12 - Personal mental health history related to work (“work stress”);

Q13 - Future possibilities (“future”).

An item analysis was performed to test for internal consistency between items within the questionnaire of the same scale. The Cronbach’s alpha coefficient for each scale was calculated and a bivariate Pearson correlation was ran to determine whether correlated scales were present (Table 5). All scales revealed an alpha > 0.7, considered as the minimum accepted value for internal consistency (Nunnally, 1978) (Table W). As for the viewpoints’ scale (Q3), the consistency would increase from 0.77 towards 0.79 if item Q3_2 was removed (“I have experience with NAT”).

Table 5 – Outcomes of Cronbach’s alpha coefficient and confidence intervals.

Scale	Std. Alpha	Lower boundary	Upper boundary
Nature	0.88	0.80	0.93
BP	0.77	0.61	0.88
Viewpoint	0.90	0.84	0.95
Workstress	0.88	0.81	0.94
Future	0.88	0.80	0.94

Pearson’s correlation analysis revealed a strong correlation for viewpoint - future (0.66), future - nature (0.51) and viewpoint - workstress (0.5) with an accompanying p-value of 0.00 for all values, indicating a significant outcome. A moderate correlation degree was reached for viewpoint - nature (0.42), future - BP (0.36) and future - workstress (0.31). As for the moderate future - workstress correlation, a p-value of 0.09 was obtained and therefore can be seen as not significant. For the other scales, a low or no correlation was observed with no significant p-values. All correlations contained positive values (Table 6).

Table 6 – Pearson correlation analysis – White top part of the table shows the correlation values, whereas the bottom grey part shows the p-values.

	Nature	BP	Viewpoint	Workstress	Future
Nature	1.00	0.06	0.42	0.13	0.51
BP	0.74	1.00	0.26	0.00	0.36
Viewpoint	0.02	0.15	1.00	0.50	0.66
Workstress	0.49	0.99	0.00	1.00	0.31
Future	0.00	0.05	0.00	0.09	1.00

Additionally, a descriptive analysis was conducted to the five main opinion-related questions of the questionnaire. The obtained values provide oversight of the trends across all respondents (Table 7 and Figure 3). Possible answers were provided on a 5-point rating scale rating from totally disagree to totally agree. Totally disagree was numbered 1, whereas totally agree was numbered 5 for analysis. As for the view towards general vision on influence on nature observed (Q2), a mean answer of 4 was provided, equal to ‘agree’ ($\mu = 4.1 \pm \sigma = 0.56$). As for the other questions, the following outcomes were obtained: personal knowledge on NAT (Q3) ($\mu = 3.67 \pm \sigma = 0.84$); Personal viewpoints on NAT (Q5) ($\mu = 3.18 \pm \sigma = 0.28$); Future possibilities (Q13) ($\mu = 3.19 \pm \sigma = 0.86$) and Personal mental health history caused by work ($\mu = 2.19 \pm \sigma = 0.79$).

Furthermore, skewness and kurtosis of the accompanied distribution were determined. Skewness is a measurement for the relative size of the two tails of the distribution, measuring the symmetry. Kurtosis is a measurement to determine whether the distribution is heavy-tailed or low-tailed. As for the outcomes related to skewness, one asymmetrical distribution can be distinguished; Q12 with a value of 1.12. All other values vary between -1 and 1 and therefore the distribution can be seen as symmetrical. The normal distribution of Q12 with value 1.12 has a less steep right side and therefore the distribution is heling towards the left side. As for kurtosis measurements, values $-1 \leq$ or ≥ 1 mean a too high or flat distribution. As for the obtained outcomes, the distribution is not divergent.

Table 7 – Descriptive analysis of closed-ended questions Q2, Q3, Q5, Q12 and Q13.

Questions	N	mean	sd	median	min	max	range	skewness	kurtosis
Q2	31	4.10	0.56	4.22	1	5	4	-0.67	0.17
Q3	31	3.67	0.84	3.57	1	5	4	-0.45	-0.63
Q5	31	3.18	0.28	3.12	1	5	3	-0.02	-0.37
Q12	31	2.19	0.79	2.00	1	5	4	1.12	0.74
Q13	31	3.19	0.86	3.33	1	5	4	0.13	0.19

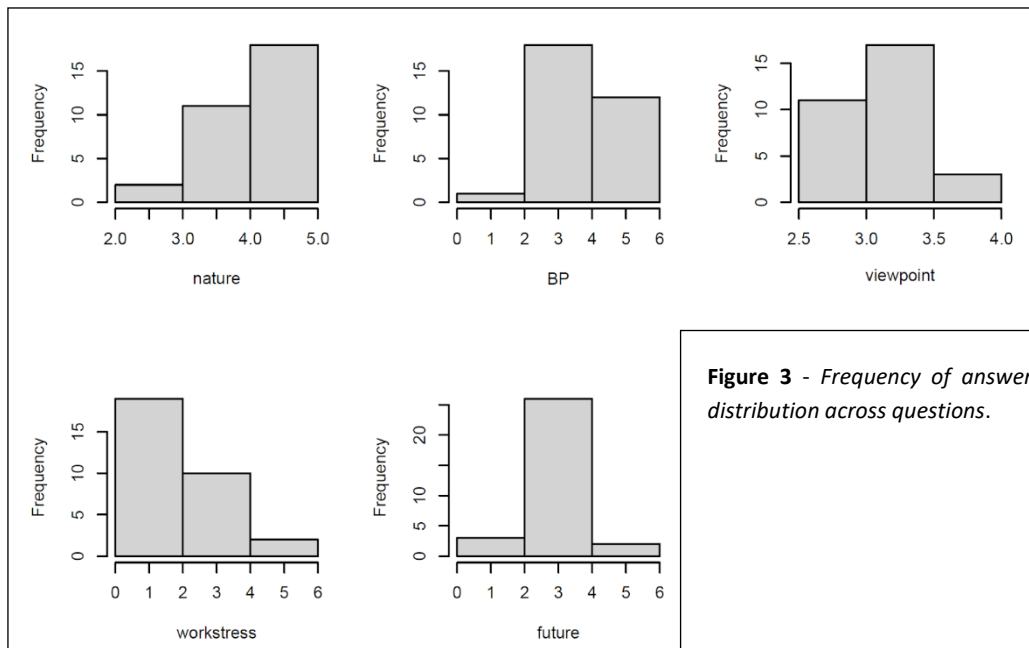


Figure 3 - Frequency of answer distribution across questions.

After summarizing the 32 items into five different scales (nature, BP, viewpoint, workstress and future), an independent t-test was performed comparing scales with different demographic variables which were also mentioned in the questionnaire. Within certain demographic groups, some significant differences were observed (Figure 4). Different genders had different viewpoints on NAT ($t = 2.1085$, $df = 20.202$, $p\text{-value} < 0.05$), distinct opinions towards the future of NAT ($t = 2.8915$, $df = 9.169$, $p\text{-value} < 0.05$) and revealed different influence of work on their personal mental health ($t = 2.7454$, $df = 9.608$, $p\text{-value} < 0.05$). In all three scales, females gave significantly higher scored answers than males.

A one-way Anova revealed age being an influencing factor when answering about the future of NAT ($F(4,26) = 3.991$, $p\text{-value} < 0.01$). Post hoc comparisons using Tukey HSD test showed that respondents on an age between 55 and 64 years old ($\mu = 1.89$, $\pm \sigma = 0.48$) had significantly lower scored answers than the age ranges 25-34 ($\mu = 3.67$, $\pm \sigma = 0.36$), 35-44 ($\mu = 3.39$, $\pm \sigma = 0.16$) and 45-54 ($\mu = 3.30$, $\pm \sigma = 0.20$). The knowledge about NAT was influenced by the individuals' work status ($t = 2.4583$, $df = 23.878$, $p\text{-value} < 0.05$), showing that people working full-time scored higher than the ones working part-time. Finally, the participants' working condition (if an individual works independently or is working for others) also had an influence on how they perceived the future of NAT ($t = 2.1679$, $df = 24.464$, $p\text{-value} < 0.05$). Employees had scored a higher average than self-employed people.

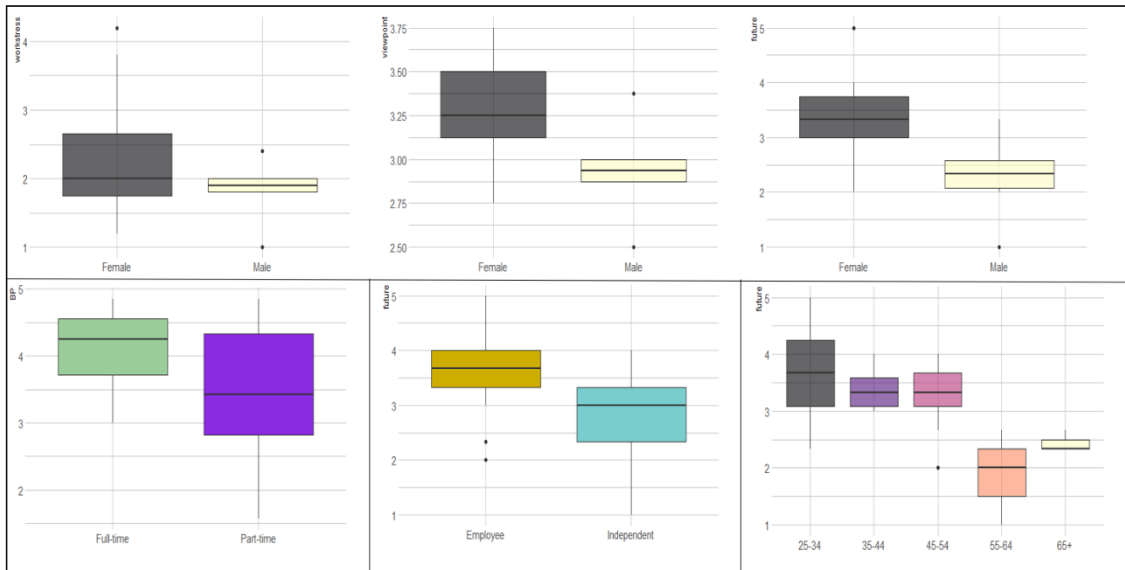


Figure 4 - Boxplots for significantly different scores between demographic groups.

Analysis of barriers and opportunities

This part compares the different barriers and opportunities experienced and/or perceived by traditional psychologists for complementing current therapies with NAT. For this chapter in the questionnaire, respondents could choose more than one option. Overall, the main perceived opportunities were the “Increase of physical activity” (87%), “Lifestyle improvement during and after sessions” (68%) and “More relaxed ambiance during sessions” (65%). When relating the perceived opportunities with demographic variables also present on the questionnaire (age, work status, work condition and geographical area), it’s possible to find some potential patterns. All groups agreed that the main opportunity was the “Increase of physical activity” (Figure 5).

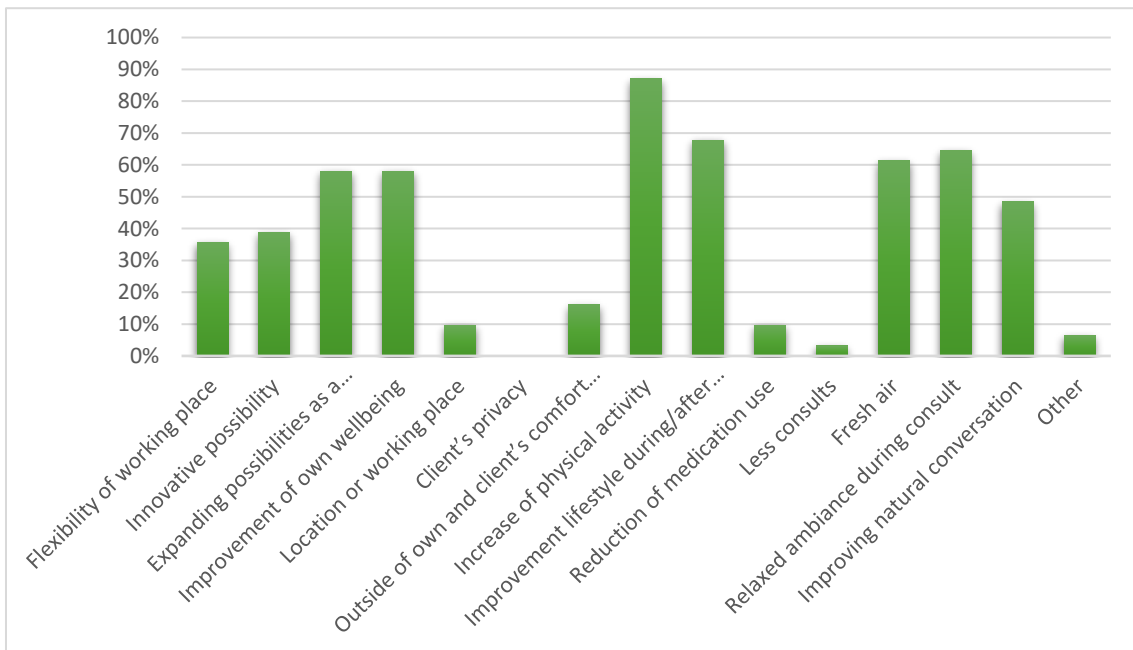


Figure 5 – Bar graph on percentage of chosen opportunities by respondents.

Psychologists working in urban areas chose “Improvement own wellbeing as psychologist” (79%) as one of the main opportunities of NAT, unlike psychologists working in suburban or rural areas. On the other hand, the ones living in urban areas claimed “Fresh air” (70%) to be one of the main benefits provided by NAT. Full-time working psychologists also stated that “Fresh air” (80%) would be one of their main opportunities, contrasting with part-time psychologists. The younger aged participants (25-34 and 35-44 years old) showed that “An increased relaxed atmosphere during the consult” (88% and 83% respectively) was perceived as an important opportunity, whereas older aged (55-64 years old) chose “Extension of your possibilities as a psychologist” (63%) as one of the most important.

When looking at the barriers, the main choices done by all respondents were “The weather” (45%), “Client’s privacy” (42%) and “Accessibility” (26%) (Figure 6). Possible patterns were found when relating the perceived barriers with the demographic variables (age, work condition and geographic area). Males choose beside the earlier mentioned barriers also workplace location (57%) and natural inconveniences (57%). Older aged people (55-64 years old) chose “Outside clients’ comfort zone” (67%) and “Outside psychologists’ comfort zone” (67%) to also be some of the main barriers for practicing NAT, unlike the other age groups. For psychologists working for others (employees), “Health insurance reimbursement” (31%) was stated as one of the main perceived barriers, contrasting to independent employers. Psychologists that work in urban areas chose “Health insurance reimbursement” (29%), “Workplace location” (29%) and “Other” (29%) to be the main barriers for implementing NAT. Respondents from rural areas chose “natural inconveniences” (60%) as one of the main barriers, contrasting to respondents working in a suburban or urban environment.

