

# ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Master Thesis - Behavioural Economics

## What to expect when being part of a society

*A mediation analysis of prosocial behaviour on the relationship of social inclusion and optimistic expectations*

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## **Abstract**

The feeling of acceptance within society has an impact on the well-being of the individual. However, the effect of social inclusion on expectations and the role of prosocial behaviour had not been considered up until now. This research focuses on the effect of social inclusion on expectations and whether prosocial behaviour mediates said relationship. This study hypothesises that social inclusion goes together with optimistic expectations because it is related to an increase in prosocial behaviour. The data of the Hope Barometer 2019 has been used to perform OLS regressions and mediation analyses to test for this relationship. Besides, an overall index per variable has been constructed for increased robustness in the results. The results have provided evidence in support of the stated hypotheses. Therefore, a small and partial mediating effect of prosocial behaviour on the relationship between social inclusion and optimistic expectations has been found. Further, similar findings have been found across different groups and with the use of related concepts to the variables of interest. In short, the findings in this research contribute to the broader understanding of the role of individuals in society and the effects on the individual and society.

*Keywords: Social inclusion, prosocial behaviour, optimistic expectations, well-being, Sobel test*

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# 1. Introduction

Over the past decades, the cry for equality among humans surfaced multiple times. When looking back, the world has seen a handful of improvements towards fairness among gender, race, and other characteristics. Even more so, evidence has been found in Europe that the well-being of citizens in a society can be improved by creating a cohesive society (Eurofound, 2018). Being accepted or neglected in society, social groups or among individuals influences the physical and psychological well-being and the behaviour of the individual.

According to Baumeister and Leary (1995), it is an individual's basic need to construct and develop social connections with other individuals in order to improve their psychological and physical well-being. Any threat to this belonging is a step away from social inclusion. Social inclusion can be loosely defined as taking part in groups and society and have control over one's resources (Marino-Francis & Worrall-Davies, 2010). In contrast, social rejection, the act of explicitly excluding an individual, and ostracism, the experience of being ignored, have been argued to be the main deterrents of social inclusion (Riva & Eck, 2016). This research focuses on the effects of social inclusion measured as the overall feeling of social inclusion in society.

Lots of individuals have different thoughts about their future. On one side are the optimists that believe there will only be good outcomes, and, on the other side, there are people that are pessimistic in their perception of the future. In a nutshell, this research has specified optimistic expectations as general expectations for a positive outcome (Scheier & Carver, 1958). Further, concerning social inclusion, an optimistic attitude decreases the chance of social detachment (Scheier & Carver, 1985). Next, a positive outlook increases well-being more for the individual that is socially included compared to socially excluded individuals (Dunstan et al., 2017).

Moreover, an exciting angle has been discovered by the study by Graham and Pinto (2018), which showed that minorities in the USA seemed to have a more optimistic outlook on life. Expecting a positive outcome has had an impact on their well-being now, and life expectancy in the future. These individuals expressed a higher score on the social connection among and towards each other, combined with more optimistic expectations of their future. Hence, social inclusion plays an important role towards optimistic expectations.

Being part or being excluded affects the prosocial behaviour of the individual; however, it remains unclear whether this effect is positive or negative (Maner et al., 2007; Twenge et al., 2007). Some researchers have found that an individual is more likely to increase prosocial behaviour towards other individuals and society to improve its well-being (Eisenberg et al., 2007). Further, the research found that the behaviour intended to benefit others affects the well-being of individuals (Andreoni & Rao, 2011), groups (Fehr & Fischbacher, 2003), and society (Ehlebracht et al., 2018). A prosocial individual can be described as an individual that performs behaviours that are intended to increase another individuals' well-being. As all human beings crave for interpersonal relationships, the effect of social inclusion is assumed to have a positive effect on prosocial behaviour. Therefore, the self-reported amount of prosocial behaviour is used to assess an individual's prosocial behaviour.

Earlier studies focused on the peculiar effects of social inclusion on common, however different, constructs of optimistic expectations such as hope, life satisfaction, well-being, and happiness. However, no earlier research has attempted to close the gap on the influence of social inclusion on optimistic expectations. Moreover, previous studies contributed to the understanding of the effects of social inclusion and exclusion on prosocial behaviour and prosocial behaviour on optimism. However, the mediating effect of prosocial behaviour

on the relationship between social inclusion and optimistic expectations has not been considered earlier. Past research has given reason to suspect that social inclusion may positively influence optimistic expectations through an increased amount of prosocial behaviour; however, there is little research that has used a combination of these variables to investigate their underlying relation.

In contrast to earlier studies, this research has used index numbers instead of single items to uncover the associations between the variables of interest. The index numbers reflect the overall feeling of social inclusion, the overall amount of prosocial behaviour, and the overall feeling of expectations per individual. The use of index numbers increases robustness and accuracy that may reveal new insights on the relation of social inclusion, prosocial behaviour, and optimistic expectations.

This research has hypothesised that the relationships between all variables of interest are positively related. Further, the relationship between social inclusion and optimistic expectations may be explained by prosocial behaviour, and the mediating effect is at least partly. As a result, prosocial behaviours could play an essential role in an individual's optimism as they can enhance the well-being of themselves, others, and society. With the help of multiple regressions and mediation analyses, this research aims to find positive associations between social inclusion and optimistic expectations and a partial mediation due to prosocial behaviour. Hence, the central question of this research paper is:

*"Does a feeling of social inclusion go together with more optimistic expectations because it relates to increased prosocial behaviour?"*

This research aims to fill in this gap of knowledge to further extend the knowledge on social inclusion and optimistic expectations. Social inclusion is a most interesting topic among social studies such as Behavioural Economics and Social Psychology because of its implications on the individual- and group well-being, and the connection towards society and economy. Further, this research contributes to the growing belief that humans are not only driven by rationale, but also by emotions and feelings. Since the questions about belonging to groups and society are part of our daily life, it is essential to explore the impact of social inclusion as these effects may be extrapolated to further research to increase societal well-being. Moreover, the findings in this research might have exciting implications for government policies. The role of prosocial behaviour in social inclusion and expectations can uncover and potentially steer the debate of social inclusion to maximise the impact of policies on the well-being of the citizens in society and the society in itself.

This thesis consists of six different sections. The first section introduces the topic and its relevance to the broader public. Based on previous literature, the second section contains a theoretical background to support the different hypotheses about the relationships between social inclusion, prosocial behaviour, and optimistic expectations. The third section focuses on the data and methodology that have been used. The fourth section displays the main results of the different analyses and additional analyses that check for the robustness of the analyses. The fifth section aims to answer and discuss the hypotheses and the research question, sets limitations to this research, and provides future angles of research. The sixth and final section concludes this thesis. After the final section, the references and appendices are shown.

## **2. Theoretical Framework**

### **2.1 Social inclusion**

In this research, social inclusion has been defined as: 'Social inclusion is about each person taking part in society and having control over their resources. It is also about a community that cares for its members, makes them feel welcome, and is willing to adjust to fit their various needs' (Marino-Francis & Worrall-Davies, 2010). The proposed definition considers both the individual and collective characteristics of social inclusion. Even though the definition might be general, it enables this research to derive its effects due to the actions of the individual and society.

Whether an individual has the feeling of being included or excluded depends on several features. As stated by Marino-Francis and Worrall-Davies (2010), the individual has to be able to participate by being treated with respect. Further, society should allow its citizens to talk freely about their opinions without fear of negative consequences. A cohesive society has to sustain a culture that promotes different ideas and perspectives of the individual. To provide social inclusion to individuals, a society should act upon discrimination or intimidation among individuals, because the inclusion of an individual into a group might also depend on sexual, racial, and discriminatory characteristics such as sexuality, skillset, appearance, appeal to others, and perceived health (Baumeister & Leary, 1995). In spite of the fact that much is needed from society, the authorities have to be trusted in their decisions by the individual. All put together provides the overall feeling of social inclusion of an individual within a group or society.

### **2.2 Prosocial behaviour**

Prosocial behaviour is a broadly discussed concept and can be defined as 'voluntary behaviour intended to benefit another' (Eisenberg et al., 2007). In recent research, prosocial behaviour has been studied as a multi-dimensional phenomenon. Research on prosocial behaviour has been focused on cooperation (Fehr & Fischbacher, 2003), trust (Ehlebracht et al., 2018), communication (Andreoni & Rao, 2011), and altruism (Batson & Powell, 2003). Prosocial behaviour can be divided into multiple responses, such as an affection response to a person with, for example, a feeling of sympathy or a cognitive response to shifting towards another person's point of view (Eisenberg et al., 2007). These responses can influence the decision to improve another individual's situation. However, one should not use prosocial behaviour interchangeably with altruism. Altruism is the unconditional act of benefitting another individual to increase the other's welfare (Batson & Powell, 2003). Moreover, prosocial behaviour does not have to be fuelled by altruism and vice versa (Batson & Powell, 2003).

Several different attributes have to be considered whether an individual displays prosocial behaviour. An individual proclaiming to have a high sense of prosocial behaviour has to find it essential to help and improve other individuals, communities, and society. Further, highly prosocial individuals have shown to have a standard set of values and beliefs about social responsibility among other individuals and society (Eisenberg et al., 2007). For example, a prosocial person is inclined to solve social problems and resolve conflicts in a friendly manner. Moreover, being sensitive to the feelings of others and being able to tell the truth makes up for prosocial behaviour. To summarise, this research assumes that the prosocial act is partly selfish because an individual wants to become part of a group or society. Therefore, this study focuses on the overall amount of prosocial behaviour.

## 2.3 Optimistic expectations

Previous studies contributed to the increasing academic interest in optimistic expectations. Optimistic expectations are defined as positive 'generalised outcome expectancies' (Scheier and Carver, 1985). Optimism is the tendency of having positive expectations, while a positive expectation is the belief of a particular favourable outcome. For example, if an individual is optimistic, that person is confident about that outcome but has a passive approach to achieving that goal (Alarcon et al., 2013), which means that the person believes that somehow its future will have a flourishing outcome. Further, Scheier and Carver (1992) conceptualise future belief systems as generalised outcomes, whether they are positive or negative in general. Also, in the study by Bruininks and Malle (2005), it is argued that optimism is related to general outcomes. In short, an individual with optimistic expectations imagines an outcome to be positive, in general.

Although optimistic expectations and hope have commonalities, the differences can be best described by the paper of Snyder (2002): "Optimistic expectations can be defined as 'optimistic goal-directed cognitions aimed at distancing the person from negative outcome' while hope differs in that the focus is on reaching future positive goal-related outcomes, and there is an explicit emphasis placed on the agency and pathways goal-directed cognition." In addition, as an individual, having expectations is being passive and confident while having hope is being active and uncertain (Bailey et al., 2007; Tong, 2015).

