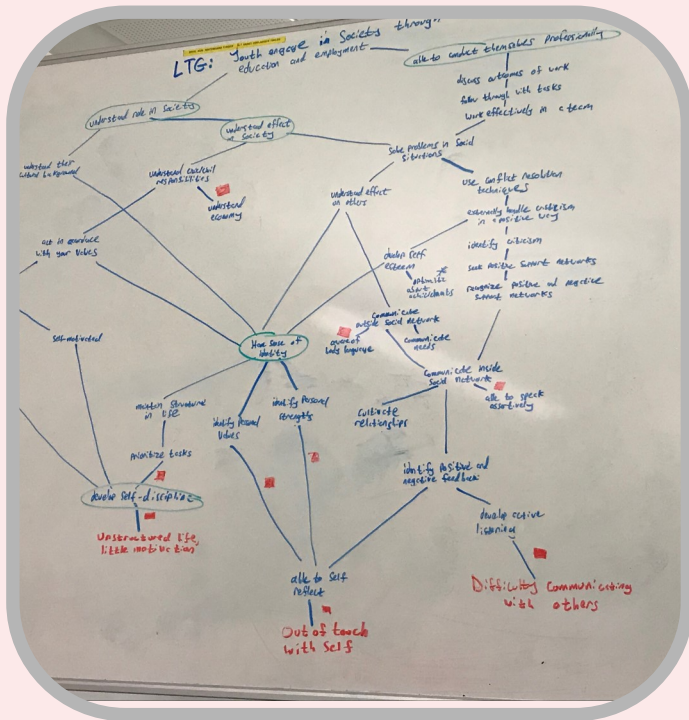


# Developing a Model for Behavioral Skill Reform using Theory of Change



## Abstract

The goal of this project was to develop a general framework for behavioral skills reform programs targeting NEET youth. NEET youth are 17-25 year olds who are currently unemployed, uneducated, and untrained. In Denmark, the cost per NEET youth is substantially higher than other countries. Compounded with the fact that the dependency ratio of Denmark's population is expected to increase, NEET youth pose a formidable threat to the Danish welfare system. Although reform programs exist both in Denmark and around the world, they do not have a general framework upon which to assess and build their programs. We approached this issue by first identifying the key skills for engaging with education and obtaining employment. Keeping these skills in mind, we conducted interviews with program directors as well as secondary research to identify what skills current reform programs target and developed models for applicable programs. We then modeled these programs using a framework known as Theory of Change, which is designed to help social change organizations map progression of a participant through their programs. Using these models, we identified three major themes represented by the programs we analyzed: personal, interpersonal, and societal awareness. To construct our final model, each theme was developed by compiling the strongest program-specific models representing that category. We connected the three themes together using common traits and skills that were represented in multiple areas. Due to the strong framework of skills and traits, we recommend programs use this model to strengthen and expand the skills their individual program targets.



Sponsor:

Det Lærende Faengsel  
(The Learning Prison)

Team Members:

ZhiJie Dong  
Jake Grycel  
Eric Hall

Advisors:

Dr. Holly Ault  
Dr. Katherine Foo

Project Term:

A-2018  
Date Completed: October 13th,  
2018

An Interactive Qualifying Project submitted to the faculty of Worcester Polytechnic Institute in partial fulfillment of the requirements for the Degree of Bachelor of Science.

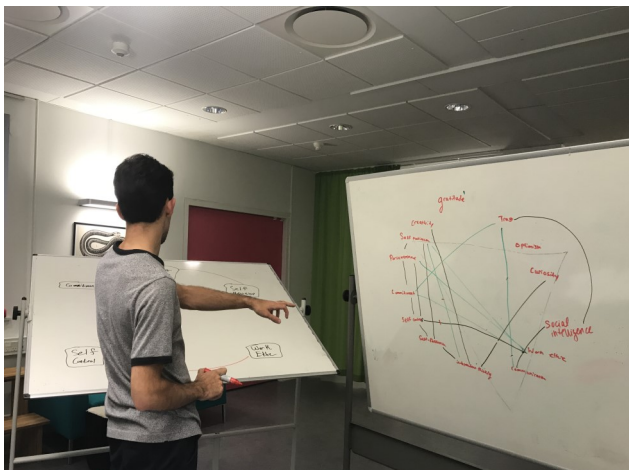


**WPI**



## NEET Youth: A Growing Weight on the Danish Social Welfare System

Across the globe nearly 40 million young people are unemployed or at risk of becoming unemployed<sup>1</sup>. This section of the population is referred to as the NEET youth, meaning Not Employed, Educated, or Trained. Since the economic crisis of 2008, the size of the global NEET youth population has increased by 7%, and this trend is likely to continue into the coming years<sup>1</sup>. In Europe, Denmark had the second highest percentage increase in NEET population from 2008 to 2012<sup>2</sup>. Denmark also has one of the highest costs per NEET youth, which is largely funded by the Danish social welfare system. Combined with an aging popu-



Working to develop models

lation<sup>3</sup>, the rising number of NEET youth will reduce the number of people entering the workforce. All of these factors could be a formidable threat to the Danish social welfare system.

The core group of NEET youth tends to disengage, and possibly drop out, from education and employment systems due to social and economic barriers<sup>4</sup>. Engagement in education systems is strongly related to having well-developed social and behavioral skills, such as confidence, self-esteem, and positive collaboration. NEET youth are likely to have had fewer opportunities to develop a strong set of behavioral skills, making it harder to succeed in education and the job market.

Our sponsor organization provides behavioral skills training for at-risk youth in Denmark through their UCANDOIT program. This program aims to refine skills that will allow these youth to re-enter either education or employment<sup>5</sup>. However, organizations similar to UCANDOIT that target NEET youth reform lack a general framework for developing behavioral skills reform programs. A number of programs exist that all follow different frameworks; each one contains components that are important for behavioral skills change, but may not comprise a comprehensive set. A general framework would establish a standard so that organizations can be sure their programs are effective for the NEET target group.

Our goal was to develop a general model for behavioral skills reform for NEET youth. We accomplished this goal using the Theory of

Change, which provides a specific methodology for developing social change programs<sup>6</sup>. Theory of Change involves working backwards from a goal to identify outcomes, which function like milestones to a long term goal, and pinpoint areas where intervention is necessary<sup>7</sup>. This method is best for our purposes because it is well-documented and the final framework depicts the process of change and the pathways that participants follow to reach the long term goal.

We developed our general model by first mapping the frameworks of current behavioral skills programs in order to identify outcomes, intervention points, and possible indicators that were needed for the general framework. We then incorporated the outcomes and structures of the program-specific models into a general Theory of Change for NEET youth behavioral skills reform which will allow both current and future programs to develop effective intervention methods that cause the desired change for this target group.

*20% of the world's youth  
population are in NEET  
status<sup>1</sup>*

## Building the Argument for NEET Youth Reform

In the following section, we build our argument for developing a behavioral skills reform model starting with a definition of the target group, NEET youth. This discusses the causes, makeup, and consequences of a NEET population. We then investigate the causes of NEETs' struggles with education systems, and how behavioral skills relate to engagement with education. In our discussion, we use the terms "soft skills" and "behavioral skills" interchangeably. Next, we acknowledge current efforts to facilitate behavioral skills development for NEET youth. This leads to establishing the motivation for this project: current reform programs lack a general model for teaching behavioral skills. Finally, we identify Theory of Change as an effective process for creating a general model for youth behavioral skills reform.

### Who are the NEET youth?

Across the globe nearly 20% of young people aged 16 to 25 are currently not educated, employed, or trained for work<sup>1</sup> (NEET). After the economic crisis of 2007 the population of NEET youth increased by 40%, a significant increase in the number of youth at risk of living in poverty<sup>1</sup>. Within this group of NEET youth, there are several important subdi-

visions that identify the immediate reasons for being in NEET status (Figure 1).

A number of these subgroups exist as pathways for young people to move between careers or explore occupations that can't guarantee consistent employment, while other subgroups house the youth that are entirely disengaged with education and the labor market, or do not have the time or physical ability to compete for jobs<sup>2</sup>. This project focused on the "conventionally unemployed" and "disengaged" categories from Figure 1, collectively, called the "core" NEETs, those who are "... experiencing longer-term disengagement in education, training and the labour market, and [are] linked to a wider pattern of poor attainment and experience"<sup>8</sup>.

Core NEETs are likely to experience greater challenges and adversity when attempting to escape NEET status, and face larger barriers when participating in the labor market due to their disadvantaged backgrounds<sup>8</sup>. The other NEET categories do not have these challenges since they refer to individuals possessing greater control over their engagement in the labor market.