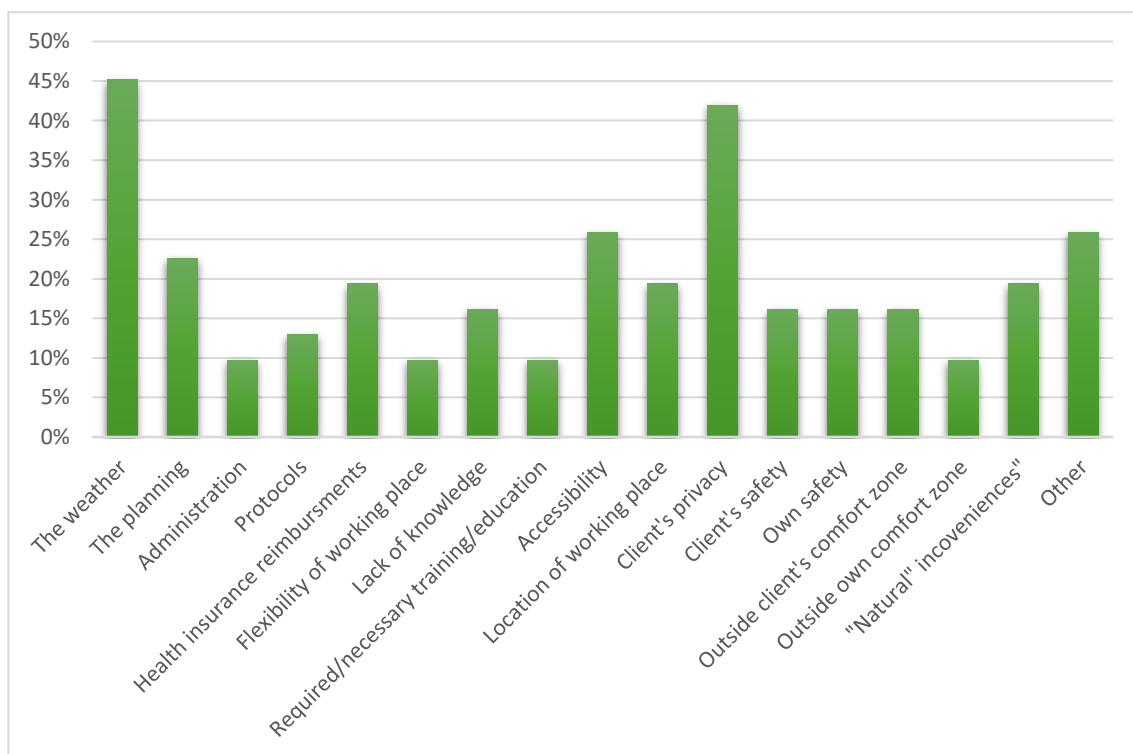


Figure 6 – Bar graph on percentage of chosen barriers by respondents.

Analysis of open-ended questions

Q6: As a GZ psychologist, what is your general opinion about complementing traditional therapies with nature-assisted therapies?

Respondents attitudes regarding complementing traditional therapies with NAT fit into three categories, namely: positive, moderately positive, and negative. To measure attitude, respondents were asked for their general opinion about complementing traditional therapies with NAT. In total, thirty respondents filled in this question.

Positive attitude

Eighteen out of thirty-one respondents had a positive attitude towards the use of NAT. Most respondents found NAT interesting and a good addition to traditional therapies, for both clients and themselves. Six respondents stated that NAT is of added value. Two respondents stated that they find it an effective way of working and to have a conversation and two respondents mentioned that NAT should be used more often, as it is now often an unused addition to current therapies. One of the respondents already uses NAT sometimes. Lastly, a respondent was of the opinion that the use of NAT can reduce clients' complaints.

Moderately positive attitude

Respondents with a moderately positive attitude mentioned that NAT sometimes or in some cases is of added value. However, they additionally mentioned certain factors that should be taken into account or things that are still needed in order to complement current therapies with NAT. One of the respondents mentioned that NAT could be an addition, however that clients' privacy is an important matter as well. Another respondent stated that NAT could have added value, however the weather could be a problem because it is less pleasant outside when it is raining, and you want to provide a certain level of comfort for a good conversation. Three respondents mentioned that NAT should fit the client's profile and that the use of it should depend on clients' wishes and complaints. One respondent wants to see evidence about the effectiveness of NAT before using it. Two respondents stated that they find NAT interesting but that they have little knowledge about it. One respondent stated that he or she can recommend it as an extra positive condition but not as a complementary methodology.

Negative attitude

One respondent stated that the concept of outdoor psychology is unnecessary and that it has no added value.

Q7: What can be the added value of NAT for both clients and psychologists themselves?

Respondents' answers regarding the added value of NAT fit into seven categories, namely: nature, physical activity, contact during consult and effectiveness of consults, having no added value, having not enough knowledge, other possibilities and wellbeing of psychologists themselves. In total, 30 respondents filled in this question.

Nature

One of the respondents stated that nature has a calming effect. Five respondents additionally indicated that being outside more often is of added value. Three respondents also stated something about the beneficial effects of nature and being outdoors, namely fresh air and exposure to daylight and vitamin D.

Physical activity

Ten out of thirty-one respondents stated that being more physically active is of added value. One of the respondents mentioned that physical activity leads to getting energy. Another respondent mentioned that clients release endorphins because of walking. In addition, one of the respondents indicated that being physically active outside stimulates the brain.

Consult and effectiveness of consults

Seven out of thirty-one respondents stated something about the added value of NAT during the consult. Most respondents mentioned various factors supporting their view. Two respondents indicated that some clients might find it more pleasant to walk besides each other instead of sitting opposite of each other. They additionally stated that this could lead to faster insights, talking easier, faster access to clients' emotional world and clients feeling less unsafe. Other respondents indicated that talking outside results in a more relaxed and less stiff atmosphere. Another respondent mentioned that there might be less rigid settings for conversations when using NAT.

No added value

One respondent was of the opinion that there is no added value especially when looking at numbers and effects across different groups.

Not enough knowledge

One of the respondents stated that it was difficult to answer this question since he or she did not have sufficient knowledge about the topic.

Other possibilities

Some of the respondents mentioned that using NAT leads to more materials, possibilities, inspiration and creativity.

Wellbeing psychologists

One of the respondents mentioned another added value besides being more outdoors and in nature and being more physically active. The respondent mentioned that he or she was able to sustain work longer. Another respondent stated that NAT is a wonderful variety during the day.

Q8: What do you think are possible factors that could make BP effective? And why?

Respondents were also asked for potential factors that could contribute to the possible effectiveness of NAT. Respondents interpreted this question differently, with a vast majority indeed summing up contributing factors to the effectiveness of NAT. However, three respondents interpreted this question as conditions needed for NAT, such as the conviction that NAT works, enthusiasm of the practitioner, dry weather, a beautiful and peaceful environment and a connection with your client. One respondent was of the opinion that the latter should be established before using NAT. Considering the factors contributing to the effectiveness of NAT, almost all respondents mentioned multiple factors within multiple categories, including physical activity, nature, contact and therapy.

Physical activity

More than half of the respondents addressed factors related to physical activity as a factor that contributes to the effectiveness of NAT. Only a few of the respondents explained themselves. Examples of reasons included the beneficial effect of exercise on mood or brain; the release of endorphins through walking; and the reduction of stress hormones (which leads to a positive effect

on health in general). Lastly, a respondent mentioned that already doing something positive like walking in nature could promote further activity.

Nature

Almost half of the respondents addressed factors related to nature, where two of them took it more generally with mentioning 'space' or '3D space'. Several explanations were used, ranging from the use of elements during therapy and the beneficial effects of nature. Examples are being able to use metaphors from nature, to use elements of nature (such as weather and seasons), to be distracted in nature, to charge in nature, to connect with nature and the moment in the present and to activate all senses (for example smell of the grass). In addition, nature provides silence, fresh air, vitamin D, other stimuli, inspiration, distance and the ability to observe beautiful events around yourself. In addition, three respondents also mentioned factors regarding calmness, the soothing effect of NAT and working in a relaxing way.

Contact during consult

Almost half of the respondents addressed factors related to contact during the consult as a factor that contributes to the effectiveness of NAT. Five respondents mentioned that using NAT results in not having to look each other in the eye and not having to sit in front of each since you are walking besides each other. One respondent stated that NAT leads to a faster access to clients' emotional world and another respondent stated that being able to talk better during movement since the brain works differently during walking. Other examples that were given were having a different 'distance' in which the client might feel safer, coming into contact with each other in a less artificial environment, and a more dynamic way of contact through movement.

Therapy

Six respondents mentioned factors related to therapy as a factor that contributes to the effectiveness of NAT. Two of the respondents addressed NAT being more experiential than cognitive and being experiential exercise (?). Another respondent stated that NAT teaches a daily rhythm that includes walking and in addition in learning coping mechanisms of walking instead of lying in bed. Several other explanations were used, examples of those are active recovery, mindfulness and breakthrough during therapy.

Q9: Would traditional psychologists incorporate or integrate different elements of NAT?

Whether respondents would consider incorporating or integrating different elements of NAT into their own treatments, six out of thirty-one respondents answered they would do so. In addition, eleven respondents answered they already did use NAT (to some extent). Five respondents addressed that it is dependent on certain issues including clients' considerations if NAT is of added value, complaints that their clients are experiencing, scientific evidence, practical feasibility, and the possibility of working from institutions that are surrounded with a more inspiring environment. One respondent indicated to not have sufficient knowledge of NAT, but leaned towards wanting to use NAT as well. Two respondents considered it as a difficult issue. One because of the strict requirements for insurance within the basic mental health care and the other because of the inability to think as sharply when walking without pen and paper. In addition, five respondents did not want to incorporate or integrate different elements of NAT (yet). Only three of them indicated reasons for this opinion. The first respondent was of the opinion that there are physical inconveniences when using NAT, and that NAT is not necessary for the quality of treatment. The second respondent was of the opinion that

elements such as the distance within the therapeutic relationship/safety, gaining positive experiences, being active and the use of symbols are already applied in other ways in 'traditional' treatments. Lastly, the third respondent does not want to use NAT because of the inability to control patients within an outdoor environment.

DISCUSSION

In the discussion part, all sub-questions will be discussed by using valuable information of the results section, combining information retrieved from interviews with experts and traditional- and outdoor psychologists, the statistical analysis, questionnaire results, theoretical framework and literature findings. Furthermore, limitations of the research are listed.

Sub-question 1 What is already known about using nature-assisted therapies in the mainstream mental health care system in the Netherlands and abroad?

This overall research shows that although NAT is yet to be commonly implemented in the Netherlands healthcare system due to the limited subjection to scientific- and evidence-based results to support their next steps, there is a growing interest in people's awareness towards NAT. Insights gathered from expert interviews indicates a higher demand from the society for a more holistic and innovative approach to deal with human health, particularly mental health. Their arguments are backed up by a survey result published by the Norwegian Ministry of the Environment from 2009 showing nearly 90% of respondents affirm that a better quality of life quality is the main drive to seek out nature. While in the case of NAT, natural elements are being used to bring additional benefits to the traditional form of therapies which resulting in quite significant outcomes for both the clients and the healthcare professionals. Further, experts argue that incorporating natural elements into healthcare treatments could reduce the number of healthcare consumption, which according to experts, has been proven to be successful in Sweden and other Nordic countries. This could also be the case for other countries including the Netherlands because when people feel more relaxed and content by being outdoor or surrounded by natural elements, then it might as well affect their way of coping with mental disorders in a positive direction. This being said, less people will need extensive mental healthcare treatments and the number of healthcare consumption could be reduced to a certain degree.

However, without the involvement and commitment from the whole healthcare system, financial issues might emerge as many people are relying on the healthcare insurance to cover their health treatment expenses. An integrated regulation regarding the healthcare system is necessary in order to bring together all the involved stakeholders into one unit of understanding. The given example of cases in Austria and Sweden demonstrates that the successful key for them to incorporate natural elements into their healthcare system is by having comprehensive support from all the involved stakeholders. This way, the green care and nature-based intervention concepts could be amiably executed by multi-actor and multi-level institutional arrangements for developing and innovating nature-based approaches to treat health issues. Likewise, the Netherlands could as well impose the similar approach for the healthcare system by providing sufficient load of evidence on the successful cases of NAT. In doing so, it is also important to take into account the characteristics of NAT that could best complement the commonly practiced form of therapies to achieve the foremost result in implementing NAT into the Netherlands' healthcare system.

Sub-question 2 What is the view of traditional- and outdoor psychologists according to the use of nature-assisted therapies in treating adults with mild mental disorders in the Netherlands?

For many psychologists, working under rigid protocols (such as following tight schedules and having a fixed number of appointments per day) can often result in personal feelings of distress. A solution found by many is to work independently, to allow for stress reduction (see Appendix H work methods & stress coping). This option has been proved to be effective, since one's work demand will be defined and controlled by oneself only (Hessels et al., 2017), even allowing for space to try out new practice approaches, such as NAT. Many of the interviewed outdoor psychologists first did this shift before starting to use NAT. Other solutions are also found by both traditional psychologists, who try to improve their lifestyle, for example by using mindfulness as a tool for stress reduction (Astin, 1997), and outdoor psychologists, who found a solution for this by exercising and going outside where the positive influence of nature was already experienced and proved to be beneficial (Ulrich et al., 1991), and resulted in implementing this in both their daily lives and work practices (see Appendix H work methods & stress coping). Outdoor psychologists also choose to go to nature areas with their clients, knowing its restorative effects for physical and mental health (Ohly et al., 2016), explained by the Attention Restoration Theory (ART), discussed in the theoretical framework session. This choice is being undertaken to counteract the declining opportunities to be around nature that urbanisation processes are inflicting on modern societies (Peen et al., 2010; Turner et al., 2004).

In accordance, also the interviewed traditional psychologists had a positive opinion towards nature as a benefit for human health, since it is widely accepted to be true by the scientific communities (Bratman et al., 2012; Jiang et al., 2014; Sandifer et al., 2015). This evidence is making them go outside in therapies as well, however some of them were not yet aware of the existing methods of NAT, which can make the appointments not as fruitful as they could possibly be. As for outdoor psychologists, more detailed and knowledgeable preferences are obtained due to more experience and use of outdoor therapies. Due to more in depth insights about nature-health relations, outdoor psychologists consciously implement NAT in work and private lives. As for traditional psychologists, it was stated that it felt conflicting to encourage clients to go outside more without applying it in appointments. Nevertheless, when comparing both interviewee groups, it was observed that traditional psychologists tend to have a more neutral view (between criticism and enthusiasm) on NAT, whereas outdoor psychologists have a more enthusiastic view on the practice they are already implementing.

