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Gender differences among Dutch adolescents' future orientations and the mediating role of self-esteem and perceived gender discrimination

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Abstract

Although previous research on adolescents' future orientations exists, this cross-sectional study is one of the first to focus on gender differences on this topic, distinguishing between two aspects of future orientations concerning future expectations and future emotions. Additionally, it tests whether self-esteem and the perception of gender discrimination are possible underlying mechanisms for these differences. The data was obtained from the YOUth Got Talent project among MBO-students older than 16 years in Utrecht ($N = 1231$). The results show that girls have slightly lower future orientations than boys in term of future expectations, but not in terms of future emotions. Also, it was found that these differences are explained by girls' lower self-esteem and more frequent experiences of gender discrimination. Although differences are small, the results of this study signal some still existing gender differences in terms of future expectations in a Western society such as the Netherlands, where gender equality is considered high. Scientific and practical implications of the study are discussed.

Keywords: adolescents; gender differences; perceiving discrimination; self-esteem; future expectations; future emotions

Samenvatting

Hoewel er al eerder onderzoek is gedaan naar toekomstoriëntaties van adolescenten, is deze cross-sectionele studie een van de eerste die zich richt op genderverschillen over dit onderwerp, waarbij onderscheid wordt gemaakt tussen twee aspecten van toekomstoriëntaties, namelijk toekomstverwachtingen en toekomstige emoties. Bovendien wordt getest of zelfvertrouwen en de perceptie van genderdiscriminatie mogelijke onderliggende mechanismen zijn voor deze verschillen. De data zijn verkregen uit het YOUth Got Talent project onder MBO-studenten ouder dan 16 jaar in Utrecht (N = 1231). De resultaten laten zien dat meisjes iets lagere toekomstoriëntaties hebben dan jongens als het gaat om toekomstverwachtingen, maar niet als het gaat om toekomstige emoties. Ook werd gevonden dat deze verschillen worden verklaard door het lagere zelfvertrouwen van meisjes en door het vaker ervaren van genderdiscriminatie. Hoewel de verschillen klein zijn, wijzen de resultaten van deze studie op nog steeds bestaande sekseverschillen in termen van toekomstverwachtingen in een westerse samenleving als Nederland, waar gendergelijkheid als hoog wordt beschouwd. Wetenschappelijke en praktische implicaties van de studie worden besproken.

Kernwoorden: adolescenten; genderverschillen; genderdiscriminatie; zelfvertrouwen; toekomstverwachtingen; toekomst emoties

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Introduction

During adolescence, many aspects regarding an individuals' future become more relevant (Massey et al., 2008). Educational and job achievements, expectations concerning family, income and career, and many other perspectives about the future are developing during this phase. The image that is formed regarding these aspects can be defined as someone's future orientation. Future orientations thus contain the human ability to give personal meaning to anticipated events in the future and to mentally process them (Nurmi, 1991) as well as they represent an individual's image about their future (Seginer, 2003; Seginer, 2008). These orientations are consequential for adulthood as they contribute to one's future health and well-being (Kim & Kim, 2020). Additionally, the future orientation of adolescents is seen as a basis for goal setting, exploration, and planning for the future, and the making of commitments (Seginer, 2000). Negative orientations toward the future are risk factors for problematic outcomes regarding behavior and mental well-being during adolescence and later in life (Massey et al., 2008, Brumley et al., 2017). Furthermore, to create a basis for healthy adult development, positive future orientations are of great importance. Therefore, this study will focus on adolescents' future orientations. More particularly, this study assesses gender differences in future orientations in an adolescent population, as well as potential explanations for this difference.

Gender differences in future orientations

When looking at future orientations, it can be assumed that there might be differences between men and women. The way humans perceive themselves can be influenced by the images that exist about their gender. Within the last decades, differences between the genders became considerably smaller. This is in part due to the fact that women now attribute more masculine traits to themselves than in the past (Eagly & Karau, 2002). Yet, some stereotyped perceptions concerning gender still exist about the male and female gender within society (Lin & Billingham, 2014; Tang & Tang, 2001). These perceptions find their origin in the Social Role theory (Eagly, 2000), which states that sex differences originate from different social roles expected from the different sexes (Harrison & Lynch, 2005). These social roles for men and women, also known as gender roles, are thus consensual beliefs about the attributes of women and men (Eagly & Karau, 2002).