Since an optimistic expectation can be easily confused with other forms of beliefs for a particular outcome, several distinctions have to be made about what optimistic expectations are in this research. As mentioned earlier by Bruininks and Malle (2005), an individual with optimistic expectations has the feeling that an outcome is more probable for having a higher likelihood, which can be applied to a wide-ranging set of outcomes. For example, an individual can be optimistic about their life in general and their financial situation. Further, an individual can have a positive attitude towards authorities for providing overall safety, healthcare, and education for society. Besides, one can be optimistic about society as a whole. In contrast, optimistic expectations cannot be related to personal or other close-related problems because overall optimistic expectations are about expecting a positive outcome in general.

Several studies confirm a positive effect of optimism on well-being (Srivastava et al., 2006). However, some studies mention the pitfalls of optimism. The increased likelihood of attaining optimistic goals decreases the effort to achieve and deny the engagement towards that goal (Bruininks and Malle, 2005; Tong, 2015). Further, McNulty and Fincham (2012) reported that multiple cases among older subjects' optimistic expectations are associated with an increase in depression and stress. Therefore, optimistic expectations should be interpreted with caution.

These components have made optimistic expectations more suitable for this research than hope. The individuals are asked about their general expectations, and the results can be interpreted along the lines of positive outcome expectancies, rather than a hopeful disposition. Besides, positive expectations are closely related to happiness and life satisfaction (Bailey et al., 2009; Frijters et al. 2012). In short, these predictors could be used as proxies for optimistic expectations. However, this research focuses on the findings of the overall optimistic expectations of individuals.

## **2.4 Social inclusion and optimistic expectations**

As the need to belong is fundamental for the individual, being accepted or neglected by particular social groups has diverse effects on the well-being of an individual. Twenge & Baumeister (2005), showed that socially included people counteract self-defeating behaviour by being more optimistic, which leads to more positive outcomes. Furthermore, according to a study conducted by Tong (2015), individuals are more able to anticipate the future when they feel that they have more control over their actions in the present that might influence future outcomes. Moreover, optimism about the future is found when there is a high degree of personal control (Bruininks & Malle, 2005). Thus, an individual becomes optimistic when a specific goal, such as social interaction, shows the potential to become a successful endeavour.

Further, subjective well-being is significantly affected by social inclusion (Correa-Velez et al., 2010). Besides, the study by Dunstan et al. (2017) has shown that having increased expectations for the future strengthens the well-being if combined with social inclusion. Hence, the combination of social inclusion and optimistic expectations increases individual well-being. Moreover, the paper by Wesselmann et al. (2017) showed that individuals expect inclusion when going into social interactions. Also, individuals are more willing to establish relationships if they expect a positive outcome, which has been influenced by prior experiences (Wesselmann et al., 2017). Therefore, an individual that is willing to interact with other individuals has an optimistic stance towards being accepted.

To summarise, individuals exhibiting a higher sense of social interactions, which has been taken as a proxy for social inclusion, leads to more optimistic expectations. The findings in previous literature show that inclusion in social groups or society may have a positive impact on expectations. Thus, the first hypothesis is as follows:

*H1: An increased feeling of social inclusion relates positively with optimistic expectations.*

## **2.5 Social inclusion and prosocial behaviour**

On the premise that humans always strive towards their need to belong, Twenge and Baumeister (2005) found that socially included people are more willing to work together. Further, individuals that are valued and understood in a community feel that they belong (Correa-Velez et al., 2010). Moreover, there is an inverse relation of social inclusion towards aggression as it could be a dangerous act if one's level of inclusion is high among group members (Kirkpatrick et al., 2002). Also, if the individual feels that he is part of the whole and has a great sense of belonging, that individual's behaviour is more prosocial (Kirkpatrick et al., 2002). The research by Meleady et al. (2017) concluded that forms of prosocial behaviour, such as trust, have an effect on the way an individual perceives another, which affects the relationships within and between other social groups. Positive emotions, such as experiencing a bond with someone else, have positive effects on prosocial behaviour. For example, individuals in a donation game became more prosocial when empathy increased through communication towards each other (Andreoni & Rao, 2011). All put together indicates that the need to belong may be positively related to how people act towards one another.

Individuals that are linked by culture are more enabled to contribute and participate, resulting in improvements in the well-being of those individuals (Miller, 1998). However, there seem to be contradictory findings in the more recent literature about the influence of social belonging on prosocial behaviour. Maner et

al. (2007) find that a threat to social inclusion increases prosocial behaviour, while others found the opposite to be true (Twenge et al., 2007). The root of this dispute lies in whether the socially excluded individual sees the possibility to renew social contact and, in particular, as a promising and realistic possibility to reconnect. In the study by Cuadrado et al. (2016), it became apparent that if an individual perceived reconnection as a realistic option, they are more inclined to show prosocial behaviour to become socially included.

Social inclusion contributes positively to the way an individual perceives others and is willing to cooperate positively to enhance this relationship with others. In a society or social group, the members that feel more belonging tend to show more prosocial behaviour to remain included. Therefore, this research hypothesises that an individual that feels more socially included to exhibit more prosocial behaviour, which leads to the second hypothesis:

*H2: An increased feeling of social inclusion relates positively to prosocial behaviour.*

## **2.6 Prosocial behaviour and optimistic expectations**

Optimistic individuals have shown to be sensitive to the likings of others (Carver et al., 1994). In a study by Srivastava et al. (2006), more support from close partners has been found as a result of higher optimism. Moreover, evidence has been found of a positive effect of expected satisfaction on current satisfaction when talking about interpersonal relationships (Baker et al., 2017). Besides, individuals that have written in the present about volunteering in the future indicated a more optimistic outlook (Maki et al., 2016). Even so, optimism has been found when a person has to evaluate a prosocial initiative by others (Child & Witesman, 2019). Hence, there seems to be a connection between prosocial behaviour and positive expectations.

Further, the relation between a higher amount of prosocial behaviour and optimistic expectations might be explained through the self-regulation theory of Scheier and Carver (1988). For example, an individual could experience positive emotions from achieving certain milestones, such as high prosocial behaviour, while the individual can get negative emotions from not attaining those milestones, such as low prosocial behaviour. In addition, thoughts about future outcomes displayed positive emotions (Berntsen & Jacobsen, 2008). In the research by Baumsteiger (2017), positive emotions are one of the many products of optimism about future expectations. Next to the contribution of prosocial behaviour to positive emotions, positive emotions might lead to an increase in expectations as well (Kidd et al., 2013). In short, prosocial behaviour relates to positive emotions that lead to optimistic expectations. Hence, a link can be found between the current effects of prosocial behaviour on expected feelings of optimism.

Previous literature has shown that the performance of prosocial acts increases the possibility of an individual having optimistic expectations about the future. Therefore, thoughts about positive future outcomes are influenced by prosocial intention and behaviour, which leads to the third hypothesis:

*H3: Higher prosocial behaviour relates positively with optimistic expectations.*

## **2.7 Social inclusion, prosocial behaviour, and optimistic expectations**

The study by Maner et al. (2007) indicated that people want to reconnect and are willing to take a more optimistic stance towards others. Further, Bowman et al. (2015) have shown that the tendency to cooperate decreases after

an individual has become socially included; however, the individuals in that study reported a decrease in their well-being. The negative impact on the well-being of the individual after being accepted in a group might indicate that prosocial behaviour plays a role between social inclusion and optimistic expectations.

Next, a group of individuals that expected social exclusion were less emotional than the group that experienced unexpected exclusion (Wesselmann et al., 2017). Moreover, people that expect a social connection are more likely to act in a prosocial manner to improve their appearance towards the other, in the hopes of being included (Abrahams & Bell, 1994). Also, in the study by Braithwaite (2004), group identification improved the willingness to cooperate for a common goal in the future. Therefore, a high feeling of belongingness reinforces working together to attain future common goals. Although, only if that future is brighter than the present. All put together; a socially included individual expects a general and positive outcome while being influenced to cooperate in a prosocial manner.

The earlier mentioned relationship and the expectations due to social connection show a hint towards the potential mediating effect of prosocial behaviour in the relation of social inclusion and optimistic expectations. Therefore, the final hypothesis is:

*H4: Prosocial behaviour has a mediating effect on the relation of social inclusion and optimistic expectations.*

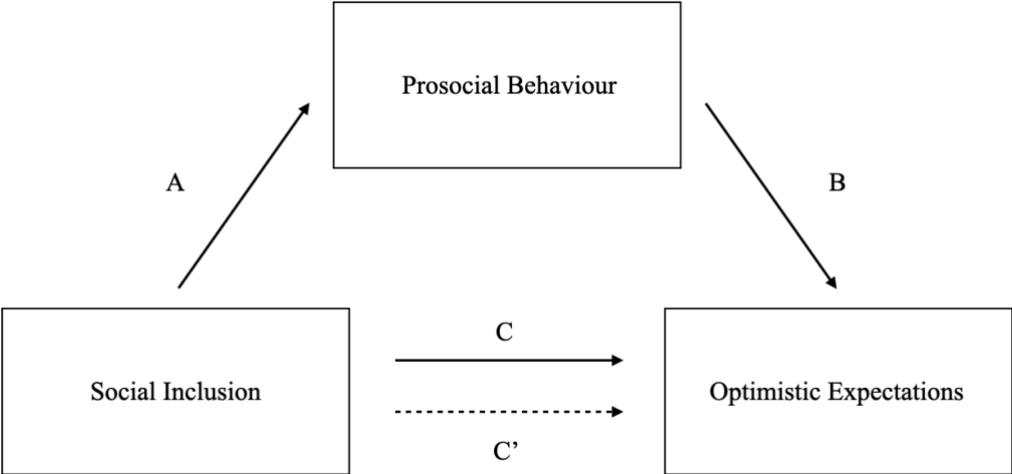


Figure 1. The relationship between social inclusion and optimistic expectations, potentially mediated by prosocial behaviour.

As shown in Figure 1, the relations between the variables have been put in a theoretical framework. This research assumes that prosocial behaviour mediates the indirect effect of inclusion on expectations.

## **3. Research Methodology**

### **3.1 Data**

The data of the Hopebarometer has been used for analysing the relationships between social inclusion, prosocial behaviour, and optimistic expectations. The Hope Barometer is based on questions that have been posited in the LISS panel (Longitudinal Internet Studies for the Social Sciences). The LISS panel is based on a true probability sample of households in the Netherlands. It consists of 4500 households with over 7000 participants (LISS panel, 2007).

The data were collected in October 2019, and 871 respondents have answered the questions. The respondents that filled in the relevant fields of the variables have been for the analyses of this research. The final number of respondents in the sample consisted of 756 randomly selected respondents between the age of 16 and 91. All the respondents in this research currently reside in the Netherlands.

The Hope Barometer 2019 is a cross-sectional dataset; therefore, any possible findings are merely associations rather than causal relationships.

### **3.2 Main variables**

#### **3.2.1 Social inclusion**

In the dataset, six questions have been identified that express a feeling of social inclusion in the Netherlands. In an earlier study about inclusion in organisations and the workplace by Celik et al. (2013), the questions about inclusion have been validated as a reliable scale to measure the effects of social inclusion.