Less positive results from traditional psychologists were obtained in the questionnaire, as the majority of respondents had an average positive opinion towards the benefits of nature for human well-being but a neutral one when it came to NAT. This could be due to the fact that the majority of interviewees were practicing NAT already and the ones that didn't were in frequent contact with nature in their lives, whereas questionnaire respondents had more diverse opinions when it came to NAT, possibly resulting in the also obtained neutral outcomes for future possibilities. NAT's future possibilities will appear more attractive to the public once interest grows, effectiveness of treatment is proven and knowledge is spread, as stated by most of the experts interviewed.

It was said in the questionnaire that NAT should be offered as an option for treatments, since it can only be of added value for some cases. This could be due to client's personal fears ("bio-phobias") or aversions to natural elements or other factors that might arise when performing a session outdoors or in a public area (Rantakokko et al., 2009; Roman & Chalfin, 2008; Smith & Davidson, 2006). It was

also stressed out by the respondents that some other factors should be taken into account before complementing NAT within the mental health care system. These are discussed under sub-question 4 as “barriers”. NAT was therefore said to be recommended as an extra positive condition but not as complementary methodology.

Positive correlations were found on the questionnaire between the following scales:

- Viewpoint about NAT & Future views on implementation of NAT
- Viewpoint about NAT & Work stress
- Future views on implementation of NAT & Views about nature

This means that these scales move in tandem, suggesting a link between them. The link between viewpoint and future perspectives on NAT can be explained by the fact that certain personal views will probably influence their opinions on possible opportunities for the future of NAT. In addition, views about NAT and work stress can be linked to each other by the following: this was also observed on the interviews, where most interviewees stated to experience a lot of work stress whilst working in institutions and, as a consequence, ended up opening their own practice, creating also more possibilities for implementing NAT or other forms of therapy according to their own preferences. Therefore, the increased feelings of stress may result in a more interesting view for NAT.

These conclusions, however, can't be considered to be statistically representative of the dutch population since a low number of respondents was obtained. Outcomes of the statistical analysis cannot conclude certain correlations and their significance in a reliable way.

Questionnaire respondents did not agree with statements linking own personal mental health issues to work situations, contrarily to interviewees, who have previously experienced high work-pressure (mainly when working in institutions) with accompanying feelings of distress. This could have possibly been since most of the interviewees, who initially experienced stress and burnout events, ended up shifting towards an own practice, which was not the case for almost half of the respondents (Appendix E).

Some significant results were found between respondents' opinions and related demographic variables. Differences between gender and viewpoints on NAT were found together with opinions towards future implementations of NAT and the influence of work on personal mental health. As for all three scales, females gave significantly higher scored answers than males, suggesting that females have more positive viewpoints on NAT and future implementations of NAT. These results go in line with previous studies relating gender and positive views of nature (Kellert & Berry, 1987; Kruse, 1999). Females also experience more work-related feelings of distress, however this is still in a low amount since the mean value indicated disagreement. However, since only 7 males took part in the questionnaire, compared to 23 females, no reliable conclusions can be made between gender groups. As for visions regarding the future of NAT, age came out as an important factor suggesting that younger respondents see more possibilities for implementing NAT in the current mental health care system. This could be due to the fact that, generally, older individuals are more likely to be satisfied with their circumstances, having adjusted their aspiration levels downward, to meet the reality of their actual life situations (Andrews & Withey, 1976; Campbell et al., 1976). Finally, work status also revealed to be influential on the knowledge about NAT, showing that full-time psychologists were

more familiar with NAT. As for employees of a company or institution, they scored higher on the future perspectives of NAT. Again, these results might have only been significant due to the low sample size obtained in the questionnaire. Nevertheless, it could also be that full-time psychologists simply have more working hours, meaning that the probability of them to hear or read about NAT is higher than part-time psychologists. Also, as stated in the interviews, current employees are more willing to change their current work protocols, in order to reach a more comfortable ground to perform their jobs. Given this, they might see their current job situation as far from perfect, so other opportunities, such as NAT, could be of added value and an option to take into account for the future.

Sub-question 3 What are the (possible) opportunities that traditional- and outdoor psychologists (expect to) experience in using nature-assisted therapies in the Netherlands?

Several overarching opportunities have been identified after analyzing the interviews, which were already mentioned in the results. The overarching categories mentioned by the interviewees exist of a broad range of various aspects and cover a wide extent of topics. Categorically, the opportunities were in regard to psychologists' wellbeing, clients' wellbeing, consults, practicalities, innovative initiatives, COVID-19 and examples in the surroundings. Adding to this, the closed-ended question regarding opportunities was taken into account. In addition, even though the open-ended questions did not directly ask for opportunities, opportunities came out regarding the added value of NAT and possible effective factors of NAT. These various similar answers regarding opportunities will be merged in this part of the discussion, to be able to list and describe the main categories of opportunities.

The main groups of opportunities identified in the interviews and questionnaire for complementing current therapies with NAT, included wellbeing and benefits for the consultation itself (conversation flow, ambiance). For both psychologists' – and clients' wellbeing, apparent opportunities within the interviews were improved lifestyle and the positive influence of nature on cognitive mechanisms. These findings are in line with the biophilia study by Ulrich (1993), who also reported that exposure to nature can lead to improved levels of physical and psychological well-being. Likewise, the Attention Restoration Theory (Ohly et al., 2016) in the theoretical framework states that nature areas act as restorative environments by recovering mental fatigue resulting from the use of voluntary attention. This is in contrast to urban areas with a lot of stimuli, who deplete our cognitive attention system. Furthermore, Walsh (2011) also listed frequently spending time in nature and exercising as a significant "therapeutic lifestyle change" (TLC), for both clients and psychologists, which stresses the natural environment as a therapeutic setting once more. Walsh also states that the implementation of TLC's in therapy cannot also improve health and wellbeing but also reduce psychopathology. He also suggests that clinicians who are aware of the significance of TLC's, in this case exercise and spending time in nature, experience less role strain, are more likely to adopt these changes themselves and advise them to their clients (Walsh, 2011). In addition, Berman, Jonides & Kaplan (2008) also acknowledge the vital role of nature for effective cognitive functioning, such as the use of voluntary attention.

Within the questionnaire, there was no evident distinction made by respondents in wellbeing between psychologists and clients. Most apparent opportunities were physical activity and improved lifestyle as well. When focusing on demographic groups, for every gender, age group, years of experience, type of employment, employment status, geographical area and location, physical activity was addressed as the most mentioned opportunity. Indeed, a study done by Eynon, O'Donnell and Williams (2018) revealed that regular adherence to physical activity can lead to subjective changes in specific constructs of self-identity related to exercise, including self-efficacy, self-regulation and self-esteem. Furthermore, motivation for exercise adherence changed from extrinsic to intrinsic after 8 weeks. The result from this study underlines the result from the questionnaire, in which several psychologists listed physical activity and improved lifestyle as opportunities resulting from NAT.

Regarding the consult, apparent opportunities within both, interviews and questionnaire, were a relaxed ambiance during the consult and a more natural conversation flow. To some extent, improved contact between clients and psychologists was also mentioned. Improved contact is positioned together with a more natural conversation flow, since these two were intertwined with each other. As researched by Deangelis (2019), improved relationships between psychologists and patients have beneficial outcomes. Factors concerning this relationship are equally or even more important in therapy outcomes than when compared to the specific type of treatment used.

In addition, the beneficial effect of nature itself was also an important group of opportunities identified within the questionnaire. Examples were fresh air, use of metaphors and elements, vitamin D, and the calming effect. There were no specific themes within this group that stood out. This group of opportunities was less prominent within the interviews, however, this could be explained by the fact that this beneficial effect is so apparent that it is not mentioned, as it might be self-explanatory. A citation by Berman et al (2008, p.1207) addresses this intuition really well: "Imagine a therapy that had no known side effects, was readily available, and could improve your cognitive functioning at zero cost. Such a therapy has been known to philosophers, writers, and laypeople alike: interacting with nature. Many have suspected that nature can promote improved cognitive functioning and overall well-being, and these effects have recently been documented."

Practicalities was a main group within the interviews, but it was less prominent within the questionnaire. Apparent opportunities were the ability to have access to greenery everywhere and the ability to go outside in (almost) any weather condition. This is in line with research done by Annerstedt van den Bosch et al. (2015) tested and developed an urban green space indicator for human health and wellbeing to encourage the development of health and environmental protocols. They found that even small urban green areas may promote benefits for both physical and mental health, by providing a place where stress recovery and social cohesion can happen (Annerstedt van den Bosch et al., 2015). Furthermore, exposure to green spaces also has the potential to directly affect neuronal activity, and might reduce the risk of developing depression (Annerstedt van den Bosch, 2015). In addition, proximity, accessibility and availability to an urban green space are deemed to significantly influence health. These opportunities were not evident within the questionnaire.

Another apparent theme that was addressed within the interviews was the COVID-19 pandemic and the possible opportunities this could bring for complementing current therapies with NAT, due to more people enjoying going outside and exercising. This was not brought up by any respondent of the questionnaire. Lastly, clients' privacy was also addressed by multiple interviewees, and was not seen

as an opportunity within the questionnaire (this was an option within the closed-ended question). An explanation for this could be that due to providing the respondents from the questionnaire with a pre-set list of opportunities, clients' privacy did not seem a legit opportunity. For example, physical activity, lifestyle improvement and fresh air were more straightforward, whereas for clients' privacy, respondents had to put more thought into this for example by considering how it could be an opportunity.

Within this part, findings from the questionnaire in comparison with demographics will be explained. Firstly, psychologists working in urban areas chose "improvement for own wellbeing" as one of the main opportunities of NAT, contrarily to psychologists working in suburban and rural areas. This could be explained by the phenomenon of urban areas possibly depleting the cognitive attention system as described above (Ohly et al., 2016), and thus the need for restorative environments in nature for psychologists working in urban areas. Zhou (2010) also mentioned that green spaces, especially in overcrowded urban areas, provide a space of rest and serenity to reduce noise and other intense stimuli from the ordinary urban life. This could explain why psychologists in urban areas see NAT as an opportunity for improving their own wellbeing. Secondly, the ones living in suburban areas claimed "Fresh air" to be one of the main benefits provided by NAT. This could be explained by the assumption that urbanisation is reducing the opportunities to be around nature, and that the psychologists living in those urban areas therefore have a more pressing need of wanting to head off towards a green area. Indeed, the more urbanised a certain area is, the less green spaces are available in the environmental residency. Moreover, in the last decades, urban areas have even shown a decline in the quantity and the quality of green spaces, while they are of vital importance for human health (Maas, Verheij, Groenewegen, de Vries, Spreeuwenberg, 2006). In addition, for most psychologists who worked full time, this opportunity to inhale fresh air was more evident than for the ones who worked part time. The reasoning behind this demographic could be that the ones who are employed full time - especially since they are traditional GZ psychologists - have to see around 8 clients a day, this can possibly lead to mental depletion, as stated by Ohly et al (2016) in the Attention Restoration Theory. They barely have any breaks in between and thus have to concentrate, use their voluntary attention, for an extended period of time, which can lead to fatigue of the voluntary attention (Ohly et al., 2016). Furthermore, the younger aged participants showed that "An increased relaxed atmosphere during the consult" was perceived as an important opportunity, whereas older aged chose "Extension of your possibilities as a psychologist" as one of the most important. It might be that the younger psychologists are still in the process of learning to optimise their therapeutic skills and therefore experience the consults as somewhat more stressful than their older, more experienced colleagues, who might experience more work-related confidence. Additionally, the older psychologists might appreciate the extensions of possibilities as psychologists most, because they have been in the same working regime for a long time and crave some innovation and update on their current knowledge. However, no possible explanations for these speculations could be found within the literature. As noted before, firm conclusions cannot be drawn due to the limited sample size and further research is needed.

Sub-question 4 What are the (possible) barriers that traditional- and outdoor psychologists (expect to) experience in using nature-assisted therapies in the Netherlands?

Several overarching barriers had been identified after analyzing the interviews, which were already mentioned in the results. The overarching categories mentioned by the interviewees exist of a broad range of various aspects and cover a wide extent of topics. Categorically, the barriers were in regard to the workplace, clients, psychologists, resources, nature, COVID-19, competition, knowledge and recognition, access, intensity and the coverage of NAT. Adding to this, the most frequently chosen barriers in the close-ended answers of the questionnaire were the weather, the client's privacy and accessibility. The open-ended questions were not directly aimed at making the respondents think about possible barriers, but some respondents still mentioned them. These various similar answers regarding barriers will be merged in this part of the discussion, to be able to list and describe the main groups of barriers.

In the interviews with both traditional and outdoor psychologists, and in the close-ended and open-ended answers of the questionnaire, several answers were given that corresponded to each other. Barriers related to nature, clients and accessibility were most often mentioned in both the interviews and the open-ended questions, and with the highest frequency in the close-ended questions too. Therefore these are considered the main groups of barriers, and they will be further described in detail, starting with barriers regarding nature. It encompasses various things, like the weather and natural inconveniences. This is in line with the article of Nebbe (2006) who states that the weather can be a problem when executing nature therapy. Weather conditions such as rain can lead to it being less pleasant to be outside with less comfort for a good conversation. Natural inconveniences consist of the absence of public toilets and specific ticks and phobias being triggered in clients by certain discomforts and sudden changes. In the questionnaire, this option was most frequently chosen by males and respondents from rural areas.

Barriers regarding clients were also often mentioned, and thus belong to the main groups of barriers as well. Within this barrier, the most important and frequently mentioned themes were the client's privacy, perception or judgement, and comfort zone. The matter of privacy is in consonance with the article of Jordan (2014), who additionally states that for working outdoors it may not always be possible to maintain absolute confidentiality at all times. In addition, the comfort and privacy of clients cannot be guaranteed in an outdoor setting, because there are chances of running into others who might pick up the conversation between client and psychologist. Barriers related to clients' perception and judgement were also mentioned, because a client might not consider NAT as a serious therapy option and therefore be hesitant in engaging with NAT. Lack of knowledge about complementary and alternative therapy use being a barrier is not specific for nature-assisted therapy but can also be found in complementary and alternative medicine (Cheung et al., 2007). In the questionnaire respondents also answered that NAT should fit the client's profile and that the use of it should depend on clients' wishes and their complaints. Related to that, the clients' comfort zone was most often chosen in the questionnaire as an answer option by older aged people (55-64 years old). Pushing a client out of their comfort zone is mostly seen as a beneficial action, but pushing too much can lead to landing into a danger zone instead, due to excessive anxiety levels (West, 2014). Determining where this threshold is, can therefore be something many therapists are uncertain or hesitant about.