The concept of Gender role identity (Gale-Ross et al., 2009), concerns these social roles. Gender role identity is a set of behavioral and social norms that is seen as normative for the different sexes within society (Lin & Billingham, 2014). These norms are derived from characteristics and expectations that are seen as more typical for men and women. In today's

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Western cultures the male gender is generally expected to be more task-oriented, assertive, independent, determined, dominant, risk-taking, and in possession of leadership qualities (Berger & Krahe, 2013; Lin & Billingham, 2014; Tang & Tang, 2001). Females are seen as more affection-oriented such as soft, modest, reserved, vulnerable and emotional (Lin & Billingham, 2014; Tang & Tang, 2001). These gender roles become internalized during early childhood by parental and especially environmental influences and remain consistent during adolescence and adulthood (Miller et al., 2006).

Consequently, as previous research of Seginer (2003) stated future orientations are shaped by current experiences and perceptions, girls may have less favorable orientations about their future than boys. Internalizing more male oriented traits of being independent, dominant, risk-taking, or having leadership qualities, can influence the formation of higher expectations towards one's future outcomes with respect to career, income, success, or leadership. Whereas expected feminine traits such as vulnerability, modesty and reservedness may result in less favorable outcomes. This idea has been supported by a few studies which found lower expectations within female adolescents about aspects of their future than for male adolescents (Gibson & Lawrence, 2010; Greene & DeBacker, 2004; Lips, 2004; Massey et al., 2008). Lips (2004) found that young women during their academic years tend to close off possibilities for their future more than their male counterparts, indicating that they have fewer expectations. Additionally, studies have found lower career expectations among girls than for boys in the form of rewards, promotions and payment (Gibson & Lawrence, 2010).

In summary, although research is somewhat scarce and mostly focused on career expectations with regards to future orientations, the research also assumes some contribution of gender differences towards future orientations. The conclusions from such research implies that males have more positive future orientations than females. In the next paragraphs, potential mediators for these differences will be discussed.

Self-esteem as a mediator in the link between gender and future orientations

The first mediator that could explain the association between gender and future orientations is self-esteem. Self-esteem is defined as someone's conceptualization and evaluation regarding his or herself in terms of competence, worth and confidence (Abdel-Khalek, 2016; Sedikides & Gress, 2003). Gender Role Identity has a substantial role in the development of one's self-esteem (Berger & Krahe, 2013; Kim, et al., 2013), because individuals draw their self-definition and self-concept, which are elements of self-esteem, on the male and female social categories (Berger & Krahe, 2013). Women can internalize the ideas of being vulnerable and modest, in comparison to being risk-taking and dominant, which can

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in turn influence their self-esteem. Several studies have already found sex differences in self-esteem, with female adolescents having a lower level of self-esteem than male adolescents (Birndorf et al., 2005; Knox et al., 2000; Puskar et al., 2010; Quatman & Watson, 2001).

Further, an association between self-esteem and future orientations can be argued. What can be derived from the Possible Selves Theory (Markus & Nurius, 1986), is that people shape their future-oriented selves through present images of the self (Carrasco, 2020). Possible selves are personal ideas about who a person might become in the future (Rathbone et al., 2016). This indicates that a lower self-esteem can shape fewer positive ideas about the self in the future. Another theory, the principle of Self-efficacy (Bandura, 1977), assumes that one's beliefs regarding own competence and abilities influences future choices and performance. Especially during adolescence, ideas about the self, do actively construct a person's future (Lips, 2004). For example, a low level of belief regarding one's own competence and self may have negative consequences on constructing the future. Moreover, multiple studies showed that self-esteem positively correlates with future orientations (Nurmi, 1991; Steinberg, 2004; Steinberg et al., 2009). McFarlin and Blascovich (1981) demonstrate that emerging adolescents with high self-esteem remain hopeful towards future expectations even when outcomes in life are unexpected.

Previous research has thus demonstrated that gender differences in self-esteem exist. In addition, an association between self-esteem and future orientations was found before. Based on this, it can be assumed that self-esteem could indeed explain gender differences in future orientations.

Perceived gender discrimination as a mediator in the link between gender and future orientations

Another factor expected to explain the association between gender and future orientations is perceived gender discrimination. Gender discrimination is the unjustified treatment of a person based on their specific gender (Rijksoverheid, 2020). It can be argued that existing gender roles play a role in the way men and women are treated. For example, the perception that men are more dominant, assertive, or risk-taking in comparison to women being vulnerable, modest and reserved, might induce a different way of treating both genders, possibly more profitable for men.