The six questions about inclusion in the Netherlands are: 'In the Netherlands, I am treated with respect' (IN1), 'In the Netherlands, I can give my opinion openly without any negative consequences' (IN2), 'In the Netherlands, there is discrimination amongst each other' (IN3), 'In the Netherlands, there is intimidation amongst each other' (IN4), 'In the Netherlands, the decisions by authorities (the police, the judges and the government) are just' (IN5), and 'In the Netherlands, there is a culture where different ideas and perspectives are appreciated' (IN6). See Appendix A for the questions as stated in the Hope Barometer 2019.

The responses on the questions are based on a 7-point Likert scale and can range from (1) 'Totally disagree' to (7) 'Totally agree'. The questions IN3 and IN4 have been recoded to (1) 'Totally agree' to (7) 'Totally disagree'. Consequently, the higher the results, the higher the feeling of social inclusion in society. The Cronbach's Alpha for this scale is 0.6763. An in-depth item-analysis will be provided in section four of this research to show the effects of the different items on the scale. In short, this number is acceptable for use in the regressions (Gliem & Gliem, 2003).

#### **3.2.2 Prosocial behaviour**

Eight questions have been asked to determine the prosocial behaviour of the respondents. The questions are derived from the research of Wilson et al. (2009). The eight questions for prosocial behaviour have been identified as behaviours oriented towards others and society, which are in line with the description of prosocial behaviour in this research. Further, the scale has been validated with high reliability.

The eight different questions in the questionnaire were: 'I think it is important to help others' (PB1), 'I resolve conflict without hurting someone else' (PB2), 'I tell the truth, even if that is difficult' (PB3), 'I help to

improve my society' (PB4), 'I try to solve social problems' (PB5), 'I have respect for other people' (PB6), 'I am sensitive for the needs and feelings of others' (PB7), and 'I am committed to helping my community' (PB8). See Appendix A for the questions as stated in the Hopebarometer 2019.

The responses on these questions are based on a 7-point Likert scale ranging from (1) 'Totally disagree' to (7) 'Totally agree'. A higher score on the questions for prosocial behaviour indicates a higher amount of prosocial behaviour. The Cronbach's Alpha for this scale is 0.8642.

### **3.2.3 Optimistic expectations**

The questions about expectations are based on the index from the Eurobarometer and the Gallup World Poll that consist of different personal and social expectations. Besides, questions about societal and household finance expectations were included.

The respondents were asked to answer eight questions about their expectations in the coming twelve months: 'Expectation life in general' (EXP1), 'Expectation society as a whole' (EXP2), 'Expectation financial situation household' (EXP3), 'Expectation economic situation NL' (EXP4), 'Expectation healthcare' (EXP5), 'Expectation education' (EXP6), 'Expectation safety' (EXP7), and 'Expectation climate' (EXP8). See Appendix A for the questions as stated in the Hopebarometer 2019.

The responses on the questions are based on a 5-point Likert scale and range from (1) 'Much better' to (5) 'Much worse' and otherwise (6) 'Do not know'. The responses were recoded to be fitted for better interpretation of the results and range from (1) 'Much worse' to (5) 'Much better'. Thus, higher categories for expectations entails higher expectations. The responses for 'Do not know' have been set to missing, because no conclusions on the relationship between social inclusion and expectations can be made on respondents that have no idea on what to expect for the future. Moreover, to measure the influence of the other two variables on the expectations of outcomes in general, a scale has been produced to test for these effects. This scale has been recoded to a 7-point Likert scale for consistency of the interpretations. The Cronbach's Alpha for this scale is 0.8409.

### **3.2.4 Index calculations**

The variables of social inclusion, prosocial behaviour, and expectations have been recoded into three different index measurements. For example, all six outputs of the questions on social inclusion have been combined into one index number. These variables are the variables of interest in this research. The three indices stand for (1) the overall feeling of social inclusion, (2) the overall amount of prosocial behaviour, and (3) the overall expectations per respondent. These variables will be used for the regression analyses. Recoding the variables to indices makes them more robust because of a decrease in the variance and therefore making the estimations more accurate (Chen et al., 2012).

### **3.2.5 Control variables**

The first control variable that has been added is *AGE*. There might be a quadratic effect of age on expectations that can be controlled for by adding a squared variable of age in the regression,  $AGE^2$ . Younger people tend to have higher expectations about their future, while older people adjust their expectations along with the increase of their age (McNulty & Fincham, 2012; Graham & Pinto, 2018). Moreover, individuals encounter more

difficulties with social inclusion at a younger age, but an increase of social inclusion has been found at later stages in life (Correa-Velez et al., 2010; Eurofound, 2018). Further, in a study by Yoshi et al. (2016), it has been found that age is positively related to prosocial behaviour. Increasing age over the years has a positive influence on the way individuals treat others. Further, demographic variables for gender, income, ethnicity, and education have been added. *GENDER* is divided into male (=0) and female (=1). Net income per household per month (*INCOME*) is divided into five categories, ranging from 'below €900' (=1) to 'more than €5.000' (=5) per month. *ETHNICITY* is divided into three categories: 'Autochthonous' (=1), 'Western immigrant' (=2), and 'non-Western immigrant' (=3). Further, *EDUCATION* is divided into four categories: 'Lower education' (=1), 'middle education' (=2), 'higher education' (=3), and 'other' (=4). At last, the categories of Ethnicity and Education have been recoded into dummies.

### 3.3 Descriptive statistics

#### 3.3.1 Descriptive statistics

In Table 1, the descriptive statistics of the sample can be found. The age of the youngest participant in this sample is 16 years old, and the oldest participant is 91 years old. The average age of the sample is 56 years old, with a standard deviation of 17.179. From the participants, 46.7% is male. The average reported income per household lays around 1800 to 3200 euros per month. Most of the participants are native Dutch (83.3%), while a substantial part reported being either a Western immigrant (9.7%) or a non-Western immigrant (7%). About 23.2% of the participants completed lower education, 34.4% has finished middle education, 39.3% has completed higher education, and 3.1% reported other sorts of education.

Table 1. Descriptive Statistics.

Variables	N	Mean	SD	Freq <sup>1</sup>	Min	Median	Max	Skewness	Kurtosis
Age	756	55.631	17.179	-	16	59	91	-.444	2.299
Gender (Male=0)	756	-	.499	46.7	0	1	1	-.133	1.018
Net income hh	756	3.331	1.009	-	1	3	5	-.163	2.47
<u>Ethnicity</u>									
Autochthonous	630	-	-	83.3	1	2	4	-1.789	4.2
Western Immigrant	73	-	-	9.7	0	1	1	2.732	8.463
Non-Western Immigrant	53	-	-	7	0	0	1	3.367	12.339
<u>Education</u>									
Lower Education	175	-	-	23.2	0	0	1	1.273	2.621
Middle Education	260	-	-	34.4	0	0	1	0.657	1.432
Higher Education	297	-	-	39.3	0	0	1	0.439	1.193
Other	24	-	-	3.1	0	0	1	5.342	29.533
<u>Index numbers</u>									
Index Inclusion	756	4.065	.767	-	1.167	4.167	6.5	-.532	4.041
Index Prosocial	756	5.125	.87	-	2	5.125	7	-.052	2.903
Index Expectations	756	3.765	.958	-	1	3.812	7	.28	3.768

*Note:* The frequency of the binary variables is shown in percentages instead of the mean.

Moreover, Table 1 shows the variables of interest, specifically 'Index Inclusion', 'Index Prosocial', and 'Index Expectations'. First, the index of social inclusion is measured on a scale of 1 to 7, where a higher value stipulates a higher sense of social inclusion. The average score of this index is 4.065, and a standard deviation of 0.767. Second, the index of prosocial behaviour indicates a scale ranging from 2 to 7, and a higher value indicates a higher amount of prosocial behaviour. The average score of this index is 5.125, and a standard deviation of 0.870. Moreover, lastly, the index of expectations ranges from 1 to 7, and a higher value demonstrates optimistic expectations. The average score of this index is 3.765, with a standard deviation of 0.958.

### 3.3.2 Correlations

In Table 2, the correlations of the variables of interest are shown. The results in Table 2 have shown that there are significant correlations between all the variables. Firstly, the index of social inclusion is positively correlated with the index of expectations. In second, the index of social inclusion is positively correlated with the index of prosocial behaviour. Finally, the index of prosocial behaviour has a positive correlation with the index of expectations. Before this research has gone into statistical analyses, positive correlations have been found between all the variables of interest. Some correlations are more substantial than the other. However, the actual associations have to be explored in the following sections.

Table 2. Correlation matrix of variables of interest.

	Index Expectations	Index Prosocial	Index Inclusion
Index Expectations	1.000		
Index Prosocial	0.129*	1.000	
Index Inclusion	0.316*	0.222*	1.000

\* shows significance at the 0.05 level

## 3.4 Method

### 3.4.1 Ordinary Least Squares (OLS) regressions

The variables of social inclusion, prosocial behaviour, and expectations have a 7-point Likert scale. According to a study by Rhemtulla et al. (2012), variables with five or more categories can be treated as continuous variables, which has been the case for this dataset. Furthermore, OLS regressions have been used to measure the relationships between social inclusion, prosocial behaviour, and optimistic expectations.

Regarding the statistical analyses, a few points need to be addressed before testing for mediation. As seen in Table 1, there are no outliers in the variables. Most are due to the bounded Likert scales or binary variables. Moreover, the normality assumption has been tested, and the distributions of the variables of interest are normally distributed. Thus, normality is validated. Next, all variables have been tested for multicollinearity by using the variance inflation factor (VIF). The VIFs of all variables are between 1.01 and 4.61, which entails that there is no multicollinearity (Hair et al., 1998). Further, by plotting the residuals of the independent variable, the assumption of homoscedasticity has been validated. Therefore, it can be concluded that all assumptions needed for the analyses are confirmed. See Appendix B for the tests of all the assumptions.

### **3.4.2 Mediation analysis of prosocial behaviour**

According to Baron and Kenny (1986), three conditions need to be tested before mediation. First, social inclusion has to be positively related to optimistic expectations. Second, more social inclusion needs to go together with an increase in prosocial behaviour. Third, an increase in prosocial behaviour needs to be positively related to optimistic expectations. Finally, if all regressions are significant, then a mediation analysis can be conducted by adding prosocial behaviour to the regression of social inclusion and optimistic expectation. To determine a mediating effect, adding the mediator to the regression of the independent and dependent variable should significantly decrease the effect of the relation.

To measure the indirect effect of social inclusion on expectations, a mediation analysis of the variable of prosocial behaviour has been conducted. A mediation analysis entails that the regression measures the effect of social inclusion on expectations while controlling for prosocial behaviour.