The last barrier out of the main group is accessibility, encompassing the variety or space to do things in the surroundings, the accessibility of greenery and the location. The location of the working place can play an important role in gaining access to green spaces. This can be substantiated by Cox et al. (2018), who explain how nowadays, due to urbanisation, nature has become rarer and thus less accessible. They describe the link between urban areas and low nature doses. Not only city centers, but the outlines of cities are being deprived of nature as well (Zhou & Rana, 2012). Having little natural environments nearby makes it harder to use them. The workspace location was most often mentioned as a barrier by males and by psychologists working in urban areas.

Furthermore, there were other barriers mentioned in both the questionnaire and the interviews in a less high frequency than the main barriers. The first one encompasses barriers regarding psychologists. It was mentioned that NAT is a drastic change for psychologists, outside their comfort zone, because it pushes a psychologist to adapt and to perform non-automatized behaviour. Especially older respondents, between the age of 55-64 years old, choose the answer possibility of NAT being outside their comfort zone when filling in the questionnaire. This is opposing findings in literature (Kunze et al. 2013), where employee age is negatively correlated to resistance to change, because older employees might have developed better coping strategies to deal with organizational change. Another frequently mentioned category contains the coverage of NAT by health insurance companies. A lack of financial coverage might force certain clients to choose another therapy form over NAT. Especially psychologists working for an employee and psychologists working in urban areas chose "health insurance reimbursement" as an answer option in the questionnaire. The last often mentioned barrier category, both in the interviews and the questionnaire, focuses on the lack of knowledge and recognition, and stigma. NAT is still an unknown therapy option with a lack of scientific based evidence. Therefore, psychologists might be hesitant in implementing it, before seeing evidence on the effectiveness. A possible explanation for this relation was not found in the literature.

Limitations of the research project

This academic research project obtained results for answering sub-questions and the main research question via a mixed-methods approach, using outcomes of a literature review, interviews and a questionnaire. Qualitative methods were used to obtain opinions from research experts in the field of green care, outdoor psychology and nature-based interventions. The interviews with experts were combined with literature research. In total, 7 experts shared knowledge and opinions about above-mentioned topics. As for the total of traditional- and outdoor psychologists interviewed, an amount of 7 was reached as well; containing 3 traditional- and 4 outdoor psychologists. In order to generate thorough advice based on qualitative research for the commissioner, a higher number of interviewees would be preferred to obtain as much new insights as possible. An exact amount of interviewees was not calculated in advance, but advised by a social science research advisor was to continue interviewing until data saturation is reached. Due to the limited amount of 8 weeks, whereof 4 weeks for executing the written research proposal and finalizing the report, the interviews had to take place in a short time-span. Therefore, a limited amount of interviews were performed. In order to obtain interviews, e-mails to institutions and private mental health care practices have been sent, together with phone calls and the possibility to apply for interviews via the questionnaire was given. However, a limited amount of responses were gathered, mainly due to the short time-span the interviews had to take place in. As a recommendation for further (ACT) research with limited time spans, interviews

should be planned as soon as possible after it has become clear that qualitative research in forms of interviews will be performed. Another limitation of qualitative research is the respondents; if respondents do not see added value of the research, inaccurate or false information might be given. Additionally, only respondents interested in NAT might apply for an interview, giving an unrealistic view of the total population of *Basis GZ-psychologen*. As a final limitation for the qualitative research, the inability to conduct interviews face-to-face was not possible due to the current pandemic. Possibly, interviewees did not want to spend more time behind screens since a lot of consults are already taking place digitally and therefore did not want to participate.

As for the quantitative research the questionnaire was made available on the 3rd of June and ended on the 17th of June in order to analyze the results and provide clear outcomes and recommendations for the report. The questionnaire was spread via several LinkedIn pages, *de Buitenpsychologen*, team members' personal contacts with psychologists or institutions, and interviewed psychologists spreading the questionnaire with colleagues. Furthermore, contacts with institutions such as the *Nederlands Instituut voor Psychologen* (NIP) were made to spread the questionnaire. In total, 31 respondents were gathered whereas a minimum amount of 100 respondents was needed in order to perform a reliable statistical analysis of the data (Spector, 1992). Even though the results cannot be assumed to be representative of the population, an attempt was made to find some possible patterns within our sample. Firm conclusions cannot be drawn from this data and further research is needed to find out whether these patterns are also present within larger samples (so not only due to the small sample size within this study). Mainly due to the short amount of time within the ACT period as mentioned above, an insufficient amount of respondents are obtained. Since the questionnaire took in-between 10 to 15 minutes to fill in, more respondents might have been gathered by reducing the amount of questions. In line with what has been said for the qualitative part of the research, a lower amount of respondents might be obtained due to the corona-pandemic where a lot of psychologists already spend the whole working day behind a screen. Therefore, the willingness to fill in a questionnaire digitally might be reduced.

CONCLUSION

The problem statement of this project was defined as the undiscovered potential of NAT through the possible lack of recognition and prejudice experienced by traditional psychologists. This research aimed to tackle this by identifying attitudes towards NAT, and possible barriers and opportunities for complementing standard therapies, experienced by both traditional- and outdoor psychologists. With the help of the four sub-questions, the main research question: 'What are the perspectives of traditional and outdoor psychologists on NAT in the Netherlands?' will be answered in this part.

Sub-question 1 provided the setting of this research, by explaining what is already known about using NAT in the mainstream mental healthcare system in the Netherlands and abroad. It can be concluded that both, the literature and the experts, are agreeing on the benefits of NAT in the healthcare system. There are a lot of successful cases of using natural elements for promoting health and well-being, such as green care, horticultural therapy and NAT within countries such as Austria, Sweden and other Nordic countries. The key to complement current therapies for mental disorders with NAT is to have an integrated healthcare system: not only healthcare professionals or practitioners, but also authorities have to support NAT. When specifically focusing on the Netherlands, NAT is more new within this context than compared to the context of Nordic countries. This results in the need for more evidence of the effectiveness of NAT, in order to make NAT a complementary treatment for psychologists treating adults with mental disorders in the Netherlands as well.

Sub-question 2,3 and 4 provided insight into attitudes and (possible) barriers and opportunities experienced by traditional- and outdoor psychologists. Concerning the views on the use of NAT of both traditional and outdoor psychologists, the following could be concluded. Both of the psychologists groups agreed that working with a strict protocol caused them to experience more stress and groups each dealt with this stress in their own ways. Most traditional and all outdoor psychologists had a positive opinion towards the use of NAT. Nevertheless, the traditional psychologists overall had a more weighted view on NAT, compared to the outdoor psychologists, who were very enthusiastic about the use of NAT. Almost all of the psychologists acknowledged that nature has beneficial effects on human health and wellbeing. Some of the traditional psychologists already went outside with their clients, without being aware of the term NAT. Further analysis of the questionnaire revealed that statements linking personal mental health issues to work situations were not agreed on, in contrast to the interviews, where several psychologists disclosed the high work pressure and the toll it took on them. This could be explained by the fact that most of the psychologists who experienced a lot of work stress (also because of the implied protocols) started their own practice. Concerning the relation between respondents opinions and specific demographic variables, there were some salient results. Viewpoint on NAT, future implementations of NAT and the influence of work on personal mental health seemed to differ among age groups. In line with this results, the younger age groups seemed more eager to implement NAT in the future, suggesting that they are more open to learn new techniques. Lastly, psychologists who worked full time were more familiar with NAT than the ones who worked part time, which can be explained by the fact that they might've built up more trade-related knowledge.

The main groups of opportunities included well-being, benefits for the consultation itself, beneficial effects of nature and practicalities. More specifically, main opportunities were improved lifestyle, the

positive influence on cognitive mechanisms, physical activity, a relaxed ambiance during the consults, a natural conversation flow and improved contact, the ability to have access to greenery everywhere and the ability to go outside in (almost) any weather condition. No specific theme regarding benefits from nature stood out as there were multiple mentioned within the questionnaire.

As regards to the barriers, the main groups that were concluded out of the interviews and questionnaire were nature, clients and accessibility. More specifically, the main barriers within these groups were the weather, natural inconveniences, client's privacy, client's perception or judgement, client's comfort zone, the variety or space to do things in the surroundings, the accessibility of greenery and the location. Nature and the level of accessibility can have an influence on how easily NAT is implemented, because both can affect the feeling of comfort with both client and psychologist. On the other hand, the barrier clients encompasses what psychologists think clients will experience when NAT is being implemented and in what way they will experience this.

In conclusion, most psychologists, both traditional and outdoor psychologists have a positive attitude towards NAT, but in general the traditional psychologists had a more moderately positive attitude. Both traditional and outdoor psychologists would possibly experience different types of barriers and opportunities. However, the barriers can partly be counterbalanced by other opportunities. In addition, both groups stated having used (elements of) NAT. However, the traditional psychologists often did this without the knowledge of the existence of NAT being an official treatment option. The awareness of NAT can be enhanced by establishing the terminology. Additionally, more evidence on the effectiveness is needed to provide more assurance in its reliability for clients, psychologists and other third parties.

As noted, this research had several limitations and the results need to be taken into account with precaution due to the limited sample size. More research is therefore needed. However, based on this research, several recommendations could be made. These recommendations can be found below. After this, indications for further research are also made.

RECOMMENDATIONS TO THE COMMISSIONER

After the literature research, conducted interviews with experts in the field of human-nature relationships in the Netherlands and abroad, interviews with both traditional- and outdoor Dutch psychologists and the questionnaire among traditional psychologists across the Netherlands, it became clear that the current time is possibly the most suitable for expanding NAT practices in the Netherlands (and perhaps even across the world). People's attitude towards nature and its benefits are now more positive than ever, also due to consequences of the global pandemic. Additionally, desperate needs for change in current practices are being sought, not only sought after by the psychologists themselves but, as stated by many experts, also by their clients and academic researchers.

Nevertheless, in order to achieve success in expanding NAT practices across the country, some recommendations should be followed. These recommendations were created based on scientific research, real successful cases and opinions of stakeholders.

Initially, more convincing scientific evidence needs to be provided, specifically on the direct benefits of NAT for treatment of mental disorders, such as diminished numbers of therapy sessions or less medication use. Some of these studies are already being undertaken for some decades (many in the Scandinavian countries for example), but researchers still need to continue to work on this. The commissioner for this research project is also conducting a PhD research on the topic, which will possibly strengthen this initial part of the process. Once this evidence base arises, first steps can be taken by psychologists and other main stakeholders to reach out to the government, to ask for legal support from health insurances and to bring this subject to the academic arena. By integrating financial agency to NAT and creating an educational program for the knowledge to be disseminated across new generations of psychologists (and others), it will initiate the process for recognition of this practice. However, these are indirect steps to put NAT on the map of possible therapy practices. To actually add NAT to the current traditional practices, psychologists will need to be the main spreading vector.

To achieve a successful NAT practice, one needs to invest time and effort in collaborations with external parties and on an entrepreneurial approach to the project (Hassink et al., 2013). Entrepreneurship is key for identifying clients' needs, scanning the environment for possibilities, formulating strategies, bringing networks and introducing diversity and collaboration. These entrepreneurial competences and skills are of major importance to achieve a successful project. Creative ideas, such as giving interested people the opportunity to experience a NAT session themselves or providing training for psychologists, for increasing knowledge and enthusiasm about NAT, should be encouraged. Trans-sector collaborations between, for example, NAT practitioners and botanical gardens, other private gardens or even care farms could be of great added value to improve the success of NAT projects. For the psychologist and client, this collaboration could represent more appealing conditions for the session, since it can allow for a more private environment and create interactive scenarios with the different natural contexts, such as observing landscapes. These collaborations could also help advertising NAT for the gardens' former and current clients and users.

Some of the barriers perceived by traditional psychologists need to also be demystified when trying to appeal for new possible NAT users (clients and psychologists). For example, stakeholders should be informed that NAT does not necessarily require forested areas to be performed in. Small areas with natural elements, such as parks or gardens can also be used. Together with this, an urge to develop a common language and unifying concepts explaining the health-promoting mechanisms is needed to develop a network, both on a (regional or) national scale but also for coherence across Europe (Hassink et al., 2013). For NAT in particular, the practitioner should have worked on having five main professional skills (Burls, 2007):

- “Project planning and management”
- “Ability to appraise risks for both person and environment”
- “Assessment of needs”
- “Appraisal of appropriate interventions”
- “Promotion of participation without tiring the client, finding an equilibrium among the needs, the interests and the desires of the person and adapting interventions accordingly”

After this, when the treatments start, two crucial concepts are also needed to take into account (Stigsdotter et al., 2011):

- “Consider the therapeutic intervention as something dynamic, a program in continuous evolution that does not foresee stagnation and operational rigidity”
- “Each client is unique, and they are the protagonist of the therapy rather than their illness”

Following all these guidelines will most likely increase the chance of creating a successful nature-assisted therapy practice.

INDICATIONS FOR FURTHER RESEARCH

The results of this research suggested that the concept of NAT is proven to have added values for human's mental health. While literature together with interviewed experts stating their views on how nature could be beneficial for physical and mental health, many psychologists provide overviews on how NAT is perceived by the mental healthcare communities. Therefore, this study functions as an initiative to see the possible opportunities and barriers to implement the concept of NAT into the conventional forms of therapies in regards to mental health, specifically in the Netherlands.

However, there are a number of gaps in the process that have not been fully researched yet due to the limitation of time and resources. This list of recommendations can be executed in further research to develop an extended knowledge related to NAT through further research:

1. Explorative research on the perspectives of clients to see whether NAT has significant effects on broader spectrum of health issues and for which client groups. Further research could compare which health variables are highly affected by the use of nature elements and how clients might support the general idea of having NAT in most healthcare treatments.
2. Financial factors could be an issue for many people as healthcare treatments could be expensive to some extent when it is not covered. Thus, it would be helpful to further research on the involvement of health insurance companies and other related stakeholders for their stance on implementing NAT into the healthcare system.
3. Education for healthcare institutions is vital if NAT is desired to be widely known and practiced within the work field. Further research might want to explore the most fitting way to include the concept of NAT into the education system through their curriculum. Similarly, this should also be done within healthcare institutions to gain experience with the concept.