In the majority of countries, core NEETs tend to fall into poverty since they have no financial support. However for Danish core NEETs, the wide range of social welfare and support systems provides some level of financial stability and security. While these social programs are highly beneficial to the NEET

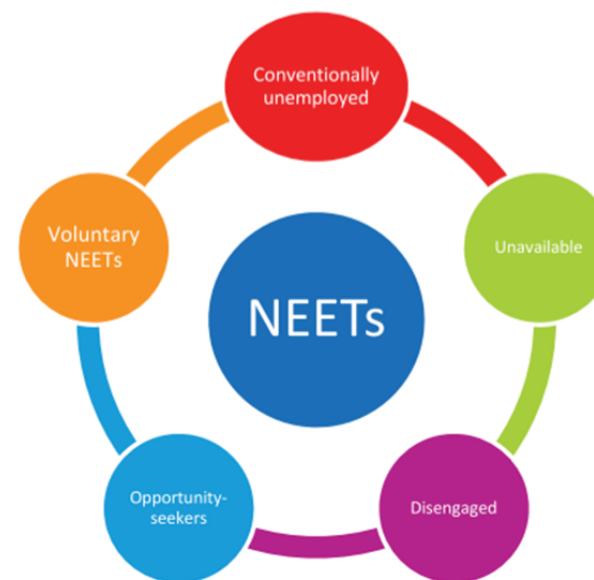


Figure 1: **Heterogeneity of NEET youth.**

Youth enter NEET status from various backgrounds, ranging from disengagement from education and the labor market, or responsibilities as a caretaker, to alternative lifestyles, or temporary unemployment during a job search<sup>2</sup>.

youth, they can also be detrimental to youths' internal motivation to engage with the labor market, leading youth to remain dependent on the welfare system<sup>9</sup>. This dependence can also be detrimental to the country's financial strength. As more NEET youth rely on social programs, the strain on the Danish social welfare system increases at an alarming rate.

## NEET youth burden the Danish social welfare system

The NEET population in Denmark increased dramatically in the 4 years following 2008, rising by 52%<sup>2</sup>. This is concerning for two reasons. First, the high cost per NEET youth means that any increase in NEET population comes with a high strain to the Danish welfare system. Figure 2 compares Denmark's high NEET cost and percentage increase to other EU countries. Out of the 26 countries studied, Denmark had the highest cost per NEET youth in 2012 and the second highest percentage increase in NEET population.

The second concerning factor involves the aging population of Denmark itself. By 2050, the number of 65+ year olds will increase by about 60%<sup>3</sup>. In addition, Denmark's National Bank explored the predicted dependency ratio (60+ & 80+ populations in the workforce as a fraction of the entire workforce) up to 2040<sup>10</sup>. These data can be seen in Figure 3. The dependency ratio increase is cause for concern due to the higher percentage of people over 60 needed to contribute to the system. Being near the pension age of 65, this could be risky as this group could retire and stop contributing to the system, while still collecting state pension<sup>11</sup>. In addition, the population increase of

NEET youth will put even more dependents into the social system. With the higher number of dependents and the high cost of NEET youth already, the amount of strain on the social welfare system could become overwhelming in the coming years.

*Denmark has the highest cost per NEET youth in the EU<sup>2</sup>*

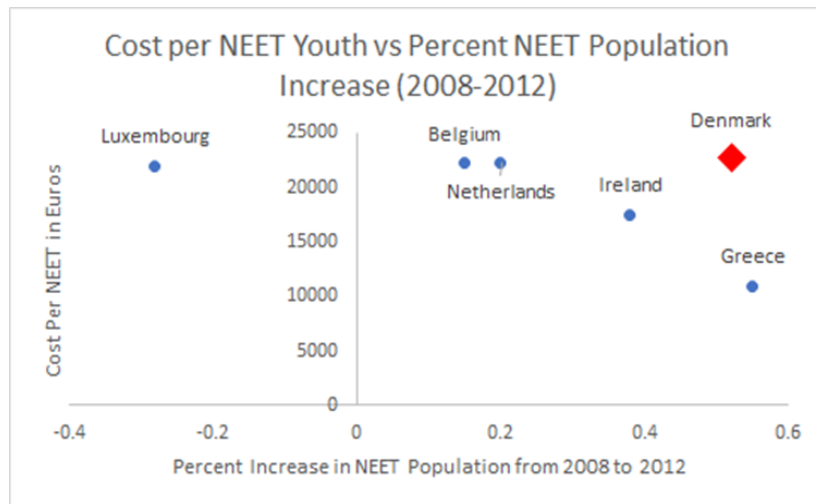


Figure 2: Comparing Cost of NEET Youth to Percentage increase in NEET Population from 2008 to 2012. Denmark not only has the highest cost per NEET youth, but the second highest percentage increase in NEET youth<sup>2</sup>.

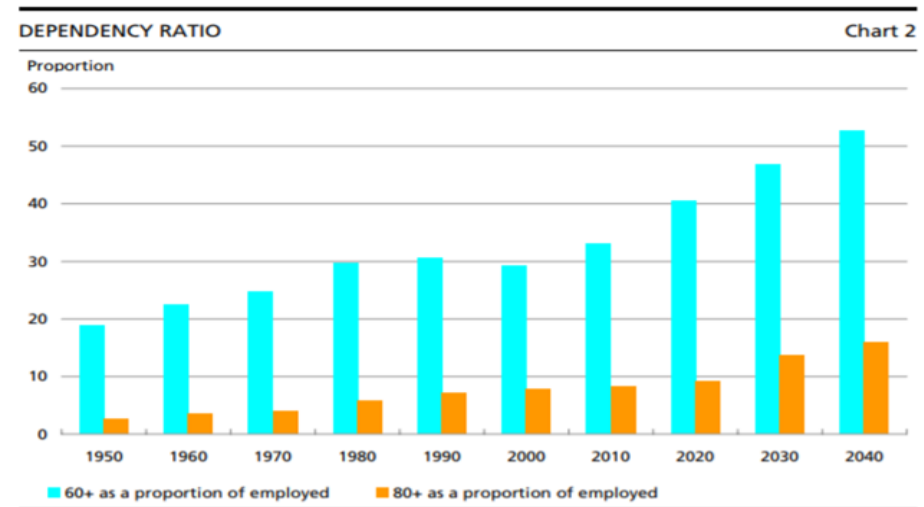


Figure 3: Denmark's Rising Dependency Ratio Denmark's dependency ratio is expected to rise for multiple categories over the next 30 years<sup>11</sup>.

## Educational disengagement increases risk of entering NEET status

As education becomes more critical for being competitive in the labor market, the risks resulting from educational disengagement greatly increase. Educational engagement refers to the level of a young person's cognitive participation in the education process. Disengaged youth are likely to have negative attitudes towards education and towards class participation if they are still in school, preventing them from learning as much as they could if they were engaged<sup>12</sup>. Amongst NEETs there is a high representation of youth with low levels of education; 88% of the Danish NEET population has not attained a high level of education<sup>1</sup>. Core NEETs struggle to move ahead with education and employment due to lack of qualification and difficulty navigating and competing in the labor market<sup>13</sup>. A report from the National Children's Bureau observed the different levels of engagement among year 9 students in Northern Ireland. Over 60% of the students surveyed displayed signs of some form of partial or complete disengagement<sup>13</sup>. This shows a high level of risk among students to fall out of education or in to NEET status.

The causes of youth educational disengagement are complex, comprising a mixture of societal, familial, and personal issues (Figure 4). A number of the issues identified in this web can be difficult to navigate without well-developed behavioral skills, such as con-

flict resolution, effective communication, and self-confidence<sup>12</sup>. Core NEETs are likely to have underdeveloped behavioral skills due to their lack of resources and background, particularly with potentially strained parent-child relationships<sup>4</sup>. This prevents them from engaging with school and being successful in education and the labor market. It is critical that youth develop behavioral skills to maximize their educational engagement.

Soft skills are important indicators of academic performance. One British study concluded that soft skills are more integral to academic performance than personality traits<sup>14</sup>. The paper also discussed specific soft skills that employers desire, such as "communication, interpersonal, leadership, organisation, self-motivation and creativity"<sup>14</sup>. Another study found that the skills employers desired the most fell into three main categories:



Figure 4: Factors leading to educational disengagement<sup>12</sup>. The three main areas of individual, familial, and social issues contribute to a high risk of educational disengagement. The issues outlined in green are ones that require well-developed behavioral skills, such as conflict resolution and effective communication, to navigate. Development of skills that assist in handling these issues is critical for core NEET youth reform.

“motivation, self-presentation, and interpersonal skills”<sup>15</sup>. More specific skills that employers desire include “...critical thinking/problem solving, creativity/innovation, lifelong learning/self-direction, and professionalism/work ethic...”<sup>15</sup>.

These skills are similar to the skills needed to overcome the educational disengagement issues in Figure 4. For NEET youth who struggle developing positive behavioral skills, the strong link between underdeveloped behavioral skills and educational engagement could be a vital reason for their inability to complete education or hold long-term employment.