If the total effect of social inclusion on expectations significantly changes when controlling for prosocial behaviour, then mediation occurs. Further, if the direct effect of social inclusion on optimistic expectations has a slight presence after including the mediator, then there is a partial mediation. Otherwise, if the indirect effect remains significant, and the direct effect becomes insignificant, then full mediation occurs. It is expected that a partial mediation occurs because of more variables than prosocial behaviour in the sample influence expectations or because of a direct relation between social inclusion and optimistic expectations.

A Sobel test is conducted to measure the effect of mediation (Sobel, 1982). The Sobel test calculates whether the indirect effect of social inclusion on optimistic expectations through prosocial behaviour is significantly different from zero. Moreover, the Sobel test can only be conducted if all normality assumptions have been met, which has been the case for this dataset.

## 4. Results

This section describes the results of the OLS regressions of all pathways (see Figure 1), the mediation analysis by conducting a Sobel test, and additional tests to explore differences with new variables and across demographics.

### 4.1 Main results

Table 3. OLS regression of all three pathways

Variables	Path C <sup>1</sup> Index Expectations	Path A Index Prosocial	Path B Index Expectations
Index Inclusion	0.421*** (0.0414)	0.241*** (0.0400)	
Index Prosocial			0.211*** (0.0387)
Gender (Male=0)	-0.0381 (0.0635)	0.195*** (0.0614)	-0.0835 (0.0669)
Age	-0.0265*** (0.00385)	0.0163*** (0.00372)	-0.0255*** (0.00407)
Age (Squared)	1.54e-05*** (4.79e-06)	-9.92e-06** (4.62e-06)	1.24e-05** (5.00e-06)
Net Income Household	0.0214 (0.0325)	0.0120 (0.0314)	0.0377 (0.0339)
<u>Education<sup>2</sup></u>			
Middle Education	0.0201 (0.0868)	0.0201 (0.0839)	0.0284 (0.0909)
Higher Education	-0.0532 (0.0881)	0.00963 (0.0852)	0.0244 (0.0917)
Other	0.166 (0.190)	0.216 (0.184)	0.0692 (0.199)
<u>Ethnicity<sup>2</sup></u>			
Western Immigrant	0.0243 (0.106)	0.0235 (0.103)	0.00661 (0.111)
Non-Western Immigrant	0.277** (0.126)	0.306** (0.122)	0.235* (0.132)
Constant	3.500*** (0.309)	3.031*** (0.299)	4.010*** (0.328)
Observations	756	756	756
R-squared	0.209	0.104	0.134

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;

Note 1: Each model corresponds to the paths depicted in Figure 1;

Note 2: Outputs of the categorical variables are compared to their base category, such that the base category for Education is Lower Education and the base category for Ethnicity is Autochthonous.

#### 4.1.1 Hypothesis 1

The index of social inclusion has been regressed on the index of expectations to test the effect on whether social inclusion is positively related to expectations (H1). In table 3, the results of this regression are shown under Path C.

The R-squared of the regression is 0.209, indicating that this model explains 20.9% of the variation in overall expectations. Further, the coefficient for the overall feeling of inclusion is 0.421, significant at the 5%

level. This coefficient indicates that an increase of one point in the overall feeling of social inclusion has a positive association with the overall expectations of 0.421 points. Further, an increase of 0.421 on a 7-point Likert scale is a substantial difference. All put together this analysis has shown that the first hypothesis has been supported. In addition, the effect is significant and in accordance to what was expected. A higher sense of social inclusion has an association with an increase in overall expectations.

#### **4.1.2 Hypothesis 2**

The index of social inclusion has been regressed on the index of prosocial behaviour to test the effect on whether social inclusion is positively related to prosocial behaviour (H2). In table 3, the results of this regression are shown under Path A.

The R-squared of the regression is 0.104, indicating that this model explains 10.4% of the variation in the overall amount of prosocial behaviour. Further, the coefficient of the overall feeling of inclusion is 0.241, indicating an increase of one point in the overall feeling of inclusion has a positive association with an increase in the overall expectations of 0.241 points. The coefficient in this regression is positive and significant at the 5% level. Further, an increase of 0.241 on a 7-point Likert scale is a substantial difference. In short, the second hypothesis has been supported by this finding. However, the effect is small; a higher sense of social inclusion has an association with an increase in the amount of prosocial behaviour.

#### **4.1.3 Hypothesis 3**

The index of prosocial behaviour has been regressed on the index of expectations to test the effect of whether prosocial behaviour positively related to optimistic expectations (H3). In table 3, the results of this regression are shown under Path B.

The R-squared of the regression is 0.134, indicating that this model explains 13.4% of the variation in overall expectations. Further, the coefficient for the amount of prosocial behaviour is 0.211, indicating that an increase of one point of prosocial behaviour has a positive association with overall expectations, and increases expectations with 0.211 points. This coefficient is significant at the 5% level. Further, an increase of 0.211 on a 7-point Likert scale may be considered as a substantial difference. Thus, this analysis has shown that the third hypothesis has also been supported. Moreover, the effect is significant and per what was expected. A higher amount of prosocial behaviour has an association with an increase in overall expectations.

#### **4.1.4 Summary hypotheses 1, 2 & 3**

To summarise, a positive and significant association between social inclusion and overall expectations has been found, which supports the first hypothesis. Further, a positive and significant association is found between social inclusion and prosocial behaviour, which confirms the second hypothesis of this research. Finally, also a positive and significant association has been found between prosocial behaviour and overall expectations, which supports the third hypothesis. All findings have been significant at the 5% level.

In short, all hypotheses have been confirmed with significant associations between all variables of interest. Therefore, the mediating effect of prosocial behaviour in this relationship has been further explored.

## 4.2 Mediation analysis

### 4.2.1 Hypothesis 4

The index of prosocial behaviour has been included in the regression of the index of social inclusion on the index of expectations to test the effect whether there is a mediating effect of prosocial behaviour in the relation of social inclusion and optimistic expectations (H4). In table 4 below, the results of this regression are shown.

The R-squared of the regression is 0.223, indicating that this model explains 22.3% of the variation in overall expectations. If Path C from Table 3 and Path C' from Table 4 are compared, the differences in the coefficient of the index of social inclusion can be seen. The addition of the index of prosocial behaviour in the regression has decreased the index of social inclusion with 0.033. Also, the coefficient is significant at the 5% level. Whether this effect is significant for the mediation of prosocial behaviour has to be explored by using a Sobel test.

Table 4. OLS regression with all variables of interest.

Variables	Path B and Path C' Index Expectations
Index Inclusion	0.388*** (0.0421)
Index Prosocial	0.137*** (0.0376)
Observations	756
R-squared	0.223

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
 Note 1: The model corresponds to the path depicted in Figure 1;  
 Note 2: The model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

### 4.2.2 Sobel test

In Figure 2 below, the effect of each variable of interest is indicated. The total effect (Path C) is equal to the direct effect (Path C') plus the indirect effect (Path A times Path B). The numbers are derived from Tables 3 and 4.

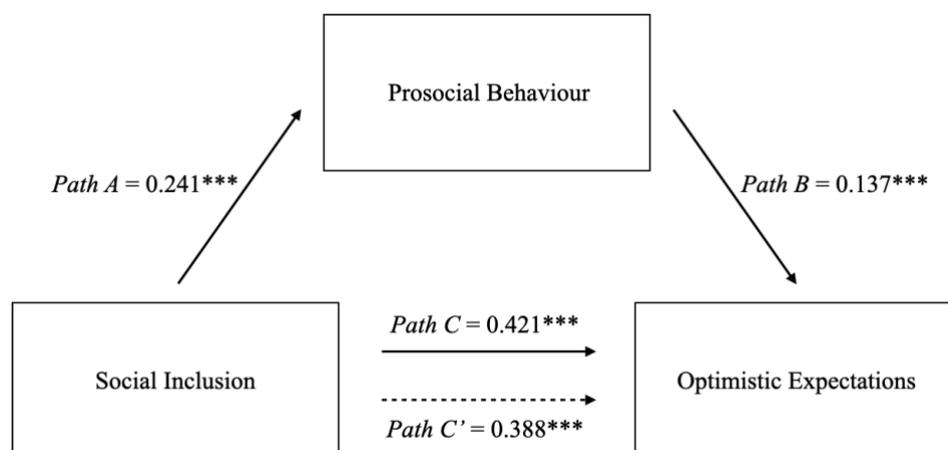


Figure 2. The mediating role of prosocial behaviour on the relation of social inclusion and optimistic expectations.

In Table 3, the total effect is shown by the coefficient of social inclusion on expectations, which is equal to 0.421. Moreover, in Table 3, the indirect effect is shown by the coefficient of social inclusion on prosocial behaviour (Path A) and the coefficient of prosocial behaviour on expectations (Path B), which are equal to 0.241 and 0.137, respectively. Further, in Table 4, the direct effect is shown by the coefficient of social inclusion on overall expectations, which is equal to 0.388. Hence, as shown in Figure 2, a one-point increase of social inclusion is associated with a 0.421-point increase in overall expectations. The direct effect of social inclusion on overall expectations is an increase with 0.388-point and, with an increase in prosocial behaviour that has a positive association with overall expectations, the indirect effect is 0.033 points. In Table 5, all the mentioned effects for the mediation analysis are shown.

Table 5. Mediation analysis.

Variables	Direct Effect Index Expectations	Indirect Effect Index Expectations	Total Effect Index Expectations
Index Inclusion	0.388*** (0.0422)		0.421*** (0.0414)
Index Prosocial	0.137*** (0.0376)	0.033*** (0.0205)	
Observations	756	756	756

Standard errors in parentheses, \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , and \*  $p < 0.1$ ;

Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

Based on the results in the previous regressions and the mediation analysis in Table 5, a Sobel test has been conducted. The Sobel test indicated that prosocial behaviour mediates the effect of social inclusion on optimistic expectations. The Sobel statistic is 3.113, with a p-value of 0.010.

Even though the indirect effect through prosocial behaviour is small relative to the direct effect of social inclusion on the total effect, the Sobel test has shown a significant effect for the mediation of prosocial behaviour. Hence, this test concludes that there is significant evidence of an indirect effect and a direct effect, which means that there is a partial mediation. Therefore, the fourth hypothesis has been confirmed.

### 4.3 Additional analyses

The results in the previous regressions have been as expected. However, some questions remained unanswered and asked for an in-depth analysis. For example, even though the effects have seemed to be significant, it has to be determined what the different effects are for the different groups within this dataset. Several additional analyses have been conducted to check for robustness of the findings in this research.

First, the Cronbach's Alpha of the scale for social inclusion has shown to be rather low compared to the other scales that were used in this research. The solution for this low number can be found in the operationalisation of social inclusion. An explanation for the used scale has been given in the paper by Celik et al. (2013), which states that the questions about discrimination and intimidation were deconstructed from one question on purpose. Separating both items could enrich the scale of social inclusion, but the authors found an unexplained, common variance between both items. This method could explain that the scale is lower in comparison to the other two scales in this research.