That women experience discrimination due to their gender, was found in previous research. Some studies showed that female students experience more gender discrimination than their male counterparts in education (Barthelemy et al., 2016; Nora et al., 2002). It was found that females in general, perceive more discrimination due to their gender than males as they view themselves as belonging to a disadvantaged group compared to men (Andriessen et

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al., 2020; Schmitt et al., 2002). Feeling discriminated and treated less favorably in comparison to others could eventually lower one's perception of one's abilities and opportunities (Dickerson & Taylor, 2000). Additionally, Schmitt et al. (2002) found that women expect more negative events for their future because of their feelings of discrimination. What can thus be assumed, is that girls' feelings of being disadvantaged and treated unjustified in their earlier stages of life, may have negative consequences for their future orientation development.

Current study

In the current study, it will thus be examined if there are gender differences in adolescents' future orientations and if this association is mediated by self-esteem and perceived gender discrimination. Based on several theoretical notions and empirical findings, it is firstly expected that female adolescents have lower future orientations than male adolescents. Secondly, this is expected to be a consequence of the lower self-esteem of girls compared to that of boys, which will lead to the development of lower future orientations for girls than for boys. Thirdly, female adolescents are expected to perceive more gender discrimination than male adolescents which will be negatively associated with girls' future orientations. Self-esteem and gender discrimination are thus both expected to be a mediator in the association between gender and future orientations. The expected associations and mediation effects are visible in Figure 1.

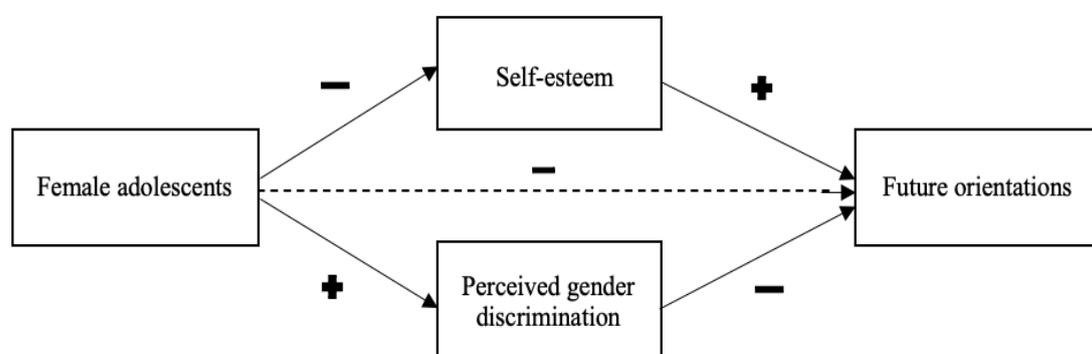


Figure 1. Research model with expected associations between variables

Method

Participants and procedure

In this project, data from the YOUth Got Talent project were used in which first-year MBO students of 3 different schools in Utrecht filled out a questionnaire. In this questionnaire, adolescents were asked about their feelings, expectations and aspirations about their future and several factors that could influence these. In total 1,231 students filled in the questionnaire

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(response rate 82%), however only 1,160 students filled out all the relevant questions for this study. Questionnaires were filled in digitally by most adolescents (96,5%) and a small percentage filled in the paper version questionnaire (3,5%). Participants gave active consent and anonymity was ensured. In 2018, ethical approval was obtained from the Ethics Assessment Committee of the faculty of Social Sciences at Utrecht University (FETC18-070).

Participants included in the current study were between 16 and 24 years old, with an average age of 17,24 years ($SD = 1.5$; 37% of the participants were 16 years). Since the research is focused on adolescents, the participants older than 24 were left out of the analyses. Of this sample, 56% were girls ($N = 651$) and 44% were boys ($N = 509$). The majority of the population was Dutch, 76.1% ($N = 884$). From the adolescents with an immigration background, 6% ($N = 69$) had a Western background and 18 % ($N = 208$) a non-Western background.

Measures

The independent variable in this research was gender. Two dependent variables were included, which together constitute future orientations: future expectations and future emotions. Self-esteem and perceived gender discrimination were included as mediators. Finally, age, family affluence and life satisfaction were included as control variables.

Independent variable

Gender. The independent variable of gender was measured by the question: “Are you a boy or a girl?” (0 = girl and 1 = boy).