### NEET youth reform programs lack a unified model for behavioral skills development

A number of organizations in Denmark have developed programs that target behavioral skills for disadvantaged youth. However there is no universal model for programs that target behavioral skills to follow when developing their intervention methods. As a result, current efforts to assist youth in their development of behavioral skills follow different models that may miss important components necessary for successfully reinforcing these skills. This leads to each program focusing on different aspects of behavioral reform, and not providing comprehensive education in all the behavioral skills required to engage with society. The lack of a model also suggests that organizations don't have ways to demonstrate the success of all parts of their pro-

grams, since there isn't a vetted learning path with specific outcomes. A general model that takes current programs into account would provide a framework for current organizations to evaluate their programs, and future organizations to develop their programs.

One widely used technique for developing frameworks for social change programs is called Theory of Change (ToC). Theory of Change is a method for defining the goals and structure of social change programs, providing organizations a way to develop measurement tools to gauge the efficacy of their efforts. ToC-derived frameworks consist of a *long term goal* for the target group of an organization's program, and *outcomes* that define the intermediate steps to achieving the long term goal. Additionally, there are *indicators* that measure whether or not the outcomes have been achieved, and points where *intervention* is necessary to cause progression between outcomes<sup>7</sup>. We chose Theory of Change because it was developed for creating social change programs, and the outcomes framework structure shows the relationships between the long-term and intermediate goals of an organization and the indicators necessary for measuring success. When applied to behavioral skills reform, the outcomes framework will outline the skills necessary for engaging with education and employment, and depict how these skills are related and how they should be addressed by reform programs.

The ToC advises a top-down process that starts with identifying an organization's long-term goal and then recursively establishing

and linking outcomes that lead to the long-term goal. For every outcome an indicator must be developed that measures whether or not the outcome has been achieved. Lastly, intervention points are placed between outcomes to show what areas a program must target to cause progress between outcomes<sup>7</sup>. An example model to help visualize the connections and how multiple pathways can lead to the same long-term goal is available in Appendix E.

Developing a social change model with Theory of Change ensures that programs interested in implementing interventions have explicit outcomes and goals to meet. This will help programs identify which skills are most important to target, and which skills to measure when they evaluate the efficacy of their intervention methods. By developing a general Theory of Change for behavioral skills reform based on the goals and ideologies of current programs, program developers can adapt their intervention methods to have even greater impact on NEET youth.



Figure 5: A simple example of Theory of Change

## Methodology

We accomplished the goal of developing a model for NEET youth behavioral skills reform by completing two main objectives. The first objective was to create several theory of change models for a variety of current youth behavioral skills programs based on a combination of literature reviews and interviews. This allowed us to analyze current methods of NEET behavioral skill reform and identify their overlaps and differences. The second objective was to develop a generalized ToC model for NEET youth behavioral reform itself. The resulting models from the first objective were semi-disjoint components needed for a general behavioral skills reform framework. We synthe-

sized these models into a full ToC framework for NEET youth behavioral skills reform, as shown in Figure 6. A more detailed breakdown of each stage in this process is shown in Figure 7.

### Objective 1: Mapping Frameworks of Existing Programs

We first created ToC frameworks for six youth reform programs in order to understand the components necessary for an effective ToC for NEET youth behavioral reform. Four programs were located in Denmark, and two were located outside of Denmark. We chose a variety of programs to increase coverage of the wide range of skills that youth need. For purposes of

confidentiality we refer to them as Program 1, Program 2, etc.

For programs in Denmark, we conducted semi-structured interviews with the program creators or directors. Before conducting interviews we examined available literature (websites, program manuals) on programs to gain a basic understanding of the program itself, which also guided us in asking specific questions during our interviews. The interviews were targeted at learning about the underlying structures and goals regarding behavioral skills for each program. We asked creators and directors about their thought process when they designed their programs, and how they gauge participants' progress and success throughout the reform. Discussing the development processes

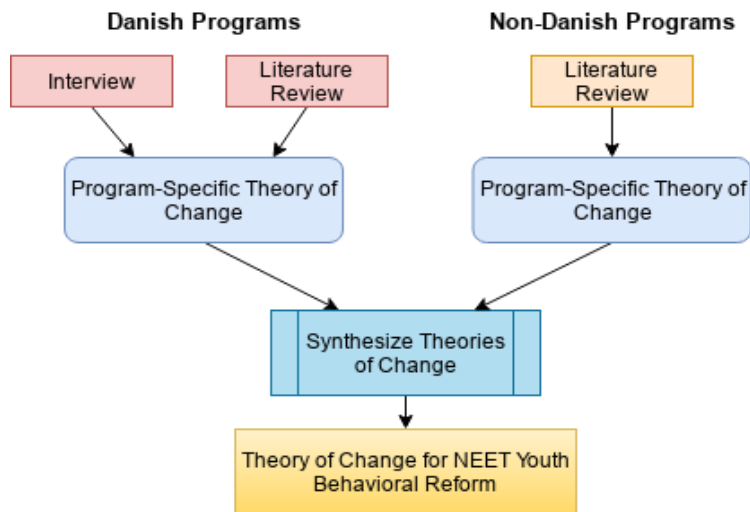


Figure 6: Methodology Overview

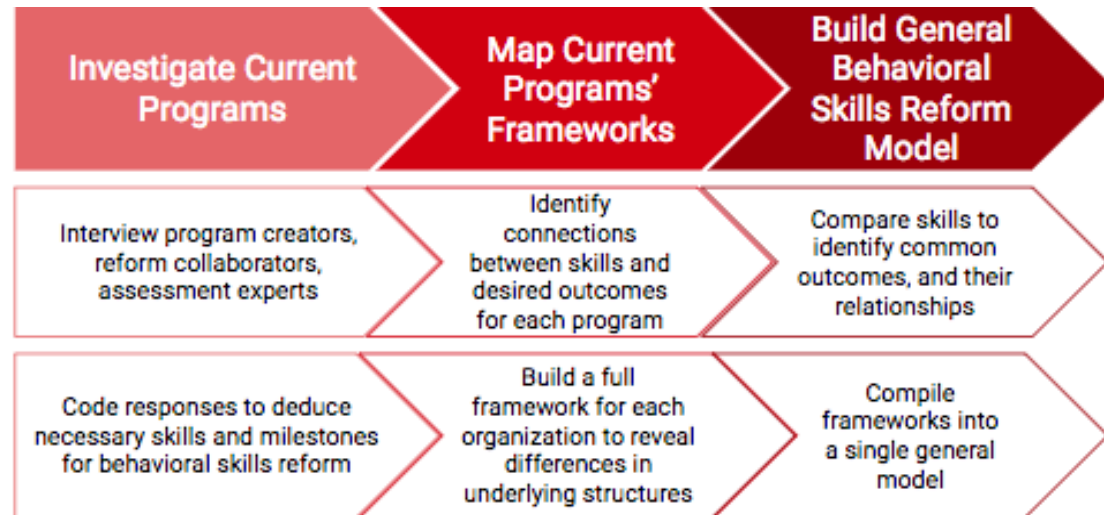


Figure 7: Process for developing our Theory of Change Model. The first two layers pertain to Objective 1, the third is for Objective 2.



revealed which specific behavioral skills are addressed, and the order in which they are taught throughout each program. When a skill area was introduced by the interviewee we asked for further clarification about why the skill was important, and how it is taught in the program. We also discussed the long term goal for each program, and what the directors believed the most important skills and experiences are that their programs teach. Since each program was developed without referring to a general model for behavioral skills reform, we ex-



Going over interview data for specific programs

pected that the programs focus on different areas of skills development.

To create a ToC model for each program, we first wrote the organization's long term goal, at the top of a board, and drew lines down to a layer of outcomes representing the most important resulting skills from the program, as identified from the interviews. To build a complex network from this top layer of outcomes, we referred to the interviewees' discussion of why those skills were important, and how they were taught. We found that the skills identified at the start of the interviews were closer to the long-term goal since they were a culmination of the other skills discussed. As we probed for further discussion more specific skills were revealed that contributed to developing this first layer. This reflected the general structure of a ToC outcomes framework, and we built the models for each program in a way that reflected the order in which skills were discussed in the interview, and how "important" the interviewee thought the skills were. The concept of importance was used in order to identify which skills are directly connected to the long-term goal, and we do not suggest that certain skills are more important from others.

For the non-local programs, we examined online resources documenting their course-based behavioral skills reform. The organizations that developed these programs had created curricula that outlined all of the different classes and activities participants complete. This provided substantial information for us to develop a model representing the programs. To

build models for these programs we began by looking through each unit to extract the behavioral skills that are taught; this collection of skills became the outcomes for ToC. Unlike our process for the Denmark-based programs we built the models for the international programs starting from the bottom with the skills taught in the first set of units. This was possible because these two organizations offered substantial documentation for the structures of their programs.