A second analysis in methodology might be in the use of index numbers to find a relation between social inclusion and optimistic expectations. It could be that the multitude of questions blurs the actual social inclusion as perceived by the individual. In the dataset, a single item variable for participation in society has been identified about participation. The question is as follows: "Do you have the feeling that you can fully participate in Dutch society?" Hence, additional analysis will be conducted to explore whether this single item shows the same effects as the index of social inclusion.

Second, further analysis can be done by examining closely related topics to the dependent variable. As discussed earlier, optimistic expectations are closely related to hope, which will be treated as the dependent variable. Further, optimistic expectations are related to an increase in well-being, and therefore variables such as happiness and satisfaction with life are used as dependent variables.

Thirdly, it has been found appealing to explore the differences between different groups within the sample. The earlier effects in the regressions may not be applicable for the full population, but only for sub-groups within the sample. For example, people with a lower income could have lesser expectations for their future, even when they feel a secure connection with society than other individuals with a higher income because their financials refrain them from having a positive outlook for their future. Furthermore, individuals of different age groups can react differently. For example, an older individual may find themselves pessimistic because that person becomes more dependent on the help of others. Thus, the effects of different groups will be explored in additional analyses.

Moreover, individuals with different backgrounds that live in the Netherlands might feel differently about their expectations of the future. For example, an individual might encounter difficulties in achieving social inclusion because of their ethnicity or education and encounter problems to attain a certain social standing, which might have implications for their expectations. Therefore, different levels of income and education, and different groups of age and ethnicity will be further analysed in order to answer the earlier hypotheses.

#### 4.3.1 Index of social inclusion

Table 6 shows the correlation matrix of all the questions of social inclusion. The questions about respect (IN1), having an opinion without consequences (IN2), fairness by authorities (IN5), and culture (IN6) are highly correlated to each other and significant at the 5% level. The questions about discrimination (IN3) and intimidation (IN4) have a very high correlation with each other, and this correlation is significant on the 5% level. Further, a low and significant correlation of IN1 with IN3 can be seen as well. However, both questions IN3 and IN4 have almost no correlations with the other questions.

Table 6. Correlation Matrix of Social Inclusion Questions (IN1-IN6).

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) IN1	1.000					
(2) IN2	0.624*	1.000				
(3) IN3	0.101*	0.028	1.000			
(4) IN4	0.024	-0.030	0.678*	1.000		
(5) IN5	0.441*	0.468*	0.036	-0.018	1.000	
(6) IN6	0.449*	0.502*	0.060	-0.034	0.554*	1.000

\* shows significance at the 0.05 level

As shown in Table 7, the Cronbach's Alpha improves after generating two new indices. On top stands the earlier index of all social inclusion questions. The second index consists of the other two questions: discrimination (IN3) and intimidation (IN4), and results in a Cronbach's Alpha of 0.8083. The third index includes the four questions that have a significant correlation with each other: Respect (IN1), opinion without consequences (IN2), fairness by authorities (IN5), and culture (IN6). This index shows a Cronbach's Alpha of 0.8022. Discrimination and intimidation may appear to be two sides of the same coin; however, they also might be not logical to include in this scale of social inclusion. This research will explore the effects of both additional indices as independent variables on the earlier mentioned relations.

Table 7. Cronbach's Alpha of old and new indices.

Variables	Cronbach's Alpha
(1) Index (IN1 - IN6)	0.6763
(2) Index (IN3 & IN4)	0.8083
(3) Index (IN1, IN2, IN5 & IN6)	0.8022

Table 8 shows the regressions of both the newly created indices on the index of expectations. The results in this table are compared to the numbers found in Table 3 and 4. The coefficients in the first model have slightly decreased compared to the earlier regressions in Tables 3 and 4, although the sign and significance have remained equal.

On the other hand, the second model shows that the direct effect of social inclusion on expectations is not significant at 5%, meaning that no association can be derived from these results. However, Path C is significant at the 10% level. Further, the effect of social inclusion on prosocial behaviour is negative, significant at the 5% level, which is contrary to earlier findings in the first model, and the results in Tables 3 and 4. Moreover, the direct effect of social inclusion on expectations has decreased by 0.309 compared to the findings in Tables 3 and 4. However, the association has remained significant and positive. Also, the coefficient of prosocial behaviour has increased, significant at the 5% level.

Table 8. Regressions on the index of expectations with new indices.

Variables	Model 1			Model 2		
	Path C Index Expectations	Path A Index Prosocial	Path B and Path C' Index Expectations	Path C Index Expectations	Path A Index Prosocial	Path B and Path C' Index Expectations
Index Inclusion (IN1, IN2, IN5, and IN6)	0.332*** (0.0315)	0.282*** (0.0296)	0.306*** (0.0333)			
Index Inclusion (IN3 and IN4)				0.0549* (0.0292)	-0.107*** (0.0268)	0.0791*** (0.0288)
Index Prosocial			0.0933** (0.0389)			0.227*** (0.0390)
Constant	3.673*** (0.300)	2.815*** (0.281)	3.410*** (0.318)	4.673*** (0.308)	4.048*** (0.283)	3.755*** (0.340)
Observations	756	756	756	756	756	756
R-squared	0.216	0.163	0.222	0.104	0.080	0.143

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;

Note 1: The model corresponds to the paths depicted in Figure 1;

Note 2: The model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

The results have shown that including or excluding specific questions influences the results of the different regressions. In Table 8, the first model has been weakened slightly but has remained intact after the use of a new index. In contrast, the second model with another index has shown to have contrasting effects that negatively influenced the model. These findings suggest that the use of the questions about discrimination (IN3) and intimidation (IN4) in the index harms the index as a whole.

Table 9. Mediation analyses with the new indices.

Variables	Model 1			Model 2		
	Direct Effect Index Expectations	Indirect Effect Index Expectations	Total Effect Index Expectations	Direct Effect Index Expectations	Indirect Effect Index Expectations	Total Effect Index Expectations
Index Inclusion (IN1, IN2, IN5, and IN6)	0.306*** (0.0333)		0.322*** (0.0315)			
Index Inclusion (IN3 and IN4)				0.0791*** (0.0288)		0.0549* (0.0292)
Index Prosocial	0.0933** (0.0376)	0.026*** (0.0114)		0.227*** (0.0390)	-0.024** (0.0072)	
Observations	756	756	756	756	756	756

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

With the help of the results in Table 9, a Sobel test has been conducted. The first model, with an index without discrimination and intimidation, has shown a Sobel statistic of 2.256, with a p-value of 0.024. Further, the second model with an index of only discrimination and intimidation has a Sobel statistic of 3.285, with a p-value of 0.001. In short, the positive indirect effect of the first model and the negative indirect effect of the second model is small but significant for the mediation of prosocial behaviour. Although the first model can only confirm the hypotheses of this research, the effects in the second model are also worth consideration.

#### 4.3.2 Participation

In the next analysis, the variable 'Participation' has been used as a proxy for social inclusion. Both hypothesis 1 and 2 have been re-tested with participation in society as the independent variable. The variable consists of a 7-point Likert scale ranging from (1) 'Totally disagree' to (7) 'Totally agree'. In table 10 below, the results of the regression are shown.

Table 10. OLS regression of participation on expectations and prosocial behaviour.

Variables	Path C	Path A	Path B and Path C'
	Index Expectations	Index Expectations	Index Expectations
Participation	0.145*** (0.0276)	0.144*** (0.0255)	0.119*** (0.0278)
Index Prosocial			0.178*** (0.0391)
Constant	4.184*** (0.318)	3.158*** (0.294)	3.623*** (0.337)
Observations	756	756	756
R-squared	0.131	0.099	0.155

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note 1: The model corresponds to the path depicted in Figure 1;  
Note 2: The model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

The results in Table 10 show that participation in society is equal in significance and sign as the index of social inclusion. Although the single item has a slightly smaller effect than the index of social inclusion, the effect does remain substantial if a 7-point Likert scale is considered. Therefore, a different single-item measure for the index of social inclusion only weakens the effect.

### 4.3.2 Hope, Life satisfaction, and Happiness

Three new variables have been tested to check whether familiar dependent variables show significant different findings from overall expectations. The first dependent variable that has been tested is hope. The results of eight questions, based on the Adult Hope Scale by Snyder (1991), have been used to make an index on the overall measure of hope. The Cronbach's Alpha for this scale is 0.9106. The second dependent variable is life satisfaction. The results are on a 10-point Likert scale ranging from (1) 'Very unsatisfied' to (10) 'Very satisfied' and is as follows: "Everything put together, how satisfied are you as a whole with your life?". Finally, the third dependent variable is expected happiness in 5 years. The results are on a 10-point Likert scale ranging from (1) 'Very unsatisfied' to (10) 'Very satisfied' and is stated as follows: "How happy do you think you will be in 5 years?". In Table 11 below, the results are shown. Models 1, 2, and 3 show the results of the variables for hope, life satisfaction, and happiness, respectively.

Table 11. OLS regressions with dependent variables similar to optimistic expectations.

Variables	Model 1			Model 2			Model 3		
	Path C Index Hope	Path A Index Prosocial	Path B and C' Index Hope	Path C Life satisfaction	Path A Index Prosocial	Path B and C' Life satisfaction	Path C Happiness	Path A Index Prosocial	Path B and C' Happiness
Index Inclusion	0.255*** (0.0480)	0.241*** (0.0400)	0.132*** (0.0445)	0.387*** (0.0593)	0.241*** (0.0400)	0.322*** (0.0597)	0.327*** (0.0624)	0.241*** (0.0400)	0.240*** (0.0622)
Index Prosocial			0.512*** (0.0398)			0.269*** (0.0534)			0.363*** (0.0556)
Constant	3.483*** (0.358)	3.031*** (0.299)	1.931*** (0.346)	5.081*** (0.442)	3.031*** (0.299)	4.267*** (0.464)	6.687*** (0.466)	3.031*** (0.299)	5.586*** (0.484)
Observations	756	756	756	756	756	756	756	756	756
R-squared	0.076	0.104	0.244	0.117	0.104	0.146	0.118	0.104	0.166

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;

Note 1: The models correspond to the paths depicted in Figure 1;

Note 2: The model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

All the results in Table 11 show that there are also only positive associations of the indices of social inclusion and prosocial behaviour on the three closely related dependent variables: Index of hope, life satisfaction, and happiness in five years. Firstly, the results for Model 1 are discussed. The coefficient of social inclusion on hope is 0.255 and significant at the 5% level, which shows that a one-point increase in social inclusion increases with hope with a positive effect of 0.255 points. The R-squared of Path C shows that social inclusion only explains 7.6% of the variation in overall hope. Moreover, the indirect effect of prosocial behaviour on hope is 0.090 higher than in Tables 3 and 4, which is a remarkable increase. In addition, 24.4% of the variation in hope can be explained by the third regression in Model 1.