Dependent variables

Future expectations. Future expectations were measured by an existing and validated future expectations scale developed by Jessor et al. (1990). This 5-point scale consists of 8 questions about the expectations someone has about his/her future. The questions were formulated as follows: “How big do you think the chance is that: you have a job that is paid well, you can buy a house, you have a job you like, you have a happy family life, you are generally in good health, you can choose where in the Netherlands you want to live, that you feel respected in the group you are a part of, that you have good friends you can count on”? The scale was distributed from 1 = very small to 5 = very huge. The reliability of this scale was high ($\alpha = .806$)

Future emotions. Future emotions were measured with 7 questions regarding one’s feelings when thinking about the future. These feelings are trust, enthusiasm, the feeling you can achieve a lot, worries, an empty feeling, doubts and loneliness, and were measured on a 5-point scale with 1 = not at all to 5 = very much. The first three feelings constituted a positive

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emotions subscale ($\alpha = .818$), and the last 4 emotions formed a negative emotions subscale ($\alpha = .778$). These subscales are validated and used by Liebenberg et al. (2015).

Mediators

Self-esteem. Self-esteem was measured by one single statement: “I have a lot of self-confidence”, on a 7-point scale (“1 = is totally not true for me, 7 = is totally true for me”). This validated single-item measurement was derived from Robins et al. (2001).

Discrimination due to sex. For the measurement of discrimination due to sex, a shortened version of the instrument conducted by Phinney et al. (1998) was used. This is a widely used instrument. The main question asked was: “How many times do people treat you unfair or badly because you are a boy or a girl?”. This was asked in the context of teachers at school, other adults outside of school and peers at school. Answers were given on a 5-point scale with a range from 1 = never to 5 = very often. A strong reliability for this scale was found in this study ($\alpha = .844$). As the vast majority of participants answered ‘never’ on all questions (i.e., 73%), this variable was dichotomized into ‘ever’ and ‘never’ experienced discrimination due to sex.

Control variables

Age. Age was asked by filling in the age in years and months, however age in years was only important for the research.

Socio-economic status (SES). For SES, the Family Affluence Scale (FAS) was used, which is a widely used and validated scale (Torsheim et al., 2016). This FAS scale indicates the absolute level of socio-economic position by measuring material family wealth through six items: owning a family car, an own bedroom, going on family holidays, having computers, the number of bathrooms, and having a dishwasher (Currie et al., 2014). The six items gave a sum score ranging from 0 to 13, distributed in the categories low affluence (0-6), medium affluence (7-9) and high affluence (10-13).

Life satisfaction. The question “How do you feel about your life?” measured the life satisfaction of the participants (Levin & Currie, 2014). A grade between 0 (worst life I can imagine) and 10 (best life I can imagine) indicated the extent to which participants are satisfied with their life.

Analysis plan

Analyses were conducted in IBM SPSS Statistics version 27. In order to assess the relationship between gender and future orientations by including the mediators and control variables, different multiple linear regressions were conducted. Several assumptions needed to be met for multiple linear regression. A Shapiro Wilks test showed that normality was not met,

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however considering the large sample size this should not be a problem. A check for outliers by visualizing boxplots for each item of the used scales, showed there were no impossible values or unreliable patterns between the outliers. Therefore, no outliers were excluded in the sample. Linearity and homoscedasticity were checked by using scatter plots, and these assumptions were met. Lastly, the multicollinearity needed to be examined by checking the VIF values, which showed no harmful values for this assumption.

To test the mediator effects of self-esteem and perceived gender discrimination, the four steps for mediation of Baron and Kenny (1986) were used. The research encompasses two mediators and three concepts of future orientations: future expectations, positive future emotions and negative future emotions. Therefore, six mediation analyses were run.

The first step was to check for significant associations between gender and future expectations, positive future emotions, and negative future emotions using linear regressions. Secondly, the direct effects between the independent variable gender and the mediators self-esteem and perceived gender discrimination were assessed. For gender and self-esteem, a linear regression was conducted, and a logistic regression was completed regarding perceived gender discrimination since this variable was dichotomous. Thirdly, associations between the mediators and the outcomes were assessed by means of a linear regression. In the final step, gender and the mediators were included in separate models with the different outcomes. In the case where the association between gender and the outcome disappeared, this indicated full mediation. When this was not the case, a Sobel test (Preacher & Leonardelli, 2001) was required to examine whether there were significant changes in the association between gender and the outcome as a result of including the mediator in the model (partial mediation).