From the first level of skills we built upwards, drawing connections between outcomes by following the order in which the units are taught in the programs. Both programs targeted multiple skill areas that were not thematically related, allowing us to build multiple paths in parallel. When we placed an outcome that was described in the documents as incorporating the skills from multiple areas, we directed the parallel paths into one outcome. If, after one of these converging outcomes, there were multiple skill areas addressed in the subsequent units, the model would branch into parallel paths. Using this process to include all of the skills identified in the outcomes, we produced models with network structures reflecting the content of the programs we analyzed.

In addition to developing a ToC model for each program, asked how program creators and directors measure the success of their teaching methods and gauge a young person's progress through the reform programs. For Danish programs this was part of the interview process, and for non-danish programs we con-

sulted their literature and curriculum. This allowed us to investigate the placement of indicators and interventions on specific programs.

## Objective 2: Developing the Theory of Change for NEET Youth Behavioral Skills

After building and analyzing the models for individual programs, we used the outcomes, goals, and connections to influence our development of the general model for NEET youth behavioral skills reform. We defined the long-term goal by referring back to our research on the main factors that can lead to NEET status. We decided that having the behavioral skills necessary for engaging with employment and education should be the long term goal, as disengagement is a large risk factor for NEET status.

Comparison of the individual programs revealed several different focus areas (personal, interpersonal, and societal awareness). Therefore, we split development of the general model into multiple stages, each of which built an outcomes framework leading to the cumulative skills in each focus area. For each focus area, we selected the most cumulative skills from the individual models to be at the top of its sub-model. We then used a top-down mapping process to build a framework of outcomes for those cumulative skills using outcomes and connections present in the individual models that focus on the specific area for the sub-model. However,

in our analysis of the individual program models, we also noticed that the focus areas were not independent. Some basic skills were precursors to higher level outcomes in other focus areas. When an outcome in the focus area was connected to another focus area in the individual models, we inserted a placeholder outcome in the general model indicating a connection to a different area.

Due to the interdependence between focus areas, piecing all the sub-models into one comprehensive outcomes framework required us to re-draw the model starting from the long-term goal and working downwards, copying the outcomes framework for each sub-model into

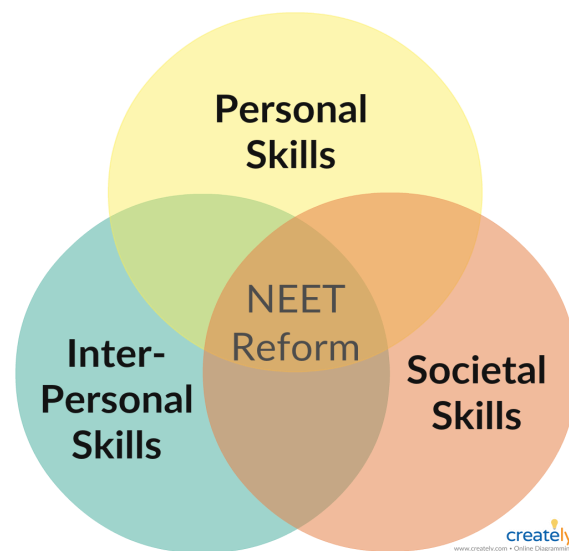


Figure 8: Personal, interpersonal and societal skills are key for NEET reform

the full model. This process resulted in a full model for NEET youth behavioral skills reform that reflects strong development in the areas of personal, interpersonal, and societal skills.

## Personal, Interpersonal & Societal Skills are key for NEET Reform

Through creating the program-specific theories of change, personal, interpersonal, and societal awareness emerged as focal areas of behavioral skill development. Personal awareness skills pertain to the development of self and identity; interpersonal awareness skills refer to one's interactions with the people around them; and societal awareness skills reflect an understanding of how society functions, and skills that enable the individual to make positive contributions to society.

Although these programs frame behavioral development in terms of skills, our review revealed that programs target both behavioral *skills* and behavioral *traits*. We define behavioral traits in the context of our models as being outcomes that describe personal qualities and elements of character that can't be directly measured, but may be observed through demonstration of skills. Behavioral skills are defined as outcomes which represent directly-measurable behavior and actions. We observed that outcomes that belong to structured sub-networks of outcomes tend to be behavioral skills. On the other hand, the terminal outcomes of each sub-network are usually behavioral

traits that encompass all of the contributing skill-based outcomes. Following the identification of these motifs, we looked at the different ways that programs develop each area.

### Identity and perseverance are culminating traits within personal development

Within the area of personal skills development, multiple organizations established having a sense of identity and persevering through challenges as cumulative behavioral traits. Two organizations that thoroughly developed personal skills addressed these traits through different skill paths which complement each other in fully describing this development area. Past research has also established having a sense of identity as a necessary step in developing other behavioral skills<sup>16</sup>. The completed personal skills development framework is shown in Figure 9.

Program 3 helps youth develop a sense of identity by focusing on recognizing personal strengths and maintaining structure in life. Maintaining structure has been described in other literature as contributing towards a sense of identity<sup>16</sup>. This pathway is further developed by including the specific skills of prioritizing tasks and having self-discipline. These two skills should be learned sequentially, and both contribute to maintaining structure.

Complementary to these skills, program 2 includes skills in their model that we believe

also contribute to having a sense of identity, although a specific outcome for identity is not present in their model. These additional skills are identifying personal values and self-reflection. In this case personal values are distinct from program 3's personal strengths outcome in that values refer to one's moral opinion on the world and how one should act whereas strengths refer

to one's physical or mental capabilities. Program 2 specifies that self-reflection is necessary for identifying one's personal values, and based on research into self-reflection we found that self-reflection is also a necessary component for identifying one's personal strengths<sup>17</sup>. Therefore, self-reflection is an important starting outcome for developing a sense of identity, and

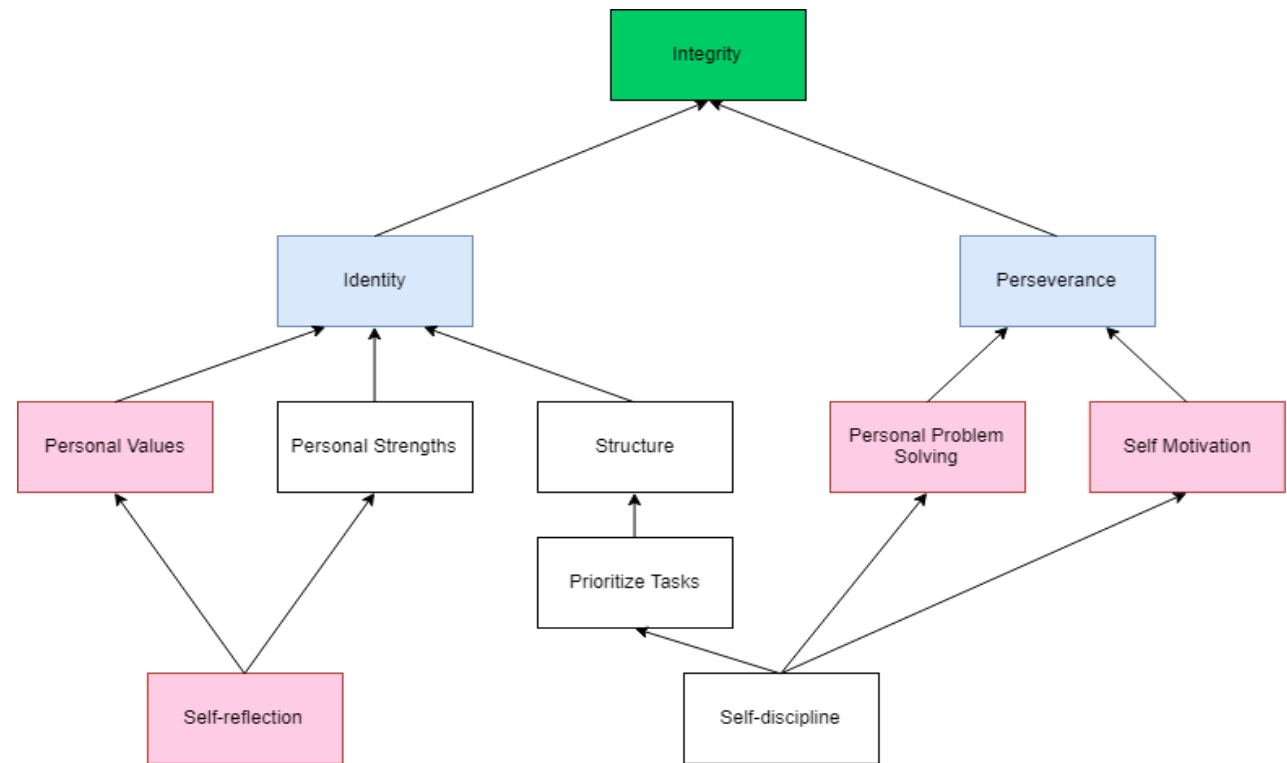
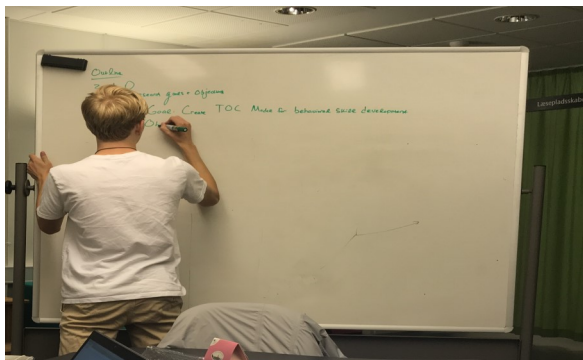


Figure 9: Full outcomes framework for personal awareness skills. Elements from program 2 and program 3 are shown in pink and white, respectively.

leads into the development paths for both programs.