Further, the results of the second model show that the coefficient of social inclusion on life satisfaction is 0.387 and significant at the 5% level. This finding indicates that an increase of one-point of social inclusion relates to an increase of 0.387 points of life satisfaction, which is slightly lower than the effects in Tables 3 and 4. The third regression in Model 2 shows that the effect of social inclusion is quite similar, as found earlier with expectations. However, prosocial behaviour contributes to a more significant indirect effect than in Tables 3 and 4. The indirect effect of prosocial behaviour increased by 0.032 points.

Finally, the third model between social inclusion and happiness in five years shows a positive association of 0.327, significant at the 5% level. This number is a bit smaller than has been found in Tables 3 and 4. Further, the effect of prosocial behaviour has increased. Prosocial behaviour has increased by 0.050 as compared to the earlier regression with expectations.

In short, all three hypotheses are supported by different dependent variables that are closely related to the original dependent variable. In addition, the role of prosocial behaviour on each relation has been quite substantial compared to Tables 3 and 4. A Sobel test has been conducted to see whether the mediating effect of prosocial behaviour is still evident in the results. The results of the Sobel test are described in Table 12.

Table 12. Sobel test with other dependent variables.

Variables	Model 1			Model 2			Model 3		
	Direct Effect Hope	Indirect Effect Hope	Total Effect Hope	Direct Effect Life satisfaction	Indirect Effect Life satisfaction	Total Effect Life satisfaction	Direct Effect Happiness	Indirect Effect Happiness	Total Effect Happiness
Index Inclusion	0.132*** (0.0445)		0.255*** (0.0480)	0.322*** (0.0597)		0.387*** (0.0593)	0.240*** (0.0622)		0.327*** (0.0624)
Index Prosocial	0.512*** (0.0398)	0.123*** (0.0223)		0.269*** (0.0534)	0.065*** (0.0163)		0.363*** (0.0556)	0.087*** (0.0191)	
Observations	756	756	756	756	756	756	756	756	756

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

The results in Table 12 indicate that all dependent variables are significantly mediated by prosocial behaviour. Firstly, the total effect of social inclusion on hope is 0.255, that consists of a direct effect of 0.132 and an indirect effect through prosocial behaviour of 0.123. The Sobel statistic is 5.396, with a p-value of 0.000. Secondly, the total effect of social inclusion on life satisfaction is 0.387, that consists of a direct effect of 0.322 and an indirect effect through prosocial behaviour of 0.065. The Sobel statistic is 3.757, with a p-value of 0.000. Finally, the total effect of social inclusion on happiness in five years is 0.327, that consists of a direct effect of 0.240 and an indirect effect of 0.087. The Sobel statistic is 4.426, with a p-value of 0.000. These findings indicate that prosocial behaviour partially mediates all three relations. Besides, the first mediation of prosocial behaviour on the association between social inclusion and hope is more sizeable than the mediations with the other dependent variables.

### 4.3.3 Income, age groups, ethnicity, and education

Every regression from Tables 3 and 4 has been replicated to examine the effects of social inclusion and prosocial behaviour on optimistic expectations. Besides, every group has been analysed separately in these regressions to explore the differences across groups.

#### 4.3.3.1 Income

The variable of net income per household per month has been provided with a pre-determined set of income groups in the dataset, as shown in Table 13. Firstly, the lowest income group has the strongest positive association of social inclusion and overall expectations, significant at the 5% level. This implies that a one-point increase of social inclusion is positively related to an increase of 0.518 in overall expectations, which is very high. However, social inclusion and prosocial behaviour are not significant at the 5% level in the third regression. The second-lowest income group has shown that all regressions are equal to earlier findings. However, the effect of social

inclusion on prosocial behaviour has been found insignificant. Therefore, no conclusion can be made on this relation. Third, the middle-income group shows an insignificant finding in the third regression after adding prosocial behaviour. Thus, no conclusion can be made upon that relation. Further, the same has been found for the second-largest income group. Finally, the largest income group has been found equal in sign, magnitude, and significance as the findings in Table 3 and 4. In short, only the largest income group can confirm all the hypotheses.

Table 13. OLS regressions per income level.

Variables	Lower than 900			900 to 1800			1800 to 3200			3200 to 5000			More than 5000		
	Path C Expectations	Path A Prosocial	Path B and C Expectations	Path C Expectations	Path A Prosocial	Path B and C Expectations	Path C Expectations	Path A Prosocial	Path B and C Expectations	Path C Expectations	Path A Prosocial	Path B and C Expectations	Path C Expectations	Path A Prosocial	Path B and C Expectations
Index Inclusion	0.518*** (0.155)	0.456** (0.174)	0.363* (0.180)	0.436*** (0.106)	0.170 (0.109)	0.398*** (0.105)	0.437*** (0.0700)	0.213*** (0.0691)	0.418*** (0.0712)	0.383*** (0.0735)	0.244*** (0.0695)	0.372*** (0.0755)	0.381** (0.146)	0.266** (0.120)	0.308** (0.147)
Index Prosocial			0.340 (0.221)			0.226*** (0.0862)			0.0891 (0.0638)			0.0427 (0.0693)			0.274** (0.131)
Constant	1.254 (1.749)	4.932** (1.959)	-0.425 (1.996)	2.773*** (0.837)	4.200*** (0.859)	1.824** (0.894)	3.475*** (0.487)	2.676*** (0.480)	3.236*** (0.515)	3.870*** (0.490)	3.419*** (0.463)	3.724*** (0.545)	5.568*** (0.969)	2.990*** (0.792)	4.749*** (1.027)
Observations	25	25	25	132	132	132	261	261	261	244	244	244	94	94	94
R-squared	0.658	0.508	0.708	0.194	0.097	0.237	0.198	0.159	0.204	0.228	0.132	0.230	0.316	0.127	0.350

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

#### 4.3.3.2 Age groups

Before analysing the effects across age, three different age groups have been constructed to balance the dataset. As shown in Table 14, the first group is 15 to 34 years old, consisting of young adults and individuals that started their early careers. The second group is 35 to 64 years old, consisting of late adults with children and at the end of their careers. The final group consists of retired individuals of the age of 65 or older. The effect of social inclusion on overall expectations is almost equal to the findings in Tables 3 and 4. The youngest and oldest group have insignificant findings on prosocial behaviour at the 5% level. Therefore, no conclusion can be made on the relations to social inclusion and overall expectations. Next, the middle-aged group indicated similar findings to Tables 3 and 4. Further, the effects of prosocial behaviour are more extensive than found earlier, which means that prosocial behaviour is more prevalent among the middle-aged cohort. To conclude, only the middle-aged group can confirm all the earlier mentioned hypotheses.

Table 14. OLS regressions per age group.

Variables	15 - 34 years old			35 - 64 years old			65 years and older		
	Path C Expectations	Path A Prosocial	Path B and C Expectations	Path C Expectations	Path A Prosocial	Path B and C Expectations	Path C Expectations	Path A Prosocial	Path B and C Expectations
Index Inclusion	0.419*** (0.102)	0.393*** (0.110)	0.365*** (0.107)	0.373*** (0.0617)	0.295*** (0.0552)	0.321*** (0.0635)	0.402*** (0.0698)	0.0976 (0.0729)	0.391*** (0.0697)
Index Prosocial			0.138 (0.0891)			0.175*** (0.0599)			0.110* (0.0574)
Constant	8.339** (4.009)	1.261 (4.304)	8.166** (3.986)	4.159*** (0.635)	2.689*** (0.569)	3.688*** (0.649)	3.197* (1.708)	2.177 (1.785)	2.957* (1.704)
Observations	119	119	119	351	351	351	286	286	286
R-squared	0.246	0.223	0.263	0.177	0.127	0.198	0.169	0.028	0.180

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

#### 4.3.3.3 Ethnicity

The dataset provided a set of three ethnic groups, as discussed earlier and are shown in Table 15. The largest group, Autochthonous, shows similar findings as Tables 3 and 4, significant at the 5% level. Next, the second group of Western Immigrants shows a negative coefficient of prosocial behaviour in the regression of social

inclusion on overall expectations. However, the coefficient is not significant and, therefore, no conclusions can be made on that finding. Moreover, the third group of Non-Western Immigrants show a more significant effect of prosocial behaviour in Path A and the third regression, which implies that social inclusion contributes to a larger effect of prosocial behaviour. Further, the effect of social inclusion is not significant at the 5% level. However, the effect is significant at the 10% level. To summarize, if the findings are significant at the 10% level, both the Western and Non-Western Immigrants can confirm all hypotheses. Also, Non-Western Immigrants show higher levels of prosocial behaviour.

Table 15. OLS regression per ethnic group.

Variables	Autochthonous			Western Immigrant			Non-Western Immigrant		
	Path C Expectations	Path A Prosocial	Path B and C' Expectations	Path C Expectations	Path A Prosocial	Path B and C' Expectations	Path C Expectations	Path A Prosocial	Path B and C' Expectations
Index Inclusion	0.424*** (0.0454)	0.230*** (0.0459)	0.391*** (0.0459)	0.329** (0.136)	0.153 (0.111)	0.354** (0.138)	0.495*** (0.166)	0.429*** (0.124)	0.314* (0.180)
Index Prosocial			0.146*** (0.0393)			-0.167 (0.153)			0.420** (0.194)
Constant	3.449*** (0.331)	3.203*** (0.335)	2.981*** (0.351)	4.151*** (1.030)	2.095** (0.840)	4.500*** (1.078)	2.674* (1.559)	3.795*** (1.165)	1.079 (1.668)
Observations	630	630	630	73	73	73	53	53	53
R-squared	0.201	0.097	0.218	0.285	0.229	0.298	0.270	0.282	0.342

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

#### 4.3.3.4 Education

As shown in Table 16, four different levels of education are used in the regression and were provided in the dataset. The group with the lowest education has shown that social inclusion plays a larger and significant role in overall expectations, compared to Tables 3 and 4. However, prosocial behaviour is not significant at the 5% level in the third regression. Next, the middle and higher levels of education have shown to have similar and significant effects on overall expectations. The final group shows no significant results in all three regressions at the 5% level. In short, only the middle and higher levels of education can be used to confirm all hypotheses.

Table 16. OLS regression per education level.

Variables	Lower Education			Middle Education			Higher Education			Other Education		
	Path C Expectations	Path A Prosocial	Path B and C' Expectations	Path C Expectations	Path A Prosocial	Path B and C' Expectations	Path C Expectations	Path A Prosocial	Path B and C' Expectations	Path C Expectations	Path A Prosocial	Path B and C' Expectations
Index Inclusion	0.526*** (0.0886)	0.253*** (0.0913)	0.498*** (0.0903)	0.421*** (0.0744)	0.280*** (0.0688)	0.383*** (0.0763)	0.337*** (0.0611)	0.195*** (0.0612)	0.310*** (0.0617)	0.418* (0.235)	0.257 (0.276)	0.390 (0.247)
Index Prosocial			0.112 (0.0748)			0.135** (0.0677)			0.140** (0.0582)			0.108 (0.218)
Constant	2.202*** (0.738)	2.762*** (0.761)	1.892** (0.764)	4.023*** (0.513)	3.060*** (0.474)	3.611*** (0.551)	3.670*** (0.477)	2.955*** (0.478)	3.257*** (0.504)	4.066** (1.700)	5.692** (1.994)	3.449 (2.140)
Observations	175	175	175	260	260	260	297	297	297	24	24	24
R-squared	0.219	0.089	0.229	0.252	0.117	0.263	0.179	0.124	0.195	0.633	0.194	0.639

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, and \* p<0.1;  
Note: Each model has been controlled for by Age, Age (squared), Gender, Income, Education, and Ethnicity.