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REFERENCES

- Adevi, A. A., & Mårtensson, F. (2013). Stress rehabilitation through garden therapy: The garden as a place in the recovery from stress. *Urban forestry & urban greening*, 12(2), 230-237.
- Ali, S., Rhodes, L., Moreea, O., McMillan, D., Gilbody, S., Leach, C., . . . Delgadillo, J. (2017). How durable is the effect of low intensity CBT for depression and anxiety? Remission and relapse in a longitudinal cohort study. *Behaviour Research and Therapy*, 94, 1-8. doi:<https://doi.org/10.1016/j.brat.2017.04.006>
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: American's perceptions of life quality*. New York: Plenum
- Annerstedt van den Bosch, M., Mudu, P., Uscila, V., Barrdahl, M., Kulinkina, A., Staatsen, B., ... Egorov, A. I. (2015). Development of an urban green space indicator and the public health rationale. *Scandinavian Journal of Public Health*, 44(2), 159–167. <https://doi.org/10.1177/1403494815615444>
- Ashley, P. (2007). Toward an Understanding and Definition of Wilderness Spirituality. *Australian Geographer*, 38(1), 53–69. <https://doi.org/10.1080/00049180601175865>
- Astin, J. A. (1997). Stress reduction through mindfulness meditation. *Psychotherapy and psychosomatics*, 66(2), 97-106.
- Baycan Levent, T. & Nijkamp, P. (2004). Urban green space policies: Performance and success conditions in European cities. Retrieved on 5 June 2020 from <http://www-sre.wu.ac.at/ersa/ersaconfs/ersa04/PDF/660.pdf>
- Brady, E. (2006). Aesthetics in practice: Valuing the natural world. *Environmental Values*, 15(3), pp. 277-291. doi: <https://doi-org.ezproxy.library.wur.nl/10.3197/0963271067782262>
- Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005). The significance of parks to physical activity and public health: a conceptual model. *American journal of preventive medicine*, 28(2), 159-168
- Berget, B., Braastad, B., Burls, A., Elings, M., Hadden, Y., Haigh, R., ... & Haubenhofer, D. K. (2010). *Green Care: a Conceptual Framework. A Report of the Working Group on the Health Benefits of Green Care*.
- Berman, M. G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological science*, 19(12), 1207-1212.
- Berman, M. G., Kross, E., Krpan, K. M., Askren, M. K., Burson, A., Deldin, P. J., Kaplan, S., Sherdell, L., Gotlib, I. H., & Jonides, J. (2012). Interacting with nature improves cognition and affect for

- individuals with depression. *Journal of affective disorders*, 140(3), 300–305. <https://doi.org/10.1016/j.jad.2012.03.012>
- Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012). The impacts of nature experience on human cognitive function and mental health. *Annals of the New York Academy of Sciences*, 1249(1), 118-136.
- Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life*. New York: Russell Sage Foundation
- CBS. (2016). PBL/CBS prognose: Groei steden zet door. Retrieved on 10 June 2020 from <https://www.cbs.nl/nl-nl/nieuws/2016/37/pbl-cbs-prognose-groei-steden-zet-door>
- Chen, W.Y. & Jim, C.Y. (2008), Assess and valuation of the ecosystem services provided by urban forests, in Carreiro, M.M., Song, Y.C. and Wu, J. (Eds), *Ecology, Planning, and Management of Urban Forests: International Perspectives*, Springer, New York, NY, pp. 53-83
- Cheung, C. K., Wyman, J. F., & Halcon, L. L. (2007). Use of complementary and alternative therapies in community-dwelling older adults. *The Journal of Alternative and Complementary Medicine*, 13(9), 997-1006.
- Cooley, S. J., Jones, C. R., Kurtz, A., & Robertson, N. (2020). 'Into the Wild': A meta-synthesis of talking therapy in natural outdoor spaces. *Clinical Psychology Review*, 77, 101841. <https://doi.org/10.1016/j.cpr.2020.101841>
- Corazon, S. S., Stigsdotter, U. K., Moeller, M. S., & Rasmussen, S. M. (2012). Nature as therapist: Integrating permaculture with mindfulness-and acceptance-based therapy in the Danish Healing Forest Garden Nacadia. *European Journal of Psychotherapy & Counselling*, 14(4), 335-347.
- Cox, D.T.C., Shanahan, D.F., Hudson, H.L., Fuller, R.A. & Gaston, K.J. (2018). The impact of urbanisation on nature dose and the implications for human health. *Landscape and Urban Planning*, 179, pp.72-80. <https://doi.org/10.1016/j.landurbplan.2018.07.013>
- Deangelis, T. (2019). Continuing Education: Better relationships with patients lead to better outcomes. *Monitor on Psychology*, 38-43.
- Drake, R. E., Wallach, M. A., & McGovern, M. P. (2005). Special section on relapse prevention: Future directions in preventing relapse to substance abuse among clients with severe mental illnesses. *Psychiatric Services*, 56(10), 1297-1302.
- Eynon, M. J., O'Donnell, C., & Williams, L. (2016). Gaining qualitative insight into the subjective experiences of adherers to an exercise referral scheme: A thematic analysis. *Journal of Health Psychology*, 23(11), 1476–1487. <https://doi.org/10.1177/1359105316656233>

- Graaf, d. R., Have, ten M., Dorsselaer, S. (2010). De psychische gezondheid van de Nederlandse bevolking. Retrieved from Utrecht: <https://www.trimbos.nl/docs/491f70c6-2cb2-4ca2-b902-a205fa0e1784.pdf>
- Graaf, de, R., Ten Have, M., van Gool, C., & van Dorsselaer, S. (2012). Prevalence of mental disorders and trends from 1996 to 2009. Results from the Netherlands Mental Health Survey and Incidence Study-2. *Social psychiatry and psychiatric epidemiology*, 47(2), 203-213.
- Gullone, E. (2000). The biophilia hypothesis and life in the 21st century: increasing mental health or increasing pathology? *Journal of Happiness Studies*, 1(3), 293-322. <https://doi.org/10.1023/A:1010043827986>
- Hartig, T., Mang, M. & Evans, G.W. (1991). Restorative effects of natural environment experiences. *Environment and Behaviour*, 23 (1), pp. 3-26. <https://doi.org/10.1177/0013916591231001>
- Haubehofer, D. K., Elings, M., Hassink, J., & Hine, R. E. (2010). The Development of Green Care in Western European Countries. *EXPLORE*, 6(2), 106-111. <https://doi.org/10.1016/j.explore.2009.12.002>
- Heck, G. L. (2008). Heel de mens. *Psychologie & Gezondheid*, 36(2), 79-80.
- Hessels, J., Rietveld, C. A., & van der Zwan, P. (2017). Self-employment and work-related stress: The mediating role of job control and job demand. *Journal of Business Venturing*, 32(2), 178-196.
- Hunter, E. P., & Storat, B. (1994). Psychosocial triggers of relapse in persons with chronic mental illness: A pilot study. *Issues in mental health nursing*, 15(1), 67-72.
- Ilies, R., Dimotakis, N., & De Pater, I. E. (2010). Psychological and physiological reactions to high workloads: implications for well-being. *Personnel Psychology*, 63(2), 407-436.
- Jiang, B., Chang, C. Y., & Sullivan, W. C. (2014). A dose of nature: Tree cover, stress reduction, and gender differences. *Landscape and Urban Planning*, 132, 26-36.
- Johnson, B. (2002). On the spiritual benefits of wilderness. *International journal of wilderness*, 8(3), 28-32.
- Jordan, M. (2014). *Nature and therapy: Understanding counselling and psychotherapy in outdoor spaces*. Routledge.
- Kaplan, R. & Kaplan, S. (1989). *The Experience of Nature: a Psychological Perspective*. New York: Cambridge University Press.
- Kaplan, R., Kaplan, S., & Brown, T. (1989). Environmental Preference: A Comparison of Four Domains of Predictors. *Environment and Behavior*, 21(5), 509-530. doi: 10.1177/0013916589215001

- Kaplan, S. (1995). The Restorative Benefits of Nature: Toward an Integrative Network. *Journal of Environmental Psychology*, 15, 169-182. doi: 0272-4944/95/030169+14\$12.0010
- Karjalainen, E., Sarjala, T., & Raitio, H. (2010). Nature and Health. The influence of nature on social, psychological and physical well-being, 2004. *Environmental health and preventive medicine*, 15(1), 1-8.
- Kellert, S. R., & Berry, J. K. (1987). Attitudes, knowledge, and behaviors toward wildlife as affected by gender. *Wildlife Society Bulletin (1973-2006)*, 15(3), 363-371.
- Kellert, S. R., & Wilson, E. O. (Eds.). (2013). *The Biophilia Hypothesis*. Island Press. Retrieved on 26 May 2020 from <http://web.b.ebscohost.com.ezproxy.library.wur.nl/ehost/ebookviewer/ebook/bmxlYmtfXzE2NDE0MI9fQU41?sid=fd9b4a76-13c7-4604-898a-b45db4bd1ec0@pdc-v-sessmgr06&vid=0&format=EB&rid=1>
- Koppen, van, C.S.A. (2000). Resource, Arcadia, Lifeworld. *Nature Concepts in Environmental Sociology. Sociologia Ruralis* 40(3):300-18.
- Koppen, van, C. S. A. & Spaargaren, G. (2019). *Environment and society. An introduction to the social dimensions of environmental change*. Wageningen: Environmental Policy Group, Wageningen University
- Kramer, M. (1980). The rising pandemic of mental disorders and associated chronic diseases and disabilities. *Acta Psychiatrica Scandinavica*, 62(S285), 382-397.
- Kruse, C. R. (1999). Gender, views of nature, and support for animal rights. *Society & Animals*, 7(3), 179-198.
- Kunze, F., Boehm, S. & Bruch, H. (2013). Age, resistance to change, and job performance. *Journal of Managerial Psychology*, 28(7-8), pp. 741-760. DOI: <https://doi.org/10.1108/JMP-06-2013-0194>
- Li, I., Dey, A., & Forlizzi, J. (2010, April). A stage-based model of personal informatics systems. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 557-566).
- Maas, J., Verheij, R. A., Groenewegen, P. P., de Vries, S., & Spreeuwenberg, P. (2006). Green space, urbanity, and health: how strong is the relation? *Journal of Epidemiology & Community Health*, 60(7), 587–592. <https://doi.org/10.1136/jech.2005.043125>
- Nebbe, L. (2006). Nature therapy. In *Handbook on animal-assisted therapy* (pp. 385-414). Academic Press.
- Nunnally, J. C. (1978) *Psychometric Theory* (2nd ed.). New York: McGraw-Hill

- Ohly H., White, M. P., Wheeler, B. W., Bethel, A., Ukoumunne, O. C., Nikolaou, V., & Garside, R. (2016) Attention Restoration Theory: A systematic review of the attention restoration potential of exposure to natural environments, *Journal of Toxicology and Environmental Health, Part B*, 19(7), 305-343, DOI: <https://doi.org/10.1080/10937404.2016.1196155>
- Peen, J., Schoevers, R. A., Beekman, A. T., & Dekker, J. (2010). The current status of urban-rural differences in psychiatric disorders. *Acta Psychiatrica Scandinavica*, 121(2), 84-93.
- Rantakokko, M., Mänty, M., Iwarsson, S., Törmäkangas, T., Leinonen, R., Heikkinen, E., & Rantanen, T. (2009). Fear of moving outdoors and development of outdoor walking difficulty in older people. *Journal of the American Geriatrics Society*, 57(4), 634-640.
- Roman, C. G., & Chalfin, A. (2008). Fear of walking outdoors: a multilevel ecologic analysis of crime and disorder. *American journal of preventive medicine*, 34(4), 306-312.
- Sandifer, P. A., Sutton-Grier, A. E., & Ward, B. P. (2015). Exploring connections among nature, biodiversity, ecosystem services, and human health and well-being: Opportunities to enhance health and biodiversity conservation. *Ecosystem services*, 12, 1-15.
- Smardon, R.C. (1988). Perception and aesthetics of the urban environment: review of the role of vegetation. *Landscape and Urban Planning*, 15(1-2), pp. 85-106. DOI: 10.1016/0169-2046(88)90018-7
- Smit, R. S. V. (2016). *Compendium geneeskunde: de essentie van zes jaar geneeskunde: voor studenten, door studenten*(2 ed.).
- Smith, M., & Davidson, J. (2006). It Makes My Skin Crawl...': The Embodiment of Disgust in Phobias of 'Nature. *Body & Society*, 12(1), 43-67.
- Spector, P. E. (1992). Summated rating scale construction: An introduction (Vol. 82). Sage.
- Trimbos-Instituut. (2012). *Ernst van de psychische aandoening als voorspeller van de aard en intensiteit van zorggebruik*. Retrieved from Utrecht: <https://www.trimbos.nl/docs/c9fe0735-04d6-424d-876b-d7cd4a44ec10.pdf>
- Trimbos-Instituut. (2020). Psychische gezondheid van Nederlanders. Retrieved 4 June 2020, from <https://www.trimbos.nl/kennis/cijfers/psychische-gezondheid-ggz#qpsychischeaandoeningen>
- Turner, W. R., Nakamura, T., & Dinetti, M. (2004). Global urbanization and the separation of humans from nature. *Bioscience*, 54(6), 585-590.
- Ulrich, R. (1984). View through a window may influence recovery from surgery. *Science* (New York, N.Y.). 224. 420-1. 10.1126/science.6143402.

- Ulrich, R. (1993). Biophilia, biophobia, and natural landscapes. *Biophilia, Biophobia, and Natural Landscapes*. 73-137. Retrieved on 4 June 2020 from https://www.researchgate.net/publication/284655696_Biophilia_biophobia_and_natural_landscapes/citation/download
- Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of environmental psychology*, 11(3), 201-230.
- Walsh, R. (2011). Lifestyle and mental health. *American Psychologist*, 66(7), 579–592. <https://doi.org/10.1037/a0021769>
- West, M. (2014). When to push your client outside their comfort zone. *Investment News*.
- Wilson, E. O. (1984). *Biophilia*. Harvard University Press. Retrieved on 26 May 2020 from <http://web.b.ebscohost.com.ezproxy.library.wur.nl/ehost/ebookviewer/ebook/bmxlYmtfXzl4MjU5OF9fQU41?sid=c4c5660b-588c-4745-b830-c5a0eab91997@pdc-v-sessmgr06&vid=0&format=EB&rid=1>
- World Health Organization: WHO. (2019, November 28). Mental disorders. Retrieved 4 June 2020, from <https://www.who.int/en/news-room/fact-sheets/detail/mental-disorders>
- Zhou, X. (2010). Social benefits of urban green space. *Management of Environmental Quality: An International Journal*, 23 (2), pp. 173-189. DOI 10.1108/14777831211204921
- Zhou, X. & Rana, M.P. (2012). Social benefits of urban green space: A conceptual framework of valuation and accessibility measurements. *Management of Environmental Quality*, 23(2), pp. 173-189. DOI 10.1108/14777831211204921

Topic 1. Ervaring met psychologie en psychotherapie

1. Hoe lang bent u werkzaam als psycholoog?
2. Is uw 'kern' van de behandelingen voor cliënten hetzelfde gebleven over de jaren dat u werkzaam bent? Hoe is deze?
3. Kunt u ons iets vertellen over de patiëntengroep die u behandelt? Focust u zich op een specifieke groep?
4. *Dit is een persoonlijke vraag en daarom willen we u de optie geven of u deze wilt beantwoorden of niet.* Heeft u zelf ooit stress of burnout symptomen ervaren door uw werk? Indien dit het geval is, heeft u geprobeerd hier een oplossing voor te vinden? Indien dit niet het geval is, wat zijn voor u manieren om deze klachten te voorkomen?
5. Bent u van mening dat er verandering binnen uw werkgebied nodig is door bijvoorbeeld de toegenomen hoeveelheid cliënten? Indien dit het geval is, kunt u uw visie delen over de veranderingen die zouden moeten plaatsvinden?