Results

Descriptives and correlations

Descriptive statistics and the correlations between the variables are reported in Table 1. Means and standard deviations are shown for the continuous variables. For the categorical variables gender and perceived gender discrimination, percentages are shown. There were small, significant negative associations between gender and future expectations ($r = -.108$) and gender and positive future emotions ($r = -.074$), indicating that girls show less positive future expectations and emotions than boys. An association between gender and negative future emotions was not found what indicates girls do not show more negative future emotions than boys. Correlations between control variables with future expectations and positive future emotions were visible. For this reason, all control variables were included in the analyses. Age negatively correlated with future expectations ($r = -.080$). Higher life satisfaction and a higher

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family affluence were significantly related to higher levels of future expectations and positive future emotions. Finally, the mediators self-esteem ($r = -.170$) and perceived gender discrimination ($r = .119$) were significantly associated with gender. These correlations indicate that girls showed lower self-esteem and more perceived gender discrimination than boys.

Table 1.

Spearman Correlation Matrix and descriptives of all variables and control variables

	1	2	3	4	5	6	7	8	9
1. Gender a	1								
2. Self-esteem	-.170**	1							
3. Perc. discrimination b	.119**	-.106**	1						
4. Future expectations	-.108**	.389**	-.192*	1					
5. Positive future emotions	-.074*	.435**	-.147**	.639**	1				
6. Negative future emotions	.012	-.335**	.246**	-.452**	-.453**	1			
7. Age	.025	-.006	-.335**	-.080**	-.003	.092**	1		
8. Family Affluence	-.071*	.056	.001	.143**	.075*	.079**	-.091**	1	
9. Life Satisfaction	-.107*	.444**	-.190**	.443*	.459**	-.442**	-.082**	.123*	1
Mean		4.73		3.77	3.80	2.46	7.24	2.22	7.06
Standard Deviation		1.48		.534	.748	.824	1.51	.614	1.58
Maximum		1		1.38	1	1	16	1	0
Minimum		7		5	5	5	24	3	10
N (%)	56.1%		73.1%						

Note. * $p < .05$ ** $p < .01$. a Reference category: boy. b Reference category: never

Gender differences in future orientations

According to the steps of Baron and Kenny (1986), the direct effects between gender and future orientations first needed to be assessed. There was no effect to be mediated in the link between gender and positive future emotions because this association was found to not be significant when controlling for all control variables, $\beta = -.020$, $SE = .040$, $t = -.513$, $p = .608$ (Table 2). The same goes for negative future emotions, for which no correlation with gender was found in the first place, $\beta = -.040$, $SE = .044$, $t = -.915$, $p = .360$. The association between gender and future expectations was significant, however, this was a very modest effect. This indicates that girls reported slightly lower future expectations than boys, $\beta = -.053$, $SE = .028$,

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$t = -2.013, p = .04$. Consequently, it was tested whether mediation effects appeared only for the outcome of future expectations.

Table 2.

Results of linear regression for the associations between control variables and gender, and negative future emotions, positive future emotions, and future expectations

Variable	Positive future emotions				Negative future emotions				Future expectations			
	<i>B</i>	<i>SE</i>	β	<i>sig.</i>	<i>B</i>	<i>SE</i>	β	<i>sig.</i>	<i>B</i>	<i>SE</i>	β	<i>sig.</i>
Age	.01	.01	.03	.30	.04	.01	.07	.01	-.02	.01	-.05	.05
Family affluence	.02	.03	.02	.50	-.02	.04	-.01	.60	.08	.02	.10	<.001
Life satisfaction	.22	.01	.47	<.001	-.24	.01	-.46	<.001	.15	.01	.44	<.001
Gender a	-.02	.04	-.01	.61	-.04	.04	-.02	.36	-.05	.03	-.05	.04

Note. a Reference category: boy

Self-esteem as mediator in the relationship between gender and future expectations

The results of the mediation analysis for self-esteem are visible in Table 3. The second step of Baron and Kenny (1986) showed a negative significant effect between gender and self-esteem, $\beta = -.119, t = -4.590, p < .001$, indicating that girls reported lower self-esteem than boys. Also, a significant positive association between self-esteem and future expectations was found, $\beta = .227, t = 7.833, p < .001$, which can be interpreted as a higher self-esteem leads to higher future expectations. After controlling for self-esteem, gender was not associated with future expectations any longer, which indicates a complete mediation effect of self-esteem, $\beta = -.025, t = .975, p = .330$.

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Table 3.