#### 4.3.4 Summary additional analyses

All different groups and levels have been explored to gain a better understanding. It has been found that all regressions are almost equal to the findings in Tables 3 and 4. Firstly, new index figures have been calculated to increase internal validity, which has shown that excluding discrimination and intimidation increased the coefficient than the original numbers. Moreover, the Sobel test has shown that the new indices remained significant, although contrasting effects to each other have been shown. Next, the use of a different independent

variable as a proxy for social inclusion gave the same results as found earlier in Table 3. Further, the dependent variable has been adjusted by using closely related topics, which gave the same positive associations with the earlier used independent and mediator variables, and a robust mediating effect of prosocial behaviour.

Moreover, an in-depth analysis of different groups within the existing sample did not provide alternative results to what has been hypothesised. Only a few subgroups have shown differences across each other that were surprising, although small. Nevertheless, the findings in the additional analyses showed that the results over the whole population in this dataset are equal to the main findings. Hence, the additional analyses contributed to the robustness of the earlier findings.

## 5. Discussion

### 5.1 Discussion of analyses

This paper has been exploring whether the overall feeling of social inclusion is positively associated with optimistic expectations because it is related to an increase in prosocial behaviour. The starting point of the analysis was that an increase in social inclusion goes together with optimistic expectations about the future. Next, a positive association was hypothesized between social inclusion and prosocial behaviour. Further, it was expected that prosocial behaviour related positively to optimistic expectations. In the first part of the Results (Section 4.1), it is shown that all the hypotheses have been confirmed. Firstly, the results have shown that social inclusion is positively related to optimistic expectations. Next, social inclusion goes together positively with prosocial behaviour. Further, prosocial behaviour is positively associated with optimistic expectations. Finally, it has been found that prosocial behaviour partially mediates the relationship between social inclusion and prosocial behaviour. In short, this research has found that prosocial behaviour has a significant, although small, indirect effect on the relationship between social inclusion and optimistic expectations.

To investigate the robustness of the analyses, a closer look at the effects has been taken by focussing on altering the methodology and looking for effects across different groups within the sample, see Results (Section 4.3). Changes in methodology have been done by looking at new proxies for social inclusion and similar concepts of optimistic expectations. First of all, using an index made up of different items of social inclusion has made internal validity more acceptable for research. The other index number of social inclusion has shown to have a slightly lower effect on prosocial behaviour and expectations than found earlier in Table 3 and 4. Also, the index with the items of discrimination and intimidation have indicated a negative coefficient of prosocial behaviour, implying that perceived unfairness lowers prosocial behaviours.

Moreover, the questions were scored on a reverse scale, unlike the other four questions, which could have been troubling when answering the questions one after another (Sonderen, van et al., 2013). Further, the respondents were asked to assign a score for overall inclusion in the Netherlands, which may have not adequately represented one's situation. To summarise, after dividing the scales into two separate indices and increasing the validity of both, it has been shown that the validated scale from Celik et al. (2013) cannot be entirely relied upon in this specific research. The questions might have been confusing or too general to reflect the real social inclusion of the respondents. In short, the new indices have given new insights, and only one index could confirm the hypotheses.

The subsequent analysis has centred again around another proxy for social inclusion in the methodology. A single-item question about whether an individual could participate in society was used to conduct further analysis. However, participation in society as a proxy for social inclusion has given approximately the same results as earlier. Though, the positive association with overall expectations has diminished slightly. The use of a single variable is less robust than an index composed of validated scales (Chen et al., 2012). However, the use of this variable had no further implications for the hypotheses, and the research question has remained answered.

The third additional analysis has used substitutes that were analogous concepts of optimistic expectations. Hope is a distinct but closely related concept of optimism in terms of outcomes (Bruininks & Malle, 2005). Therefore, an index of hope has been constructed from Snyder's Adult Hope Scale (1991). Further, life

satisfaction has shown to be in line with optimism and outcomes in the future in terms of the well-being of the individual (Graham & Pinto, 2019). Moreover, happiness is found to be the result of optimistic expectations because of increases in well-being (Baumsteiger, 2017). All three models showed strong and significant, positive associations of social inclusion and prosocial behaviour on each different dependent variable, which has been expected. The differences in coefficient between optimistic expectations and the other dependent variables can be explained by the time component in interpersonal behaviour and well-being. Prosocial behaviour promotes happiness and well-being in the short run for the individual but may have a diminishing effect over time (Lane, 2019). Another similar explanation might be of a defensive pessimist or a strategic optimist. Defensive pessimists are individuals that purposefully coordinate pessimistic expectations to overcome mental barriers that might have stopped them during uncertain actions along the way (Norem & Chang, 2002). On the other hand, strategic optimists are individuals that set high expectations and actively try to avoid thinking about potential problems in the future (Norem & Chang, 2002). A study by Norem and Chang (2002) has shown that both kinds of individuals have increased interpersonal relations, have been more productive in personal and academic goals, which resulted in an increase of their self-esteem and satisfaction over time. For social inclusion, a possible explanation might be that an individual has felt low control on the social inclusion of himself in a national perspective, which evokes pessimistic expectations of the future (Tong, 2015). Similar concepts as happiness and satisfaction have shown to be positively associated with the present, and expectations tend to be more negative in the future. In other words, the hypotheses have been confirmed with the alternative dependent variables, and it has been shown that prosocial behaviour mediates each relationship. The mediating effect is the strongest for the model with the index of hope.

Analysing the effect for different income groups has shown that the highest income group with a monthly income over €5000 has the most positive association for both social inclusion and prosocial behaviour. These findings indicated that individuals with an income above €5000 have the strongest positive association with expectations in the future, compared to the other income groups. All other coefficients were equal in sign, however not always significant. Only the highest income group can confirm the hypotheses.

Analysing the effect for age groups has shown that the middle-aged group, between 35 and 63 years old, have significant associations of social inclusion on expectations of all age groups. Further, individuals in this age group show a higher positive association of prosocial behaviour on expectations. Therefore, only this age group can be used to answer all the hypotheses.

In analysing the effect for the different ethnic groups, it has been determined that only Autochthonous and Non-Western Immigrants have shown significant positive associations in social inclusion and prosocial behaviour on expectations. Further, Western immigrants showed an insignificant negative coefficient for prosocial behaviour. Moreover, Non-Western immigrants have shown that social inclusion has a substantial positive association towards prosocial behaviour for this ethnic group.

In analysing the effects of different education levels, it has been shown that the middle and higher education level have the strongest positive associations. Besides, both groups can confirm the hypotheses.

In conclusion, this research has an overall contribution towards the understanding of social inclusion on optimistic expectations. Previous research has discussed social inclusion and expectations as separate concepts; however, not much was known about the relation of social inclusion and optimistic expectations. Also, the expected association has been positive, and a partial mediating effect has been found of prosocial behaviour,

although small. Therefore, not only prosocial behaviour has been responsible for the effect of expectations, which makes it possible for future research to explore different concepts and potential mediating variables. Moreover, the findings in this research will contribute to the assessment of the well-being of individuals and society as policymakers can use the implications of social inclusion in this research and its effects on expectations through prosocial behaviour to influence the course of society positively. Further, previous findings did not use the combination of these three variables to investigate the underlying relation. It can be concluded that the findings in this research have shown that social inclusion has a positive association on optimistic expectations; however, the effects on well-being over time have to be considered as well. In this regard, the use of index numbers is unique among these variables and have uncovered new insights on how to measure and assess social inclusion, prosocial behaviour, and optimistic expectations.

## **5.2 Limitations**

The first limitation of this research is that the index numbers of social inclusion, prosocial behaviour, and expectations have been used for every regression. As discussed earlier, the index of social inclusion might have contained too general questions about the Netherlands instead of personal questions, which have not reflected the respondent's real feeling of social inclusion. Next, the index of prosocial behaviour has consisted of self-reported scores by individuals, which have been difficult to interpret as prosocial behaviour is different for every person. Hence, prosocial behaviour might have been too subjective or limited by the set of questions to be used as a mediating variable. Finally, the index of expectations consisted of different questions which have been questionable whether the concept of expectations can be derived from the presented range of questions on general future outcomes. Altogether, it is questionable whether all underlying concepts have been determined by creating indices. The results might have been different if the variables had been categorized.

The presented dataset did not consist of panel data, which implies that this research has only the potential to find associations rather than causal relationships between the variables. Besides, the relationship that has been measured with this dataset will not provide conclusions on the relationship between social inclusion and expectations at a later stage. Moreover, nothing can be said about the direction of the relations, because this dataset contains cross-sectional data. Hence, it could have been that there is reverse causality among the variables of interest. For example, individuals with more optimistic expectations could have been more positively engaged in social connections that could increase their social inclusion.

Further, the results for different groups showed that the same associations hold that answered the research earlier. However, the largest age group has been older than 65, that might have influenced the results. Moreover, most of the respondents have been native Dutch, which hinders the diversity in this research. Also, a particular discrepancy can be found between emotions and the evaluation of those emotions. For example, a participant with a low income might have been emotionally optimistic during the data collection, but his overall satisfaction with life might be shallow. Better analyses can be conducted if the sizes of the groups are more equally distributed.

Finally, in order to increase the predictive power of these analyses, more control variables could have been added. For example, a control variable for health or chronic diseases can be added to address an individual's dependency on others and their expectations of the future. Further, the number of children or employment could have been controlled to determine expectations.

### **5.3 Future research**

The search for more insights and meaningful relationships between social inclusion and optimistic expectations can be extended by focussing on the mechanism that explains social inclusion and expectations for the individual. This study has shown that an increase in social inclusion is positively related to expectations. However, both social inclusion as expectations might have been too general as many variables in this dataset have been derived from subjective experiences that are self-reported. Instead of focusing on general or overarching concepts, such as the overall feeling of social inclusion and expectation, future research should dive into what drives specific individuals when feeling included in groups or society.

Next, prosocial behaviour has a strong influence on similar concepts to expectations but did not show a sizeable mediating effect. Thus, future research should focus on what components of prosocial behaviour indicate the differences concerning expectation and similar concepts to explore what other constructs could be mediating the relationship between social inclusion and optimistic expectations.

Lastly, next to testing with cross-sectional data, an experiment can be conducted to derive causal relationships and investigate the potential for reverse causality.