Topic 2. De relatie tussen mens en natuur

1. In welke provincie van Nederland bent u op dit moment werkzaam?
2. Hoe zou u de omgeving van uw werklocatie het best beschrijven?
3. In hoeverre bent u bekend met wetenschappelijk bewijs over de invloed van natuur op gezondheid en welzijn van de mens?

Erna: leg enkele bewezen voordelen uit, zoals: Het is bewezen dat het in contact zijn met natuur stress significant kan reduceren. Het concept natuur bevat diverse elementen, van bos tot tuin.

4. Bent u bekend met de term buiten psychologie? Zo niet, leg uit. Wat is uw visie op buiten psychologie?
5. Heeft u ooit overwogen om buiten psychologie zelf uit te proberen met een van uw cliënten? Waarom?

Topic 3. Visies van anderen over buiten psychologie

1. Wat denkt u dat mogelijke barrières zijn voor complementatie van buiten psychologie in uw bestaande aanbod?
2. Denkt u dat het moeilijk is om een buiten setting te vinden om de therapie uit te voeren? Verschilt dit over locaties in Nederland?
3. Heeft u enige vooroordelen of wellicht angst/twijfel over buiten psychologie?
4. Wat denkt u dat mogelijke kansen zijn voor complementatie van buiten psychologie in uw bestaande aanbod?
5. Denkt u dat het haalbaar is om in Nederland deze nieuwe benadering te complementeren als een optie voor behandeling (zoals kunst therapie, groepstherapie, etc.)? Zowel vanuit het perspectief vanuit psychologen, cliënten als de overheid? Waarom?

Topic 4. Toekomstmogelijkheden

1. Als buiten psychologie meer onderzocht wordt in wetenschappelijk onderzoek en positieve, significante uitkomsten werft voor zowel cliënt als psycholoog, zou u het overwegen om te implementeren in uw aanbod?
2. Ziet u het in de toekomst gebeuren? Wat moet er gebeuren?

Andere vragen?

Topic 1. Ervaring met psychologie en psychotherapie

1. Hoe lang bent u werkzaam als psycholoog?
2. Is uw 'kern' van de behandelingen voor cliënten hetzelfde gebleven over de jaren dat u werkzaam bent? Hoe is deze?
3. Kunt u ons iets vertellen over de patiëntengroep die u behandelt? Focust u zich op een specifieke groep?
4. Waarom heeft u gekozen om buiten psychologie te implementeren in uw sessies? (kansen)
5. Maakt u gedurende alle therapie sessies gebruik van buiten settings? Wat zijn uw afwegingen hiervoor? waar u rekening mee houdt
6. Wat zijn mogelijke barrières die u ervaart in het gebruik van buiten psychologie?
7. *Dit is een persoonlijke vraag en daarom willen we u de optie geven of u deze wilt beantwoorden of niet.* Heeft u zelf ooit stress of burnout klachten/overspannenheid ervaren door uw werk? Indien dit het geval is, heeft u geprobeerd hier een oplossing voor te vinden? Indien dit niet het geval is, wat zijn voor u manieren om deze klachten te voorkomen?
8. Bent u van mening dat er verandering binnen uw werkgebied nodig is door bijvoorbeeld de toegenomen hoeveelheid cliënten? Indien dit het geval is, kunt u uw visie delen over de veranderingen die zouden moeten plaatsvinden?

Topic 2. De relatie tussen mens en natuur

1. In welke provincie van Nederland bent u op dit moment werkzaam?
2. Hoe zou u de omgeving van uw werklocatie het best beschrijven?
3. Wat is uw visie over natuur en de invloed daarvan op gezondheid en welzijn?
4. Zou u de implementatie van buiten psychologie als gunstig beschrijven voor uw cliënten, uzelf of beide?

Topic 3. Visies van anderen over buiten psychologie

1. Wat kunt u ons vertellen over de algemene visie van buiten psychologie bij uw collega-psychologen die nog geen gebruik maken van buiten psychologie?
2. Wat zouden mogelijke barrières zijn voor deze collega's om buiten psychologie te complementeren?
3. Wat zouden mogelijke voordelen/mogelijkheden ("opportunities") zijn voor deze collega's om buiten psychologie te complementeren?

Topic 4. Future possibilities

1. Vanuit uw oogpunt, hoe zou u het Nederlandse zorgsysteem met betrekking tot mentale gezondheid willen zien over de komende 5 à 10 jaar? Denkt u dat buiten psychologie meer geïmplementeerd zal worden?
2. Wat zijn de meest haalbare en effectieve manieren om bewustzijn voor de voordelen van buiten psychologie te creëren?

Question 2 (in questionnaire):

Onderwerp 1. (5 point Likert scale: helemaal eens- helemaal oneens)

Algemene visie op de invloed van de natuur.

1. Ik ben van mening dat natuur een positieve invloed heeft op de fysieke gezondheid van de mens.
2. Ik ben van mening dat natuur een positieve invloed heeft op de mentale gezondheid van de mens.
3. Ik ben van mening dat het omgeven zijn door de natuur een positieve invloed heeft op de mentale gezondheid van anderen.
4. Wanneer ik in de natuur ben, voel ik me ontspannen.
5. Wanneer ik gestrest ben, zoek ik een groene omgeving op.
6. Wanneer ik buiten ben, kan ik mijn gedachten goed van me afzetten.
7. Wanneer ik buiten ben, kan ik mijn negatieve emoties goed omzetten in positieve emoties.
8. Ik gebruik de natuur om te ontspannen.
9. Ik ben van mening dat natuur gebruikt kan worden als een methode om de algemene welzijn van de mens te bevorderen.

Question 3:

Onderwerp 2. (5 point Likert scale: nee - een beetje - ja)

Algemene vragen over buitenpsychologie.

1. Ik ben bekend met buitenpsychologie.
2. Ik vind buitenpsychologie interessant.
3. Ik heb ervaring met buitenpsychologie.
4. Ik heb overwogen om buitenpsychologie te implementeren in mijn werk.
5. Ik ken andere psychologen die gebruik maken/gebruik gemaakt hebben van buitenpsychologie.
6. Ik heb mensen in mijn sociale kringen die gebruik gemaakt hebben van buitenpsychologie.
7. Indien van toepassing: vanuit mijn sociale contacten die gebruik gemaakt hebben van buitenpsychologie, heb ik positieve verhalen gehoord.

Question 4:

8. Ik heb gelezen over buitenpsychologie of er gehoord van/via: (meerdere antwoorden mogelijk)

- a. Krant
- b. Website
- c. Tijdschrift
- d. Sociale media
- e. Conferenties
- f. Werkvergaderingen
- g. Collega's
- h. Cliënten
- i. Wetenschappelijk artikel(en)
- j. Overig
- k. Ik heb er nog nooit over gelezen of van gehoord.

Question 5:

Onderwerp 3.

Standpunt ten opzichte van buitenpsychologie.

1. Ik geloof dat buitenpsychologie conventionele vormen van therapie kan complementeren.
2. Ik geloof niet dat buitenpsychologie mijn cliënten ten goede komt.
3. Ik geloof dat het contact tussen mijn cliënt en mij verbeterd kan worden door buitenpsychologie.
4. Ik geloof dat ikzelf baat kan hebben bij buitenpsychologie.
5. Ik geloof niet dat buitenpsychologie een toegevoegde waarde heeft, vergeleken met conventionele vormen van therapie.
6. Ik geloof dat buitenpsychologie meer effect zou kunnen hebben dan conventionele vormen van therapie.
7. Ik geloof dat collega-psychologen baat kunnen hebben bij buitenpsychologie.
8. Ik geloof dat buitenpsychologie effectief kan zijn bij milde psychologische klachten.

Open vragen:

Question 6:

Als GZ-psycholoog, wat is uw algemene opinie over het gebruiken van buitenpsychologie als een complementaire behandeloptie?

Question 7:

Wat kan de toegevoegde waarde zijn van buitenpsychologie; voor cliënten en voor uzelf?

Question 8:

Wat zouden de cruciale elementen zijn om buitenpsychologie effectief te laten zijn?

Question 9:

Zou u overwegen om verschillende elementen van buitenpsychologie te verwerken of integreren in uw eigen behandelingen? Onderbouw uw antwoord.

Onderwerp 4.

Praktische haalbaarheid

Question 10

Hieronder volgt een lijst met mogelijke barrières voor het complementeren van conventionele vormen van therapie met buitenpsychologie. Kies uit de volgende lijst de opties die voor u het meest van toepassing zouden kunnen zijn (meerdere opties mogelijk):

- Het weer
- De planning
- Administratie
- Protocollen
- Vergoeding van de zorgverzekering
- Flexibiliteit van uw werkplek (bijvoorbeeld: manager)
- Gebrek aan kennis
- Benodigde training en/of opleiding
- Toegankelijkheid (denk aan: het openbaar vervoer, afstand tot locatie, etc.)
- Locatie van de werkplek
- Privacy van de cliënt
- Veiligheid van de cliënt
- Buiten de comfort zone van zowel cliënt als uzelf
- Natuurlijke ongemakken (muggenbeten, toiletgebruik, teken, etc.)
- Anders, namelijk: ...

Question 11:

Hieronder volgt een lijst met mogelijke kansen voor het complementeren van conventionele vormen van therapie met buitenpsychologie. Kies uit de volgende lijst de opties die voor u het meest van toepassing zouden kunnen zijn:

- Het weer
- De planning
- Flexibiliteit van uw werkplek (bijvoorbeeld: manager)
- Innovatieve mogelijkheid
- Uitbreiding van uw mogelijkheden als psycholoog
- Verbetering eigen welzijn als psycholoog
- Toegankelijkheid (denk aan: het openbaar vervoer, afstand tot locatie, etc.)
- Locatie van de werkplek
- Privacy van de cliënt
- Buiten de comfort zone van zowel cliënt als uzelf
- Verhoging van de fysieke activiteit
- Verbetering leefstijl tijdens als na consulten
- Vermindering medicatiegebruik
- Vermindering aantal consulten
- Frisse lucht
- Verhoogde ontspannen sfeer tijdens het consult
- Verbetering van natuurlijke gespreksvoering (denk aan: minder nadruk op de cliëntperceptie)
- Anders, namelijk: ...

Onderwerp 5. (5 point Likert scale: nooit, soms, neutraal, vaak, altijd)

Persoonlijke werkgerelateerde ervaring met mentale gezondheid.

Question 12:

In het volgende deel van de vragenlijst zouden we u enkele vragen willen stellen over uw werkgerelateerde mentale gezondheid. We zijn ons ervan bewust dat de huidige pandemie een effect kan hebben op uw (mentale) gezondheid, echter zouden wij u willen vragen om de huidige situatie los te koppelen bij het invullen van deze vragenlijst. **Indien u wenst om dit deel niet in te vullen, gelieve niet van toepassing in te vullen.**

In de afgelopen maand ...

1. ... voelde ik me gestrest tijdens het werken
2. ... voelde ik een hoge werkdruk
3. ... voelde ik me minder gemotiveerd om mijn baan uit te voeren
4. ... had ik meer last van vermoeidheid door werk
5. ... beleefde ik minder plezier van mijn werk

Onderwerp 6. (5 point Likert scale: helemaal eens- helemaal oneens)

Question 13:

Mogelijkheden voor de toekomst.

1. Ik geloof dat buitenpsychologie in de toekomst conventionele vormen van therapie kan complementeren voor de meeste cliënten.
2. Ik geloof dat mijn werk me minder stress zal opleveren in de toekomst als ik buitenpsychologie implementeer.

3. Ik geloof dat buitenpsychologie in de toekomst een conventionele vorm van therapie kan worden voor de meeste cliënten.

Onderwerp 7. Algemene vragen.

Question 14:

1. In welke leeftijdscategorie bevindt u zich?
 - a. Tussen de 18 en 24 jaar oud
 - b. Tussen de 25 en 34 jaar oud
 - c. Tussen de 35 en 44 jaar oud
 - d. Tussen de 45 en 54 jaar oud
 - e. Tussen de 55 en 64 jaar oud
 - f. Boven de leeftijd van 65 jaar oud

Question 15:

2. Wat is uw geslacht?
 - a. Mannelijk
 - b. Vrouwelijk
 - c. Non-binair
 - d. Vertel ik liever niet

Question 16:

3. Wat is uw huidige werkstatus?
 - a. Full-time werkzaam (meer dan 36 uur per week)
 - b. Part-time werkzaam (minder dan 36 uur per week)
 - c. Stage
 - d. Werkzoekend
 - e. Niet-werkzaam

Question 17:

4. Heeft u een eigen kliniek of werkt u voor een werkgever?
 - a. Zelfstandig
 - b. Voor een werkgever
 - c. Geen van beiden

Question 18:

5. In welke provincie bent u op dit moment werkzaam?
 - a. Noord-Holland
 - b. Zuid-Holland
 - c. Zeeland
 - d. Noord-Brabant
 - e. Utrecht
 - f. Flevoland
 - g. Friesland
 - h. Groningen
 - i. Drenthe
 - j. Overijssel
 - k. Gelderland
 - l. Limburg

Question 19:

6. In wat voor geografisch gebied bent u werkzaam?
 - a. Stedelijk
 - b. Voorstedelijk
 - c. Landelijk

Question 20:

7. Hoe lang bent u al werkzaam als psycholoog?

- a. Minder dan 10 jaar
- b. Tussen 11 en 20 jaar
- c. Tussen 21 en 30 jaar
- d. Meer dan 31 jaar

Question 21:

8. In welke patiëntenpopulatie bent u doorgaans werkzaam?

APPENDIX D. CODING SCHEME

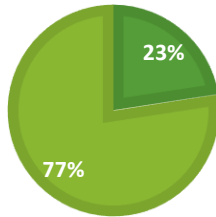
Code	Color	Subcode
1	Demographics	
2	Clients	
3	Stress and coping	
4	Work method (o.a. zelfstandig vs institution of protocllen etc)	
5	Surroundings	
6	Attitude	<ul style="list-style-type: none"> • attitude_clients • attitude_psych • attitude_mana
7	Barriers	<ul style="list-style-type: none"> • barr_workplace • barr_resources • barr_knowl • barr_psych • barr_access • barr_client • barr_nat • barr_corona • barr_concurrent