The trait of persevering through challenges is also developed in program 2's model. The model establishes that self-motivation and problem solving for personal issues are requirements for learning perseverance. These two intermediate steps connect back to the identity development framework in different ways. For personal problem solving, program 5's model shows identity as being necessary for problem solving. For self-motivation we made a connection to self-discipline in the identity framework. There is conflicting research on the order of dependence between motivation and discipline, so we chose to place discipline before motivation to simplify the visual representation of this skill area. Additionally, this preserves the original connection between perseverance and motivation in program 2's model.

A recurring theme in multiple models was integrity. This outcome was a point of con-



Outlining a specific model

nection between personal skills and other development areas. We include it as a connection between perseverance and identity together to form a final culminating outcome in the personal skills area.

### **Conflict resolution and the ability to understand one's effect on others are culminating traits within interpersonal development**

Good conflict resolution and the ability to understand one's effect on others are both behavioral traits that are addressed in nearly all the programs we modeled. Two programs that focus on developing interpersonal skills address these two traits as cumulative outcomes with well-developed skills networks leading to them. As with the personal skills area, these two programs utilize different skill paths to achieve conflict resolution and awareness of one's effect on others, which will henceforth be referred to as self-impact awareness. See Figure 10. Organization 4's program addresses conflict resolution in a number of contexts including "Dealing with disappointment and failure, ... peer pressure, ... and uncomfortable feelings" that arise during problem solving. Their approach to assisting youth with these situations is built around identification and handling of criticism from different types of support networks, as shown in Figure 10. This involves youth discerning between positive and negative feedback and support in order to develop the ability to

handle both positive and negative criticism<sup>18</sup>. The organization's curriculum plan outlines the process for developing these identification skills. This starts with listening to and processing feedback, and continues by focusing on involvement in positive support networks to maximize healthy criticism. Positive support networks have also arisen in literature as important components in keeping youth engaged with education<sup>19</sup>. Figure 10 includes the full development path from basic communication skills like assertive speaking and active listening to conflict resolution.

Self-impact awareness, the other cumulative trait within the interpersonal skills category, is addressed in program 3. This program focuses on positive communication outside of one's personal support networks as a means for understanding how actions and words affect other people, regardless of relationship status. The program creator stated that body language is an important factor for communicating with others, and that youth should be able to effectively and healthily communicate their needs. These relationships are also supported by research showing the effects of body language and effective communication on the way that people perceive an individual<sup>20</sup>. Organization 3 believes that these are important factors for communicating outside familiar social networks, and both stem from identifying positive and negative interactions as shown in Figure 10. The contributions of program 4 further develop this pathway from identifying positive and negative interactions to body language and com-

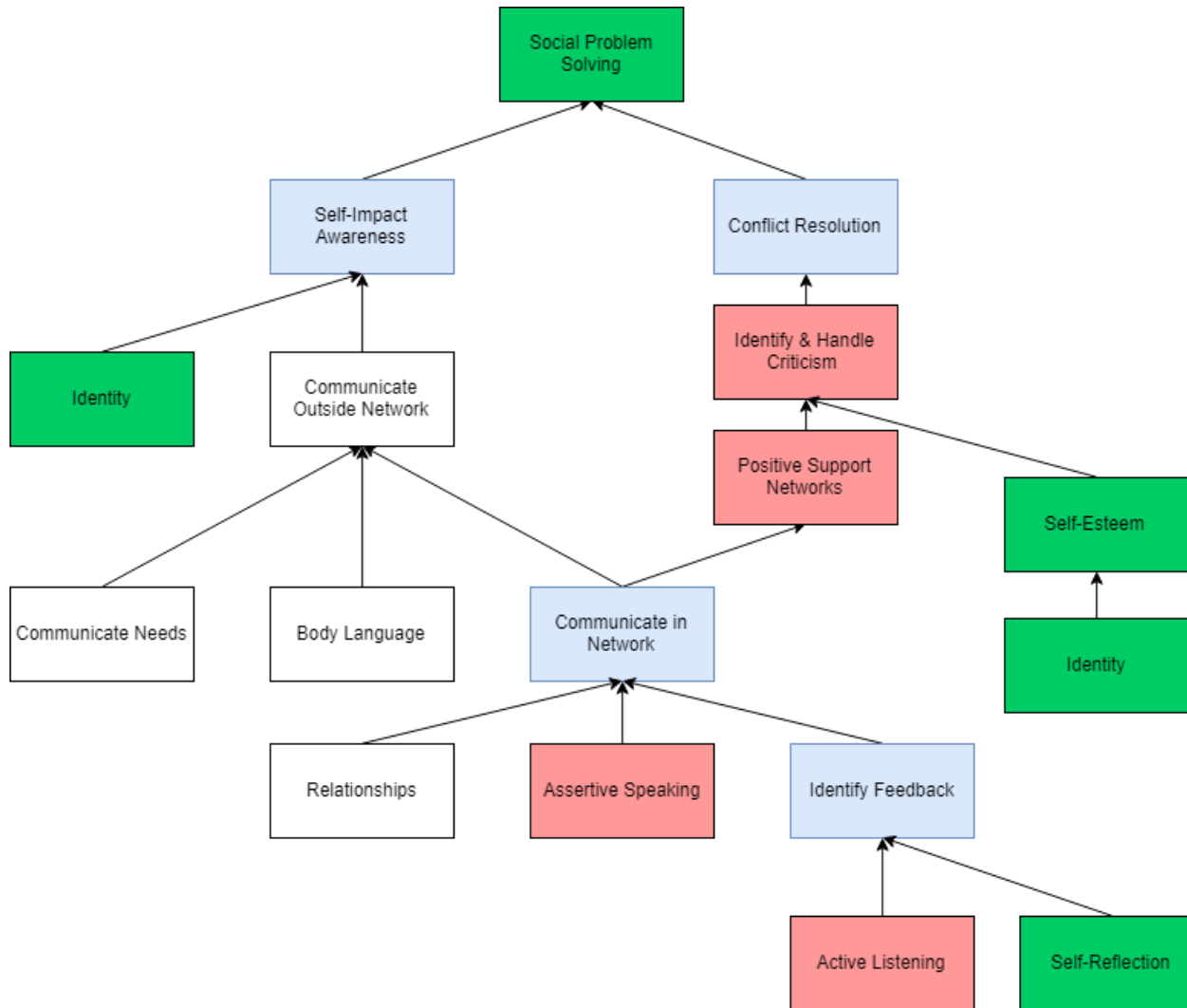


Figure 10: **Full outcomes framework for interpersonal awareness skills.** Elements from program 3 and program 4 are shown in white and salmon, respectively. Elements in blue are skills included in both programs' models.

municating needs. Their basic communication skills, along with identifying positive and negative interactions or feedback, directly contribute to communication within one's social network. Thus, programs 3 and 4 are similar at this point, addressing skills that allow youth to identify different types of interactions, and develop communication skills for use both inside and outside familiar social networks. The connections between the outcomes in both models at this point are consolidated in Figure 10, where the full pathway from basic communication skills to both conflict resolution and self-impact awareness is shown. These two cumulative traits ultimately lead to problem solving in social situations not only in our derived models, but in current studies. A study aiming to address youth drop out rates noted that "Improv[ing] communicative abilities ... can in turn lead to increased problem solving"<sup>21</sup>. This speaks to communication and problem solving as keystone skills in the interpersonal field.