## 6. Conclusion

This research has been exploring whether social inclusion is positively related to optimistic expectations and whether this relation is mediated by prosocial behaviour. The hypotheses stated that social inclusion is positively related to optimistic expectations, social inclusion goes together with more prosocial behaviour, and prosocial behaviour related positively with optimistic expectations. The hypotheses have been tested by using the Hope Barometer 2019. The results have shown positive associations between social inclusion and optimistic expectations, social inclusion and prosocial behaviour, and prosocial behaviour and optimistic expectations. Further, enough evidence has been found to conclude that an increase in social inclusion goes together with an increase in prosocial behaviour that, in turn, is positively associated with an increase in expectations. In short, the relationships between the variables of interest were significant and positive, and prosocial behaviour has a partial mediating effect on the relationship between social inclusion and optimistic expectations.

Next, no disparate evidence has been found across different income, age, ethnic, and education groups to contradict the hypotheses. While that may be true, the highest income and education groups showed the strongest positive association in the relation between social inclusion and expectations. Moreover, the results show that non-Western immigrants have the strongest positive association between social inclusion and expectations. Also, similar concepts like hope, life satisfaction, and happiness have shown evidence in support of the hypotheses, and even a robust mediating effect of prosocial behaviour has been detected for the relation of social inclusion and hope.

To conclude, this research finds support for its hypotheses and the research question. Therefore, the research has shown that social inclusion goes together positively with optimistic expectations because it is related to an increase in prosocial behaviour.

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## 8. Appendix

### Appendix A

Appendix A consists of the questions that have been stated in the Hopebarometer 2019, which have been used in this research.

#### **v9\_1 – v9\_8**

Wat zijn uw verwachtingen voor de komende twaalf maanden: verbetert het, verslechtert het of blijft het hetzelfde wanneer u denkt aan...

**v9\_1** ...uw leven in het algemeen?

**v9\_2** ...de maatschappij als geheel?

**v9\_3** ...de financiële situatie van uw huishouden?

**v9\_4** ...de economische situatie in Nederland?

**v9\_5** ...de zorg?

**v9\_6** ...onderwijs?

**v9\_7** ...veiligheid?

**v9\_8** ...het klimaat?

1. Verslechtert
  2. Verslechtert een beetje
  3. Blijft hetzelfde
  4. Verbetert een beetje
  5. Verbetert
  6. *Weet ik niet*
- 

Figure 3. Questions about expectations in twelve months.

#### **v15\_1 – v15\_6**

In Nederland...

**v15\_1** ...word ik met respect behandeld.

**v15\_2** ...kan ik openlijk mijn mening geven zonder angst voor negatieve gevolgen.

**v15\_3** ...komt discriminatie voor.

**v15\_4** ...komt intimidatie (angst aanjagen of bedreigen) voor.

**v15\_5** ...zijn beslissingen van autoriteiten (zoals politie, justitie en overheidsinstanties) eerlijk.

**v15\_6** ...heerst een cultuur waar verschillende ideeën en perspectieven gewaardeerd worden.

1. 1 Helemaal mee oneens
  2. 2
  3. 3
  4. 4
  5. 5
  6. 6
  7. 7 Helemaal mee eens
- 

Figure 4. Questions about social inclusion

#### **v38\_1 – v38\_8**

Geef aan in hoeverre u het eens bent met de volgende uitspraken:

**v38\_1** Ik vind het belangrijk om andere mensen te helpen.

**v38\_2** Ik los conflicten op zonder iemand te kwetsen.

**v38\_3** Ik vertel de waarheid, zelfs als dat niet gemakkelijk is.

**v38\_4** Ik help mijn gemeenschap beter te maken.

**v38\_5** Ik probeer sociale problemen op te lossen.

**v38\_6** Ik heb respect voor andere mensen.

**v38\_7** Ik ben gevoelig voor de behoeften en gevoelens van anderen.

**v38\_8** Ik zet me in voor mijn gemeenschap.

1. 1 Helemaal mee oneens
  2. 2
  3. 3
  4. 4
  5. 5
  6. 6
  7. 7 Helemaal mee eens
- 

Figure 5. Questions about prosocial behaviour

**v10**

Hoe gelukkig denkt u dat u zal zijn over vijf jaar?

1. 1 Heel ongelukkig
  2. 2
  3. 3
  4. 4
  5. 5
  6. 6
  7. 7
  8. 8
  9. 9
  10. 10 Heel gelukkig
- 

Figure 6. Question about happiness in five years.

**v3**

Hoe tevreden bent u met uw leven als geheel?

1. 1 Zeer ontevreden
  2. 2
  3. 3
  4. 4
  5. 5
  6. 6
  7. 7
  8. 8
  9. 9
  10. 10 Zeer tevreden
- 

Figure 7. Question about life satisfaction.

**v6\_1 – v6\_12**

Geef aan in hoeverre u het eens bent met de volgende uitspraken:

**v6\_1** Ik kan veel manieren bedenken om uit een lastige situatie te komen.

**v6\_2** Ik streef mijn doelen na met veel energie.

*if groep = 2* **v6\_3** Ik voel me vaak moe.

*if groep = 2* **v6\_4** Er zijn veel verschillende manieren om een probleem op te lossen.

*if groep = 2* **v6\_5** Tijdens een discussie word ik snel in een hoek gedreven.

*if groep = 2* **v6\_6** Ik kan veel manieren verzinnen om in het leven te krijgen wat ik belangrijk vind.

*if groep = 2* **v6\_7** Ik maak me zorgen over mijn gezondheid.

**v6\_8** Zelfs wanneer anderen ontmoedigd raken, weet ik een manier te verzinnen om het probleem op te lossen.

*if groep = 2* **v6\_9** Mijn ervaringen uit het verleden hebben me goed voorbereid op mijn toekomst.

*if groep = 2* **v6\_10** Ik ben behoorlijk succesvol geweest in mijn leven.

*if groep = 2* **v6\_11** Ik maak me vaak zorgen.

**v6\_12** Ik bereik de doelen die ik voor mijzelf stel.

1. 1 Helemaal mee oneens
  2. 2
  3. 3
  4. 4
  5. 5
  6. 6
  7. 7 Helemaal mee eens
- 

Figure 8. Question about hope.

## Appendix B

Appendix B consists of the calculations for the normality assumptions as described in Section 3 of this research.

Table 17. VIF scores of all variables in regression.

Variable	VIF
Gender	1.05
Age	4.61
Age (squared)	4.30
Income	1.10
Lower Education	(base)
Middle Education	1.75
Higher Education	1.90
Other Education	1.14
Autochthonous	(base)
Western Immigrant	1.01
Non-Western Immigrant	1.07
Index Inclusion	1.09
Index Prosocial	1.12
Mean VIF	1.83

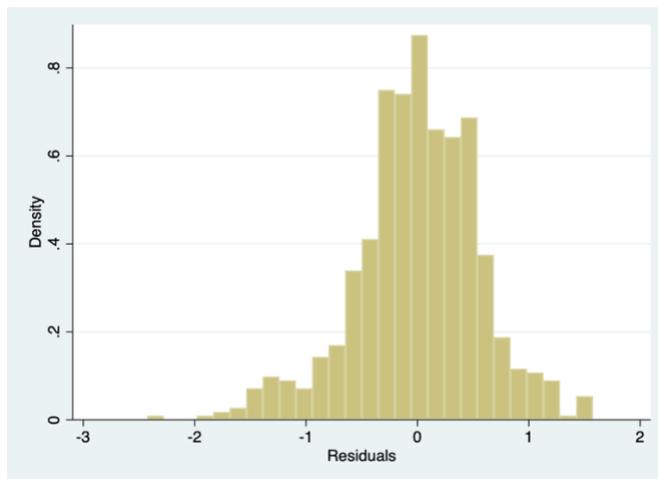


Figure 9. Residuals plot of OLS regression between social inclusion, prosocial behaviour, and expectations.

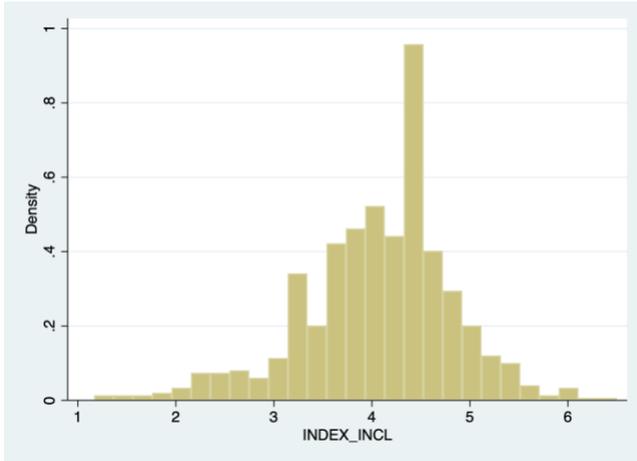


Figure 10. Distribution of Index Social Inclusion.

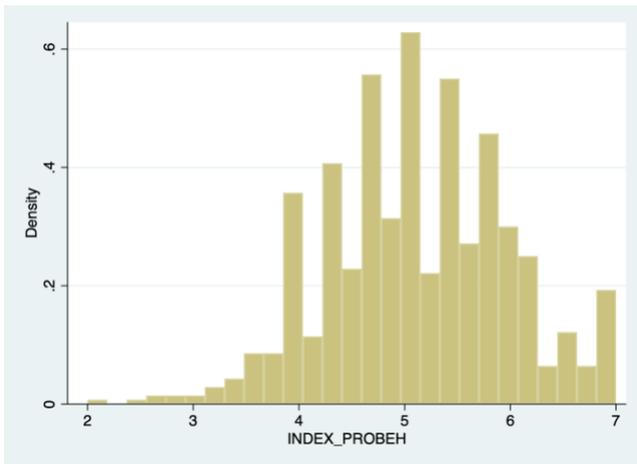


Figure 11. Distribution of Index Prosocial Behaviour.

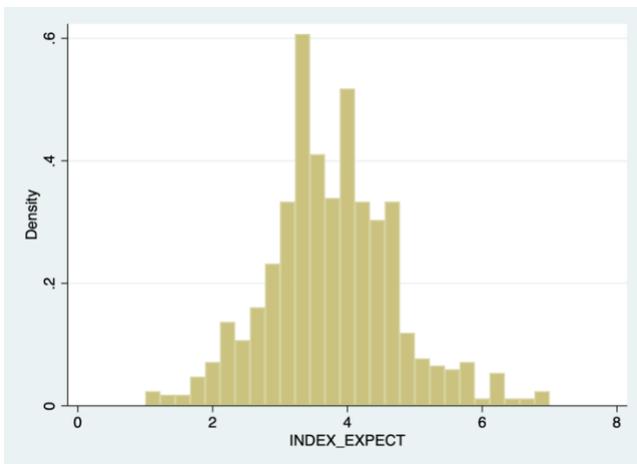


Figure 12. Distribution of Index Expectations.