8	Opportunities (wat brengt deze vorm van therapie tijdens consult zelf?)	<ul style="list-style-type: none"> • Wellbeing client (opp_wellbc) • Wellbeing psychologists (opp_wellbp) • Consult (opp_cons) • Needs client
9	Feasibility	
10	Necessities (wat is nodig?)	<i>What is needed?</i> (example: more scientific research needed, more “marketing”, more awareness,)
11	Possibilities (wat maakt het makkelijker dit te implementeren en welke positieve praktische zaken heb je)	<ul style="list-style-type: none"> • Own knowledge/experience (poss_knowl) • poss_corona • New insights because of the use of nature • Practicalities (poss_prac) • Possibilities (poss_poss) • Accessibility (poss_loc) • Examples around you (poss_ex)

APPENDIX E - PIE CHARTS FOR VALUES OF DEMOGRAPHIC VARIABLES

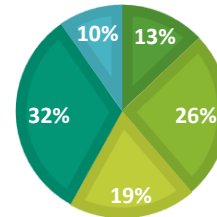
GENDER

■ Male ■ Female



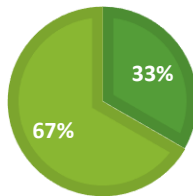
AGE

■ Above 65 years old ■ Between 25 and 34 years old
 ■ Between 35 and 44 years old ■ Between 45 and 54 years old
 ■ Between 55 and 64 years old



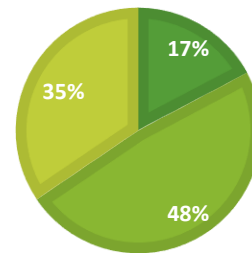
WORK STATUS

■ Full time (>36 hours per week)
 ■ Part time (<36 hours per week)



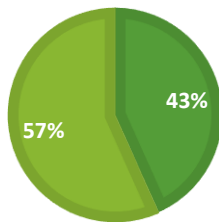
WORK AREA

■ Rural ■ Urban ■ Suburban



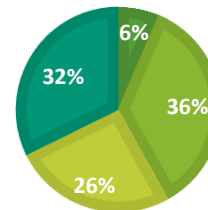
WORK CONDITION

■ For na employer ■ Independent



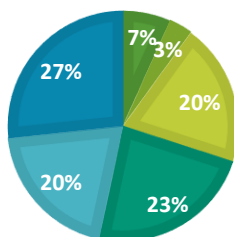
WORK EXPERIENCE

■ More than 31 years ■ Less than 10 years
 ■ Between 11 and 20 years ■ Between 21 and 30 years



WORK REGION

■ Gelderland ■ Limburg ■ Noord-Brabant
 ■ Noord-Holland ■ Utrecht ■ Zuid-Holland



APPENDIX F. TABLES FOR ANALYSES ON OPPORTUNITIES WITH DEMOGRAPHIC DATA FROM QUESTIONNAIRE

Age

Opportunities	Between 25-34 years of age	Between 35-44 years of age	Between 45-54 years of age	Between 55-64 years of age	Above the age of 65 years	Total
Workplace flexibility	2	2	4	1	2	11
Innovative possibility	3	2	6	0	1	12
Extension of your possibilities as a psychologist	5	4	5	2	2	18
Improvement own wellbeing as a psychologist	6	5	6	0	1	18
Workplace location	1	2	0	0	0	3
Clients' privacy	0	0	0	0	0	0
Outside comfort zone for your client as well as yourself	1	1	2	1	0	5
Increase of physical activity	7	6	9	2	3	27
Improvement lifestyle during and after consult	6	4	7	2	2	21
Decrease in use of medication	0	1	1	0	1	3
Decrease in number of consults	1	0	0	0	0	1
Fresh air	5	5	6	1	2	19
Increased relaxed atmosphere during consult	7	5	6	1	1	20
Improvement of natural conversation flow	4	3	5	0	3	15
Other	0	0	1	1	0	2

25 - 34	35 - 44	45 - 54	55 - 64	65
25%	33%	40%	33%	50%
38%	33%	60%	0%	25%
63%	67%	50%	67%	50%
75%	83%	60%	0%	25%
13%	33%	0%	0%	0%
0%	0%	0%	0%	0%
13%	17%	20%	33%	0%
88%	100%	90%	67%	75%
75%	67%	70%	67%	50%
0%	17%	10%	0%	25%
13%	0%	0%	0%	0%
63%	83%	60%	33%	50%
88%	83%	60%	33%	25%
50%	50%	50%	0%	75%
0%	0%	10%	33%	0%

Gender

Opportunities	Male	Female	Total
Workplace flexibility	2	9	11
Innovative possibility	3	9	12
Extension of your possibilities as a psychologist	4	14	18
Improvement own wellbeing as a psychologist	3	15	18
Workplace location	1	2	3
Clients' privacy	0	0	0
Outside comfort zone for your client as well as yourself	1	4	5
Increase of physical activity	5	22	27
Improvement lifestyle during and after consult	4	17	21
Decrease in use of medication	1	2	3
Decrease in number of consults	1	0	1
Fresh air	5	14	19
Increased relaxed atmosphere during consult	2	18	20
Improvement of natural conversation flow	3	12	15
Other	1	1	2

Male	Female
29%	38%
43%	38%
57%	58%
43%	63%
14%	8%
0%	0%
14%	17%
71%	92%
57%	71%
14%	8%
14%	0%
71%	58%
29%	75%
43%	50%
14%	4%

Employment status

Opportunities	Full-time	Part-time	Non-employed	Total
Workplace flexibility	5	5	1	11
Innovative possibility	3	9	0	12
Extension of your possibilities as a psychologist	6	11	1	18
Improvement own wellbeing as a psychologist	7	11	0	18
Workplace location	0	3	0	3
Clients' privacy	0	0	0	0
Outside comfort zone for your client as well as yourself	2	3	0	5
Increase of physical activity	10	16	1	27
Improvement lifestyle during and after consult	8	13	0	21
Decrease in use of medication	1	1	1	3
Decrease in number of consults	0	1	0	1
Fresh air	8	10	1	19
Increased relaxed atmosphere during consult	6	14	0	20
Improvement of natural conversation flow	3	11	1	15
Other	1	1	0	2

Full	Part	Non
50%	25%	100%
30%	45%	0%
60%	55%	100%
70%	55%	0%
0%	15%	0%
0%	0%	0%
20%	15%	0%
100%	80%	100%
80%	65%	0%
10%	5%	100%
0%	5%	0%
80%	50%	100%
60%	70%	0%
30%	55%	100%
10%	5%	0%

Type of employment

Opportunities	None of the above			Total	none	employer	own
	For an employer	Own practice	Total				
Workplace flexibility	1	5	5	11	100%	38%	29%
Innovative possibility	0	6	6	12	0%	46%	35%
Extension of your possibilities as a psychologist	1	7	10	18	100%	54%	59%
Improvement own wellbeing as a psychologist	0	9	9	18	0%	69%	53%
Workplace location	0	1	2	3	0%	8%	12%
Clients' privacy	0	0	0	0	0%	0%	0%
Outside comfort zone for your client as well as yourself	0	1	4	5	0%	8%	24%
Increase of physical activity	1	11	15	27	100%	85%	88%
Improvement lifestyle during and after consult	0	9	12	21	0%	69%	71%
Decrease in use of medication	1	0	2	3	100%	0%	12%
Decrease in number of consults	0	0	1	1	0%	0%	6%
Fresh air	1	7	11	19	100%	54%	65%
Increased relaxed atmosphere during consult	0	11	9	20	0%	85%	53%
Improvement of natural conversation flow	1	9	5	15	100%	69%	29%
Other	0	0	2	2	0%	0%	12%

Province

Opportunities	Empty	Gelderland	Limburg	Noord-Brabant	Noord-Holland	Utrecht	Zuid-Holland	Total	empty	Gelderland	Limburg	NB	NH	Utrecht	ZH
Workplace flexibility	0	0	0	1	3	3	4	11	0%	0%	0%	17%	43%	50%	50%
Innovative possibility	0	1	0	3	2	3	3	12	0%	50%	0%	50%	29%	50%	38%
Extension of your possibilities as a psychologist	0	1	0	4	5	3	5	18	0%	50%	0%	67%	71%	50%	63%
Improvement own wellbeing as a psychologist	0	1	0	3	3	4	7	18	0%	50%	0%	50%	43%	67%	88%
Workplace location	0	1	0	1	1	0	0	3	0%	50%	0%	17%	14%	0%	0%
Clients' privacy	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%
Outside comfort zone for your client as well as yourself	0	0	0	3	1	1	0	5	0%	0%	0%	50%	14%	17%	0%
Increase of physical activity	0	1	1	6	6	5	8	27	0%	50%	100%	100%	86%	83%	100%
Improvement lifestyle during and after consult	0	1	0	3	5	6	6	21	0%	50%	0%	50%	71%	100%	75%
Decrease in use of medication	0	0	0	1	1	0	1	3	0%	0%	0%	17%	14%	0%	13%
Decrease in number of consults	0	1	0	0	0	0	0	1	0%	50%	0%	0%	0%	0%	0%
Fresh air	0	1	0	2	6	3	7	19	0%	50%	0%	33%	86%	50%	88%
Increased relaxed atmosphere during consult	0	2	0	4	4	4	6	20	0%	100%	0%	67%	57%	67%	75%
Improvement of natural conversation flow	0	1	0	2	4	2	6	15	0%	50%	0%	33%	57%	33%	75%
Other	1	0	0	0	1	0	0	2	100%	0%	0%	0%	14%	0%	0%

Geographical area

Opportunities	Empty	Rural	Urban	Suburban	Total
Workplace flexibility	1	1	6	3	11
Innovative possibility	1	2	5	4	12
Extension of your possibilities as a psychologist	1	3	8	6	18
Improvement own wellbeing as a psychologist	0	2	11	5	18
Workplace location	0	0	2	1	3
Clients' privacy	0	0	0	0	0
Outside comfort zone for your client as well as yourself	0	0	1	4	5
Increase of physical activity	1	4	14	8	27
Improvement lifestyle during and after consult	2	3	9	7	21
Decrease in use of medication	0	0	1	2	3
Decrease in number of consults	0	0	1	0	1
Fresh air	1	1	10	7	19
Increased relaxed atmosphere during consult	1	2	11	6	20
Improvement of natural conversation flow	1	3	9	2	15
Other	0	1	1	0	2

Empty	Rural	Urban	Suburban
50%	20%	43%	30%
50%	40%	36%	40%
50%	60%	57%	60%
0%	40%	79%	50%
0%	0%	14%	10%
0%	0%	0%	0%
0%	0%	7%	40%
50%	80%	100%	80%
100%	60%	64%	70%
0%	0%	7%	20%
0%	0%	7%	0%
50%	20%	71%	70%
50%	40%	79%	60%
50%	60%	64%	20%
0%	20%	7%	0%

Experience

Opportunities	Less than 10 years	Between 11-20 years	Between 21-30 years	More than 31 years	Total
Workplace flexibility	4	3	3	1	11
Innovative possibility	5	3	3	1	12
Extension of your possibilities as a psychologist	7	5	6	0	18
Improvement own wellbeing as a psychologist	9	5	3	1	18
Workplace location	1	2	0	0	3
Clients' privacy	0	0	0	0	0
Outside comfort zone for your client as well as yourself	1	1	3	0	5
Increase of physical activity	10	7	9	1	27
Improvement lifestyle during and after consult	9	5	6	1	21
Decrease in use of medication	0	2	1	0	3
Decrease in number of consults	1	0	0	0	1
Fresh air	8	6	4	1	19
Increased relaxed atmosphere during consult	10	6	4	0	20
Improvement of natural conversation flow	7	5	2	1	15
Other	0	0	2	0	2

<10	11 --20	21-30	more than 31
36%	38%	30%	50%
45%	38%	30%	50%
64%	63%	60%	0%
82%	63%	30%	50%
9%	25%	0%	0%
0%	0%	0%	0%
9%	13%	30%	0%
91%	88%	90%	50%
82%	63%	60%	50%
0%	25%	10%	0%
9%	0%	0%	0%
73%	75%	40%	50%
91%	75%	40%	0%
64%	63%	20%	50%
0%	0%	20%	0%

APPENDIX G. TABLES FOR ANALYSES ON OPPORTUNITIES WITH DEMOGRAPHIC DATA FROM QUESTIONNAIRE

Gender

Barrier	Male	Female	Total
The weather	5	9	14
Planning	2	5	7
Administration	1	2	3
Protocols	1	3	4
Health insurance reimbursement	2	4	6
Workplace flexibility	1	3	4
Lack of knowledge	2	3	5
Needed training and/or education	2	1	3
Accessibility	4	4	8
Workplace location	4	2	6
Clients' privacy	3	11	14
Clients' safety	2	3	5
Own safety	2	3	5
Outside comfortzone client	3	2	5
Outside comfortzone of yourself	1	2	3
Other	1	7	8
Natural inconveniences	4	2	6
	40	66	106

Males	Females
71%	38%
29%	21%
14%	8%
14%	13%
29%	17%
14%	13%
29%	13%
29%	4%
57%	17%
57%	8%
43%	46%
29%	13%
29%	13%
43%	8%
14%	8%
14%	29%
57%	8%

Age

Barrier	Between 2	Between 3	Between 4	Between 5	Above 6	Total
The weather	4	2	3	1	4	14
Planning	2	0	2	1	2	7
Administration	1	1	0	1	0	3
Protocols	2	0	1	1	0	4
Health insurance reimbursement	3	1	0	1	1	6
Workplace flexibility	2	1	0	1	0	4
Lack of knowledge	1	1	1	1	1	5
Needed training and/or education	0	1	0	1	1	3
Accessibility	4	0	1	2	1	8
Workplace location	4	0	0	1	1	6
Clients' privacy	3	2	5	3	1	14
Clients' safety	1	1	2	1	0	5
Own safety	3	0	1	1	0	5
Outside comfortzone client	1	0	1	2	1	5
Outside comfortzone of yourself	0	0	0	2	1	3
Other	0	3	4	1	0	8
Natural inconveniences	1	0	1	1	3	6
	32	13	22	22	17	106

Barrier	Between 2	Between 3	Between 4	Between 5	Above 6
The weather	50%	67%	30%	33%	100%
Planning	25%	33%	20%	33%	50%
Administration	13%	17%	0%	33%	0%
Protocols	25%	33%	10%	33%	0%
Health insurance reimbursement	38%	50%	0%	33%	25%
Workplace flexibility	25%	33%	0%	33%	0%
Lack of knowledge	13%	17%	10%	33%	25%
Needed training and/or education	0%	0%	0%	33%	25%
Accessibility	50%	67%	10%	67%	25%
Workplace location	50%	67%	0%	33%	25%
Clients' privacy	38%	50%	50%	100%	25%
Clients' safety	13%	17%	20%	33%	0%
Own safety	38%	50%	10%	33%	0%
Outside comfortzone client	13%	17%	10%	67%	25%
Outside comfortzone of yourself	0%	0%	0%	67%	25%
Other	0%	0%	40%	33%	0%
Natural inconveniences	13%	17%	10%	33%	75%