Figure 10 also includes connections back to the personal skills development area. Program 3's model includes a pathway from development of identity to self-impact awareness that involves communication-based outcomes. However within the interpersonal skills area, there is no other connection to integrity, thus we included a connection to self-impact from identity to preserve the original structure from this program. Personal skills are also connected to this area via self-reflection to show that interpreting feedback from others also requires an individual to reflect on their own work or actions. Finally,

the ability to handle criticism is linked to identity through developing self-esteem, where self-esteem is an important factor in healthily handling criticism. To achieve these two outcomes, having a sense of identity is needed in order to develop self-esteem<sup>22</sup>.

### Professional conduct and understanding one's role in society are culminating traits within societal development

Professional conduct and understanding of one's role in society emerged as cumulative traits directly connected to the long term goal. The cumulative nature is illustrated through an expert's assertion that social activities are vital to the development of professional skills<sup>21</sup>.

Although the societal awareness area receives the least attention from the programs we modeled, programs 3 and 5 both target significant development within societal skills. Our outcomes network for this category incorporates multiple skills from both of these programs that connect to both of the cumulative traits.

Under professional conduct, program 3's model defines a progression of outcomes that starts with effective teamwork. This path includes following through with tasks and the ability to discuss one's work. Program 5 also indicates effective teamwork as an important starting point for societal awareness skills.

The other culminating trait in this area, understanding one's role in society, is also addressed by both programs. Both models indicate that

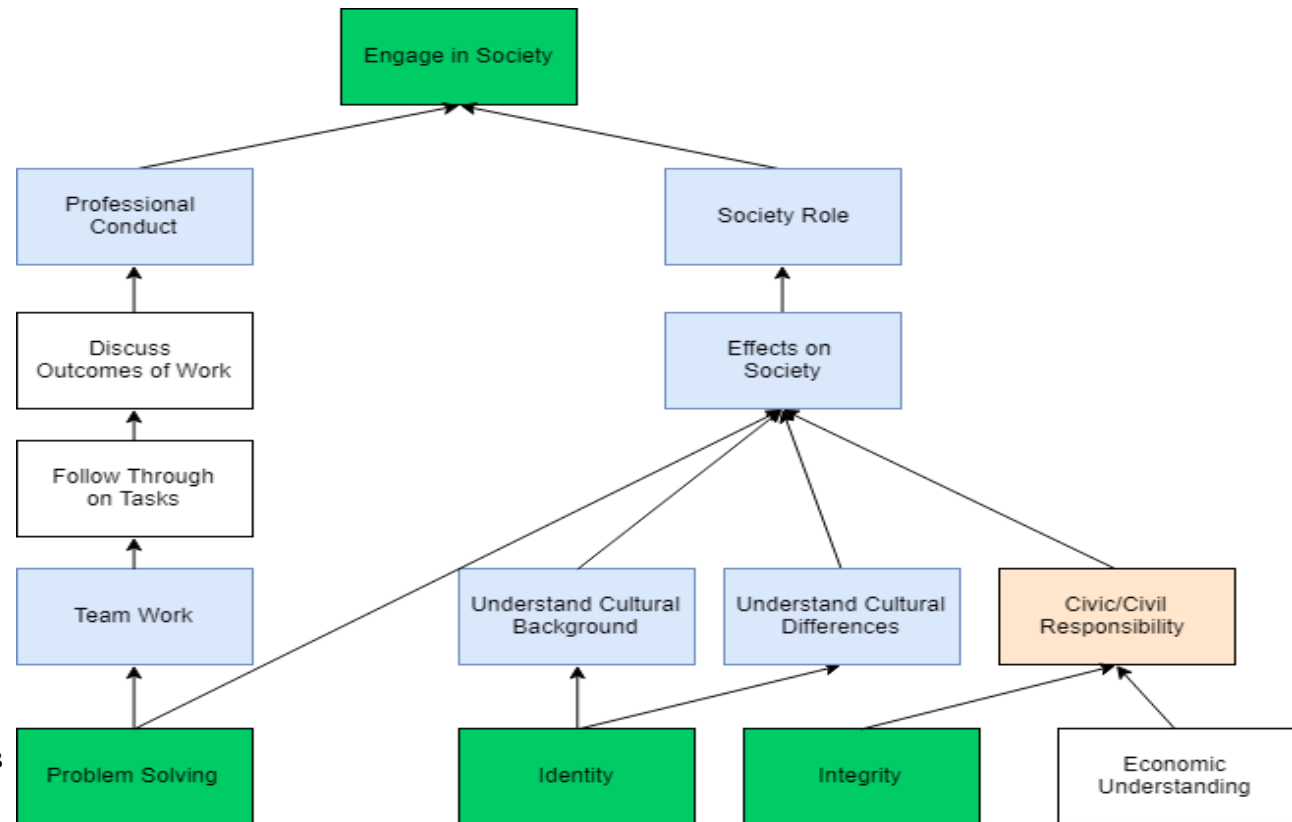


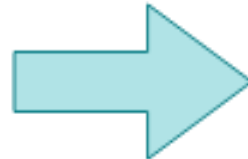
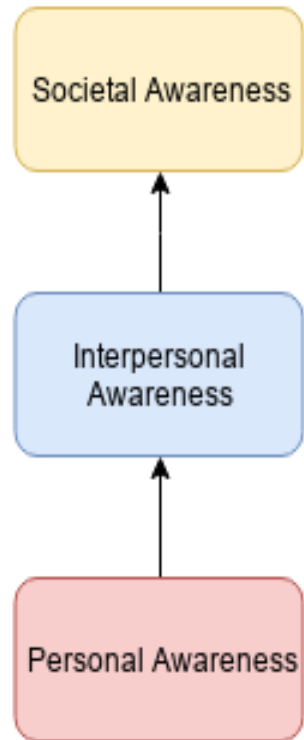
Figure 11: **Full outcomes framework for societal awareness skills.** Elements from program 3 and program 5 are shown in white and orange, respectively. Elements in blue are skills included in both programs' models.

understanding one's effect on social and economic systems is a key outcome needed for understanding one's role, however their approaches to addressing this outcome are slightly different. Program 5 focuses on an individual's civic and civil responsibilities as a member of society,

and program 3 adds to this understanding by addressing the economy and one's economic responsibilities.

A second component of understanding one's role in society is developing cultural awareness, an outcome included in both pro-

### Skill development areas identified in programs



### Skill development areas in general model

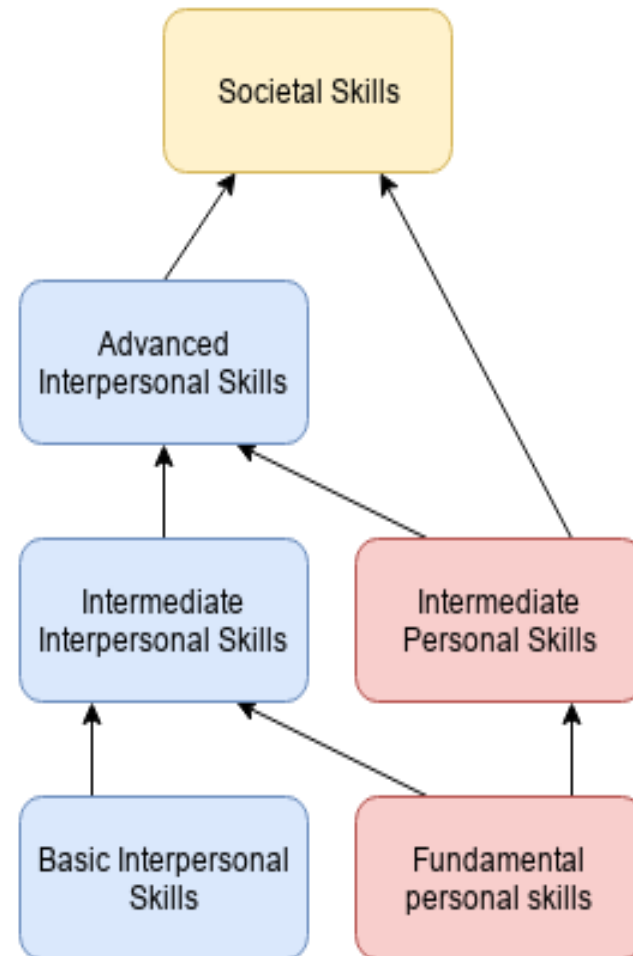


Figure 12: **Comparison of development categories.** The categories identified by individual programs flow sequentially in the programs' models, but are revealed to be more complex in the general model. The personal and interpersonal categories are broken down into multiple stages that have more complex interdependencies. The final model is built from a combination of parallel and sequential learning paths.

grams' models but within different contexts. In program 3's model, cultural awareness is addressed in terms of understanding one's own cultural background, while in program 5's model, it is addressed as being aware of other cultures and their differences. Culture plays a large role in societal engagement because culture allows one to recognize themselves in a societal context and their impact on the larger system<sup>19</sup>. The different approaches towards understanding one's role in society and developing professional conduct are shown in Figure 11.

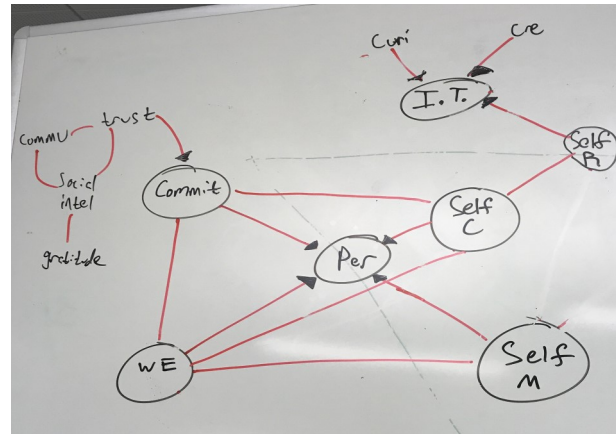
As with the interpersonal skills area, societal skills are connected back to the first two categories. Amongst the models that contributed to societal skills, there were a number of connections from interpersonal skills to the teamwork and effects on society outcomes. We were able to simplify these connections by connecting social problem solving to both of these areas due to the requirement of having problem solving skills to develop societal skills. As discussed in the interpersonal skills framework, the cumulative traits of self-impact awareness and conflict resolution are both enveloped within social problem solving skills. This provides a simplified connection between societal and interpersonal

skills through social problem solving. Additionally, program 3's model included a connection between understanding one's cultural background and the personal development trait of identity.

### Our general ToC model identifies personal awareness as a bridge to interpersonal awareness and societal awareness

Our general model for NEET behavioral skills reform includes the previously outlined outcomes frameworks for the three development areas. As a result of combining the three areas into a single model, we discovered that bottleneck points appear throughout the framework. Bottleneck points are areas that all youth must pass through to continue the reform process. These bottleneck points are the cumulative traits identified in previous sections that were critical factors for development in each of the three main categories. Existence of these bottlenecks initially led to the assumption that progression between each skill area is sequential, flowing from personal to interpersonal and societal awareness. However, splitting the model into more specific sub-frameworks reveals that development of certain aspects of the original three categories can occur in parallel (Figure 12).

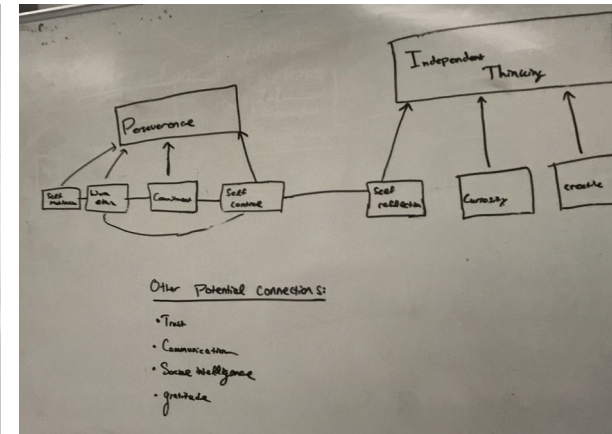
There are a number of skills in the early stages of interpersonal skill development that can be addressed alongside personal skill devel-



The early stages of a program model

opment. This set is comprised of basic communication skills like assertive speaking, active listening, and attempting to converse with others and develop relationships. Aside from basic communication, two personal skills, self-reflection and self-discipline are necessary before developing intermediate personal and interpersonal skills.

The intermediate level of interpersonal skills development is centered on effective and healthy communication within one's social network. Development in this area incorporates the previously developed base personal skills, and communication of one's needs. The intermediate communication development path runs in parallel with the intermediate areas of personal development, which includes maintaining a sense of identity, internal problem solving, and healthily handling criticism.



Another early version of a program model

These intermediate skills in both personal and interpersonal development are necessary for learning advanced interpersonal skills. Advanced skills include effective communication outside of one's social network, understanding one's effect on others, and responding healthily to complicated social situations. These skills are necessary for developing societal awareness and interaction skills.

For developing skills in the final category of societal skills, social problem solving is combined with work-based discussion skills and education on civic and civil responsibilities to help youth understand their role in society and develop their behavioral skills in professional settings. At this point, youth have the behavioral skills necessary for engaging in society through either education or employment, as shown by our general model in Figure 13.



# General Model for NEET Youth Behavioral Skills Reform

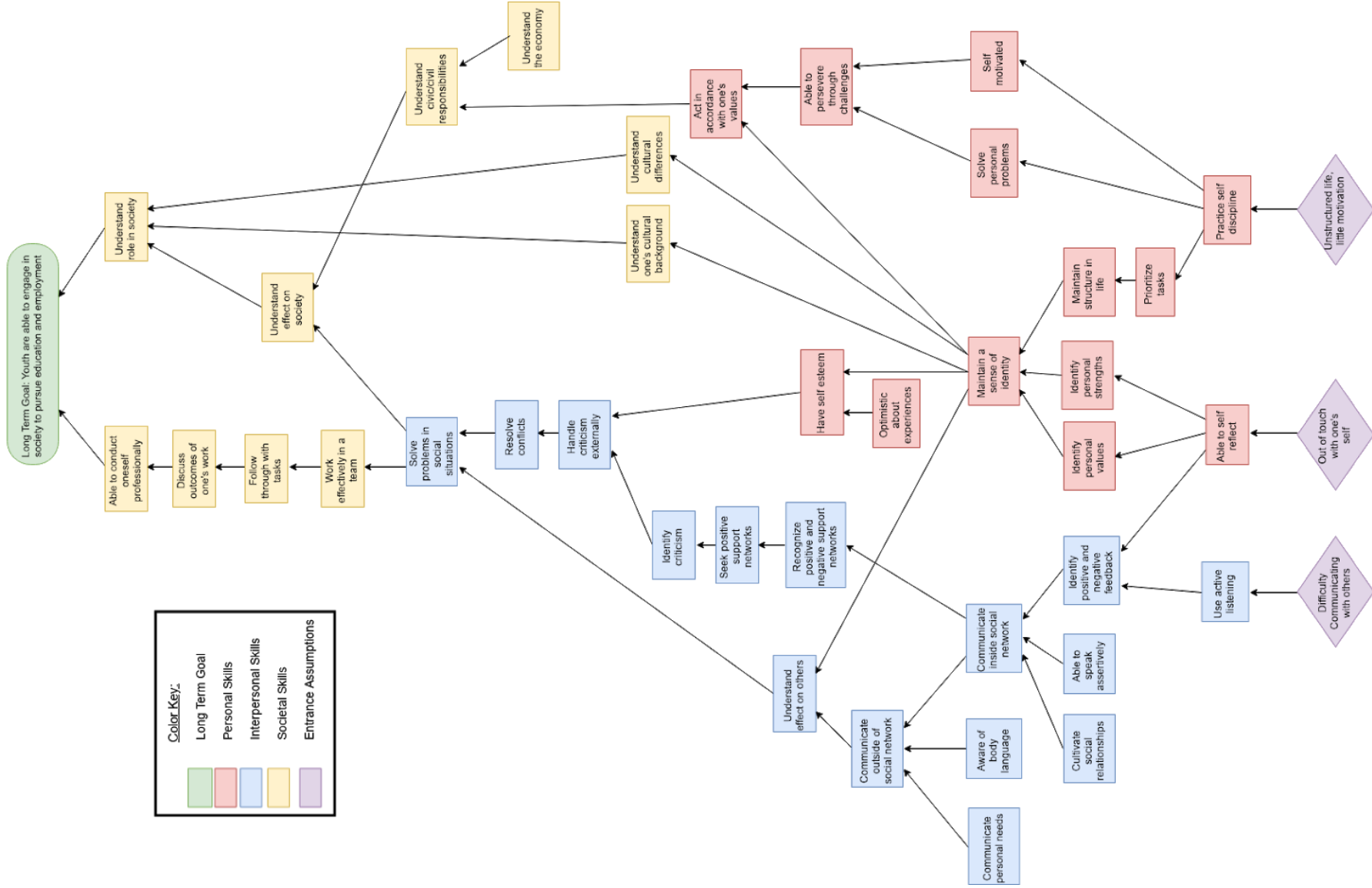


Figure 13: General Model for NEET Youth Behavioral Skills Reform.

## A general model will increase the effectiveness of behavioral skills reform programs

This general model is an important tool for current and future organizations that wish to address NEET behavioral skills because it describes the components that should be included to develop a comprehensive intervention program. Although the programs we investigated each specified skill development in at least one of the three major areas of personal, interpersonal, and societal skills, youth require education in all three areas to be fully prepared for societal engagement. In addition to finding these themes within the programs that we studied, a paper about important skills needed to succeed in education identifies three major areas of competence, including “cognitive, intrapersonal, and interpersonal”<sup>23</sup> skills, which echoes the themes in our general model. All three areas must be covered in a comprehensive program, since societal awareness is necessary for engagement, and in order to achieve societal awareness youth must also develop personal and interpersonal skills. While the general model outlines the skills that should be targeted and the order in which they should be addressed, there is room for organizations to develop creative programs that target the outcomes in unique ways.