Employment status

Barrier	Full-time	Part-tim	Non-employed	Total
The weather	4	9	1	14
Planning	2	5	0	7
Administration	1	2	0	3
Protocols	1	3	0	4
Health insurance reimbursement	2	3	1	6
Workplace flexibility	1	3	0	4
Lack of knowledge	1	3	1	5
Needed training and/or education	0	2	1	3
Accessibility	2	5	1	8
Workplace location	2	3	1	6
Clients' privacy	4	10	0	14
Clients' safety	2	3	0	5
Own safety	1	4	0	5
Outside comfortzone client	3	2	0	5
Outside comfortzone of yourself	1	2	0	3
Other	3	5	0	8
Natural inconveniences	2	3	1	6
	32	67	7	106

Barrier	Full-time	Part-time
The weather	40%	45%
Planning	20%	25%
Administration	10%	10%
Protocols	10%	15%
Health insurance reimbursement	20%	15%
Workplace flexibility	10%	15%
Lack of knowledge	10%	15%
Needed training and/or education	0%	10%
Accessibility	20%	25%
Workplace location	20%	15%
Clients' privacy	40%	50%
Clients' safety	20%	15%
Own safety	10%	20%
Outside comfortzone client	30%	10%
Outside comfortzone of yourself	10%	10%
Other	30%	25%
Natural inconveniences	20%	15%

Type of employment

Barriers	For an employ	Own practic	None of the	Total
The weather	3	10	1	14
Planning	2	5	0	7
Administration	2	1	0	3
Protocols	2	2	0	4
Health insurance reimbursement	4	1	1	6
Workplace flexibility	3	1	0	4
Lack of knowledge	1	3	1	5
Needed training and/or education	0	2	1	3
Accessibility	3	4	1	8
Workplace location	2	3	1	6
Clients' privacy	4	10	0	14
Clients' safety	1	4	0	5
Own safety	3	2	0	5
Outside comfortzone client	0	5	0	5
Outside comfortzone of yourself	0	3	0	3
Other	4	4	0	8
Natural inconveniences	0	5	1	6
	34	65	7	106

For an em	Own pract
23%	59%
15%	29%
15%	6%
15%	12%
31%	6%
23%	6%
8%	18%
0%	12%
23%	24%
15%	18%
31%	59%
8%	24%
23%	12%
0%	29%
0%	18%
31%	24%
0%	29%

Province

Barriers	Empty	Gelderland	Limburg	Noord-Brabant	Noord-Holland	Utrecht	Zuid-Holland	Total
The weather	1	1	0	3	3	3	3	14
Planning	1	0	0	1	1	3	1	7
Administration	1	0	0	0	1	1	0	3
Protocols	1	0	0	1	0	2	0	4
Health insurance reimbursement	1	0	0	0	1	2	2	6
Workplace flexibility	1	1	0	0	1	1	0	4
Lack of knowledge	1	0	0	0	0	2	2	5
Needed training and/or education	1	0	0	0	0	0	2	3
Accessibility	1	1	0	1	0	3	2	8
Workplace location	1	1	0	0	0	2	2	6
Clients' privacy	1	0	0	4	3	4	2	14
Clients' safety	1	0	0	1	1	1	1	5
Own safety	1	0	0	2	0	2	0	5
Outside comfortzone client	1	0	0	1	1	1	1	5
Outside comfortzone of yourself	1	0	0	1	0	1	0	3
Other	0	0	1	2	1	1	3	8
Natural inconveniences	1	0	0	1	1	1	2	6
	16	4	1	18	14	30	23	106

	Gelderland	Limburg	Noord-Brabant	Noord-Holland	Utrecht	Zuid-Holland
	50%	0%	50%	43%	50%	38%
	0%	0%	17%	14%	50%	13%
	0%	0%	0%	14%	17%	0%
	0%	0%	17%	0%	33%	0%
	0%	0%	0%	14%	33%	25%
	50%	0%	0%	14%	17%	0%
	0%	0%	0%	0%	33%	25%
	0%	0%	0%	0%	0%	25%
	50%	0%	17%	0%	50%	25%
	50%	0%	0%	0%	33%	25%
	0%	0%	67%	43%	67%	25%
	0%	0%	17%	14%	17%	13%
	0%	0%	33%	0%	33%	0%
	0%	0%	17%	14%	17%	13%
	0%	0%	17%	0%	17%	0%
	0%	100%	33%	14%	17%	38%
	0%	0%	17%	14%	17%	25%

Geographical area

Barriers	Empty	Landelijk	Stedelijk	Voorstedelijk	Total
The weather	1	4	5	4	14
Planning	0	3	2	2	7
Administration	0	1	1	1	3
Protocols	0	3	1	0	4
Health insurance reimbursement	0	2	4	0	6
Workplace flexibility	0	2	0	2	4
Lack of knowledge	0	1	3	1	5
Needed training and/or education	0	1	2	0	3
Accessibility	1	1	4	2	8
Workplace location	0	1	4	1	6
Clients' privacy	2	2	4	6	14
Clients' safety	0	1	2	2	5
Own safety	0	1	2	2	5
Outside comfortzone client	1	3	1	0	5
Outside comfortzone of yourself	0	2	0	1	3
Other	1	0	4	3	8
Natural inconveniences	0	3	2	1	6
	6	31	41	28	106

Landelijk	Stedelijk	Voorstede
80%	36%	40%
60%	14%	20%
20%	7%	10%
60%	7%	0%
40%	29%	0%
40%	0%	20%
20%	21%	10%
20%	14%	0%
20%	29%	20%
20%	29%	10%
40%	29%	60%
20%	14%	20%
20%	14%	20%
60%	7%	0%
40%	0%	10%
0%	29%	30%
60%	14%	10%

Experience

Barriers	Less than 10 years	Between 11-20 year	Between 21-30 years	More than 31 years	Total
The weather	4	4	4	2	14
Planning	3	0	3	1	7
Administration	1	1	1	0	3
Protocols	2	0	2	0	4
Health insurance reimbursement	3	2	1	0	6
Workplace flexibility	2	1	1	0	4
Lack of knowledge	1	2	2	0	5
Needed training and/or education	0	2	1	0	3
Accessibility	4	2	2	0	8
Workplace location	4	1	1	0	6
Clients' privacy	4	3	7	0	14
Clients' safety	1	1	3	0	5
Own safety	3	0	2	0	5
Outside comfortzone client	1	0	3	1	5
Outside comfortzone of yourself	0	0	2	1	3
Other	2	3	3	0	8
Natural inconveniences	1	1	2	2	6
	36	23	40	7	106

Less than	Between 1	Between 2	More than
36%	50%	40%	100%
27%	0%	30%	50%
9%	13%	10%	0%
18%	0%	20%	0%
27%	25%	10%	0%
18%	13%	10%	0%
9%	25%	20%	0%
0%	25%	10%	0%
36%	25%	20%	0%
36%	13%	10%	0%
36%	38%	70%	0%
9%	13%	30%	0%
27%	0%	20%	0%
9%	0%	30%	50%
0%	0%	20%	50%
18%	38%	30%	0%
9%	13%	20%	100%

Work methods

The work methods for the interviewed traditional psychologists show similarities since all three psychologists are having their own practice. All interviewees have experience with working in institutions or still do next to having their own practice. Mentioned was that working with strict protocols is not part of the preferred and current work methods and mainly personal experiences and views are taken into account, such as advising to go outside more often or having a therapy session outside sometimes. The core of the offered treatments has remained the same over the years, however due to additional courses and more in-depth educative sessions, additional treatment possibilities are obtained and shape the work methods together with own work experiences and formed opinions. The possibility to shape own work methods may reduce stress since the amount of clients and hours of work can be self-decided. On the other hand, working in a clinic provides a certainty of monthly income which can also reduce stress. Interviewee 2 is having outdoor therapy sessions with clients every now and then and stated personally that working in a clinic diminishes the frequency of having outdoor therapy sessions, when compared to sessions in her own practice mainly due to the inaccessibility of green areas at the location of the clinic. Regarding the use of scientific articles, interviewees 1,2 and 3 stated that reading new published scientific articles are not a part of work methods. According to all three, the scientific evidence does not actively contribute in the ways of treating clients. The interviewees prefer working methods based on their own experience and working preferences. You cannot oblige an individual to work in a certain way, as said by interviewee 1. Interviewee 3 clarified that the amount of time is limited and the time needed for analysing scientific papers is too consuming. Therefore, meta-analyses are read a few times a year. After mentioning the scientific evidence, none of the interviewees were surprised about the evidence of nature on mental health and all stated that they even advise clients to go outside frequently. Interviewee 1 mentioned that in case of failure/unwillingness of clients to go outside by themselves or when no progress was reached during sessions itself, it is offered to go outside during therapy sessions. Interviewee 2 mentioned that going outdoors in therapy sessions was done frequently in the past, but diminished in the last years due to unknown reasons. Interviewee 1, 2 and 3 all stated that going outdoors during therapy sessions was done on a low frequency, but was seen as a very positive addition for therapy sessions according to psychologists. This suggests that the interviewed psychologists do make use of certain forms of NAT in a low frequency, but are not aware of the terminology yet. Currently, the reasons for going outside are mainly due to preferences of clients and not structurally put into practice by psychologists themselves. Interviewee 3 however mentioned making use of nature based tools in practice already by using metaphors or tools from nature.

Stress and coping strategies

According to personal stress and ways of coping with stress, a variety of strategies were mentioned by the interviewees. In consonance with causes of stress, all interviewees mentioned that occurring feelings of stress were not only caused by high worklevels or -pressure, but a combination of various factors including personal life as well. Interviewee 1 mentioned that work-related stress was not due

to the content of work, but mainly due to problems with colleagues or a choice made causing unpleasant feelings. Interviewee 3 stated that work-related stress was partly caused by all rules and regulations of the labor union and administration that take a lot of time. Interviewees 1, 2 and 3 stated that stress was slightly reduced when working in an own practice, since application of own work methods and -choices could be made. In order to cope with occurring feelings of stress, the three interviewees have different methods. Interviewee 1 copes with stress by isolating the cause of stress and shifts it in a way to cause less stress, such as taking more breaks in between clients to create more rest when feeling rushed. On the other hand, taking too much relaxation time causes more time to overthink and can consequently cause more stressed feelings, according to interviewee 1. Interviewee 2 uses sports as a coping strategy to lower stress levels, next to having a regular sleep pattern with sufficient hours of sleep, having a variety of social contacts and a healthy diet. Additionally in reliance to what interviewee 2 mentioned, was that every individual having interpersonal contacts can experience feelings of distress at a certain moment. As a third way of coping with stress, interviewee 3 makes use of work methods applied for clients as well, such as mindfulness and inner journeys to balance emotions and cleanse body and mind. This can be done individually or together with a group of colleagues.

Work methods

The work methods for the interviewed outdoor psychologists show both similarities and differences. In terms of self-employment ratios, all 4 of the interviewees are self-employed, but interviewee 7 also partly works in the regular GGZ 3 days a week. Interviewee 4 has her own practice where she implements NAT interviewee 5 works either independently or on behalf of external clients, who mostly practice outside-coaching, and interviewee 6 has her own practice as well where she works with clients who have eating disorders. As mentioned by interviewee 4 and 5, there is an outdoor psychologist education where you can obtain a certificate, and both interviewees followed this. They explained that this certificate gives you the title of outdoor psychologist, but that it's not a necessity in becoming one. Being self-employed ensures that you can make individual choices in various areas, such as the amount of consults you have per day and the type of clients you choose to treat. Interviewee 5 also explains that her work-related stress reduced after becoming self-employed, but it did not completely disappear due to the pressure to earn enough income.. In terms of clients, interviewees 4,5,6 and 7 have treated different types of client groups over the years and thus have made a switch. This way, they are more well-rounded in regard to experience. Interviewee 7 stated that the clients who choose NAT are usually more motivated, because they have to pay for it themselves without it being reimbursed by their health insurance. It was also mentioned by interviewee 4, 6 and 7 that being self-employed opens the possibility of working less protocol-based. Interviewee 4 stresses the importance of taking your freedom and choosing a form of therapy that suits you more. For instance, interviewee 4 and 7 choose to work with Acceptance and Commitment-therapy (ACT), and interviewee 6 chooses to work with methodology that is underlying building and strengthening self-esteem, and she applies this to depressive disorders and burn-outs. Additionally, interviewee 7 explains how clients do not always fit into one box, and therefore choosing beforehand how many sessions they will need is not the most sensible thing to do. By following only protocols, the therapy might not be fully fitting for a specific client, to get the most desirable results.

Stress and coping strategies

Just like with the traditional psychologists, all of the interviewed outdoor psychologists interviewees mention a variety of strategies to cope with personal stress. Interviewees 4,5,6 and 7 mentioned that they have experienced stress from their work, sometimes resulting in a burn-out. Interviewees 4 and 7 mention how they feel time pressure at work, due to a strict, full schedule of 7 or 8 clients per day - now with the corona-measures often through online meetings. There are not a lot of moments in between to take something to drink, or to go to the toilet. Due to this busy schedule, interviewee 4 explained that at the end of the day, she often could not differentiate between the different clients and stories she heard that day, which increased her feelings of self-blame and discontent. Interviewee 5 also explains that her work-related stress reduced after becoming self-employed, but it did not completely disappear due to the pressure to earn enough income. The work-related stress of the interviewees was often strengthened by a combination of circumstances in their private life. Interviewee 4 explained that it was also about the feeling of being stuck in a framework where she could not try out the things she wanted, which accelerated her feelings of stress and discontent to the point where she dropped out of work. For the interviewees, the stress was reduced after making more work-related choices based on their own preferences or after becoming self-employed. In fact, to cope with the stress and burn-out symptoms, most interviewees went outside more and started walking every day. After experiencing the comfort and stress-reduction that this brought, the interviewee 4,5,6 and 7 wanted to implement this more in their daily lives, which means in their job as well. Interviewee 6 describes how at the beginning she did not get satisfaction from walking at all, but the more often she walked and exercised, the more she became aware of the nature around her and the more she could enjoy the environment. She experienced the healing effect of nature herself, and therefore wanted to share it with her clients as well. Interviewee 5 also states that she stays healthier by going outside and walking more often on working days. Going outside more often profits both the therapists' own mood and wellbeing and the client and therapy. For the interviewees, this has led to implementing NAT into their therapy or practice. Interviewee 7 explains how going outside and exercising along with the client feels like she is not working at all, which makes the experience of working very different. Interviewee 4 and 7 mentioned that the combination of implementing nature into their therapies with the possibility to determine their own pace - for example reducing the amount of clients per day to only 2 - was what eventually led to more satisfaction with their jobs and an reduced amount of stress.