During our analysis of current programs we found that interventions that use team-based activities to develop relationship and communication skills were promising and popular ap-

proaches to interpersonal skill development. Furthermore, programs approached teamwork skills in multiple contexts. One method of improving teamwork skills focused on having participants complete physical challenges together, such as sports or obstacle courses. Another organization used a non-physical method that had participants working together to complete a video project where each team member had to manage their own set of tasks. A second effective intervention technique is the use of personal coaching for program participants to foster development of personal skills. This technique is intended to help develop a close relationship between a trained coach and a young person that makes the young person feel understood, and to give them someone to trust as they develop personal skills.

Lastly, we observed that multiple organizations showed promise with running their program alongside academic or vocational education. We believe this could work well since our model focuses on behavioral skills needed for engagement, while youth still need training in job skills necessary for employment. Pairing with traditional education could be an effective option, as the professional development skills included in our model align with current skills expected for people to be successful in their jobs<sup>15</sup>. A program following the general model would prepare youth with the social skills and confidence to engage with employment and education, and an academic or vocational program would help youth succeed after engaging with the specific societal system.



Us with our sponsor

The general model was built by analyzing the programs of successful organizations already taking action on this issue, and thus covers a wide range of behavioral skills that are necessary for youth to be successful in Denmark’s education system and labor market. Reform programs for behavioral skills in NEET youth that use this model will provide well-structured social change for the youth, and reduce youth unemployment in Denmark.

## Adding indicators and intervention points to the model will produce a full Theory of Change

The outcomes framework is the first step in creating an effective, measurable, and comprehensive Theory of Change for NEET youth behavioral skills reform. With the necessary

skills for successful reform defined in this model, **the next components that should be developed are indicators and interventions.** Many of our interviewees recognized the difficulty of creating indicators for the outcomes in their programs, mainly due to the subjectivity of measuring qualitative behavioral skills<sup>14</sup>. One program director mentioned “we would definitely love if there was a metric ... or a way to measure. But I think ... it’s a really complex thing”. Another was “fairly skeptical” that something objective to measure the progress of behavioral skills existed<sup>14</sup>. We recommend that future developers of the general model investigate methods of creating quantitative indicators for behavioral skills.

A second complicating factor of indicator development is the learnability of the behavioral skills in this model. Each skill in the general model is assumed to be learnable, as there is substantial research available that supports this assumption<sup>23</sup>. However, the learnability of behavioral skills is highly debated, and we recommend that **the aspect of learnability also be considered when developing indicators** and further confirming the applicability of the outcomes framework.

Lastly, we recommend that organizations identify outcomes that require direct intervention to achieve when designing programs. Interviews with program directors, along with secondary research, revealed that organizations implement lessons or activities that often target multiple themes or outcomes at once. When synthesizing individual models into the general model this made it challenging to place inter-

vention points due to the varying coverage of outcomes by each individual intervention method. We suggest that organizations define which specific outcomes are addressed in their intervention programs and methods. This will show where the influence of each intervention starts and ends in order to ensure that all outcomes are addressed by an organization’s program, resulting in a complete Theory of Change for NEET youth behavioral skills reform.

Additional Supplemental Materials for this project can be found at...

<https://wpcipc.org/projects>

Special thanks to...

Our sponsor Kate Vinther

Our IQP Advisors Professor Holly Ault & Professor Katherine Foo

Our ID2050 and PQP Professors Courtney Kurlanska & Peter Hansen

## References

1. Carcillo, S., Fernandez, R., Konigs, S., & Minea, A. (2015). NEET Youth in the Aftermath of the Crisis: Challenges and Policies. OECD Social, Employment and Migration Working Papers, 164. doi:10.2139/ssrn.2573655.
2. Eurofound (2012). NEETs – Young people not in employment, education or training: Characteristics, costs and policy responses in Europe. Eurofound. Publications Office of the European Union, Luxembourg.
3. The Aging Society Can be a Resource. (n.d.). In (pp. 2-6). Copenhagen, Denmark: University of Copenhagen. Retrieved September 13, 2018.
4. Gracey, S., & Kelly, S. (2010). Changing the NEET Mindset (Centre for Innovation in Learning, Rep.). London: LSN.
5. D. (n.d.). UCANDOIT [PDF]. Det Lærende Fængsel.
6. Brest, P. (2010). The Power of the Theories of Change (Stanford Social Innovation Review, Publication). Stanford University.
7. Center for Theory of Change. (2018). How does Theory of Change Work. Retrieved September 13, 2018.
8. Bathgate, K., & Bird, J. (2013). Identifying Young People at Risk of becoming ‘Not in Employment, Education and Training’ (Welsh Government

- Social Research, Rep. No. 60/2013). Crown.
9. Andersen, T. M., Bergman, M. U., & Jensen, S. E. (2015). Reform capacity and macroeconomic performance in the Nordic countries. Oxford: Oxford University Press.
10. Pederson, E. H. (n.d.). Demography and Growth in Denmark [PDF]. Danmarks Nationalbank.
8. Bathgate, K., & Bird, J. (2013). Identifying Young People at Risk of becoming 'Not in Employment, Education and Training' (Welsh Government Social Research, Rep. No. 60/2013). Crown.
9. Andersen, T. M., Bergman, M. U., & Jensen, S. E. (2015). Reform capacity and macroeconomic performance in the Nordic countries. Oxford: Oxford University Press.
10. Pederson, E. H. (n.d.). Demography and Growth in Denmark [PDF]. Danmarks Nationalbank.
11. Pension. (n.d.). Retrieved from <https://www.workindenmark.dk/Working-in-DK/Pension>
12. Murray, S., Mitchell, J., Gale, T., Edwards, J., & Zyngier, D. (2004). Student Disengagement from Primary Schooling: A Review of Research and Practice (Centre for Childhood Studies, Rep.). Monash University.
13. National Childrens Bureau. (2016). A study exploring the experiences and barriers of young people who are NEET and measures for preventing young people becoming NEET (Rep.). National Childrens' Bureau.
14. Chamorro-Premuzic, T., Arceche, A., Bremner, A., Greven, C., & Furnham, A. (n.d.). Soft Skills in Higher Education: Importance and Improvement Ratings as a Function of Individual Differences and Academic Performance. *Educational Psychology*, 30(2), 221–241. doi:10.1080/01443410903560278
15. Austin, M., Pascual, G., Taylor, S., & Carnochan, S. (n.d.). Employer perspectives on the role of soft skills in subsidized employment relationships. *Families in Society: The Journal of Contemporary Social Services*, 95(3), 187–194. doi:10.1606/1044-3894.2014.95.24
16. Andersen, S., Rod, M. H., Ersbøll, A. K., Stock, C., Johansen, C., Holmberg, T., . . . Tolstrup, J. S. (2016). Effects of a settings-based intervention to promote student wellbeing and reduce smoking in vocational schools: A non-randomized controlled study. *Social Science & Medicine*, 161, 195-203. doi:10.1016/j.socscimed.2016.06.012
17. Williams, S. (n.d.). Self-Awareness and Personal Development. Retrieved October 9, 2018, from <http://www.wright.edu/~scott.williams/LeaderLetter/selfawareness.htm>.
18. Thompson, E. D., & Thompson, E. D. (2012). *Nurturing Future Generations Promoting Resilience in Children and Adolescents Through Social, Emotional and Cognitive Skills*. Florence: Taylor and Francis
19. Grønborg, L. (2013). One of the boys: Constructions of disengagement and criteria for being a successful student. *International Journal of Qualitative Studies in Education*, 26(9), 1192-1209. doi:10.1080/09518398.2013.816889) (Jørgensen, C. H. (2015). Some boys' problems in education – what is the role of VET? *Journal of Vocational Education & Training*, 67(1), 62-77. doi:10.1080/13636820.2014.917694
20. Busà, M. G. (2015). TEACHING LEARNERS TO COMMUNICATE EFFECTIVELY IN THE L2 : Integrating body language in the students' syllabus. *Lingue E Linguaggi*, 1-16. doi:10.1285/i22390359v15p83
21. Cerda-Navarro, A., Sureda-Negre, J., & Comas-Forgas, R. (2017). Recommendations for confronting vocational education dropout: A literature review. *Empirical Research in Vocational Education and Training*, 9(1). doi:10.1186/s40461-017-0061-4
22. Stets, J. E., & Burke, P. J. (2014). Self-Esteem and Identities. *Sociological Perspectives*, 57(4), 409-433. doi:10.1177/0731121414536141
23. National Research Council. 2012. *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/13398>.