Results of multiple linear regression of gender on future expectations with self-esteem as mediator

Variable	Model 1				Model 2			
	Including IV (gender)				Including mediator			
	<i>B</i>	<i>SE</i>	β	<i>sig.</i>	<i>B</i>	<i>SE</i>	β	<i>sig.</i>
Age	-.02	.01	-.05	.05	-.02	.01	-.06	.02
Family affluence	.08	.02	.10	<.001	.08	-.02	.10	<.001
Life satisfaction	.15	.01	.40	<.001	.12	.01	.34	<.001
Gender ^a	-.06	.03	-.05	.04	-.03	.03	-.03	.33
Self-esteem					.08	.01	.23	<.001

Note. Dependent Variable: Future expectations. IV = Independent variable. a Reference category: boy

Perceived gender discrimination as a mediator in the relationship between gender and future expectations

To examine whether gender discrimination explains the relationship between gender and future expectations, most of the previous analysis steps were undertaken again. For the direct link between gender and the dichotomous variable perceived gender discrimination, a logistic regression was conducted indicating that girls perceive more gender discrimination than boys, $b = .553$, $SE = .138$, $OR = 1.739$, $p < .001$, 95% CI [1.33, 2.78]. In the next step, a significant negative association between perceived gender discrimination and future expectations was found, $\beta = -.124$, $t = -4.738$, $p < .001$ (Table 4). This indicates that the perception of gender discrimination is associated with lower levels of future expectations. As Table 4 shows, the effect of gender on future expectations was no longer significant after controlling for perceived gender discrimination, suggesting a complete mediation for this mediator as well, $\beta = -.040$, $t = -1.553$, $p = .12$.

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Table 4.

Results of multiple linear regression of gender on future expectations with perceived gender discrimination as mediator

Variable	Model 1				Model 2			
	Including IV (gender)				Including mediator			
	<i>B</i>	<i>SE</i>	β	<i>sig.</i>	<i>B</i>	<i>SE</i>	β	<i>sig.</i>
Age	-.02	.01	-.05	.05	-.02	.01	-.05	.04
Family affluence	.08	.02	.10	<.001	.09	.02	.10	<.001
Life satisfaction	.15	.01	.40	<.001	.14	.01	.42	<.001
Gender ^a	-.06	.03	-.05	.04	-.04	.03	-.04	.12
Perceived gender disc. ^b					-.14	.03	-.12	<.001

Note. Dependent Variable: Future expectations. IV = Independent variable. ^a Reference category: boy. ^b Reference category: never

Discussion

The aim of this study was to examine differences between adolescent boys and girls in their future orientations, and to identify potential explanations - that is self-esteem and gender discrimination - for these gender differences. The study found that gender is only weakly associated with future expectations, whereas there was no gender specific role in the formation of positive or negative emotions about the future. That is, girls reported slightly lower on future expectations than boys, however there were no observed gender differences concerning their future emotions. Moreover, results showed the found association was explained by self-esteem and gender discrimination, as girls showed lower self-esteem and more perceived gender discrimination than boys, and lower self-esteem and higher levels of perceiving gender discrimination were associated with lower future expectations. Additionally, associations between self-esteem and perceived gender discrimination with both positive and negative future emotions were also found.

Partly in line with the first hypothesis of this research, an association between gender and future orientations was indeed found, yet only for future expectations and not for either positive or negative future emotions. This implies that girls have somewhat lower future expectations than boys. These findings are consistent with previous research suggesting that girls close off more possibilities for their future than boys (Gibson & Lawrence, 2010), and have lower (career specific) expectations regarding their future than boys (Lips, 2004). This result may further support the idea of a difference in socialization of boys and girls in the

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Netherlands. Thereby resulting in girls having lower prospects towards their future than boys because of their perceived social roles in society. In accordance with the suggestion of Miller et al., (2006) whereby individuals are shown to internalize social gender roles that have been established since childhood and during adolescence, it is arguable that girls develop lower expectations than boys through socialization.

However, the finding that for positive and negative future emotions no association was found with gender, indicates that there are no differences between boys and girls regarding their future emotions. This result suggests that future expectations and future emotions are different concepts. The different expectations and norms shaped by society for boys and girls could influence a girl's images about her own future expectations, for instance in terms of career or income (Gibson & Lawrence, 2010). However, this doesn't necessarily mean that girls do not have positive feelings about their future. As stated in the research of Kaiser et al. (2004), a person's coping strategy differing from more pessimistic to optimistic plays a key role in that individual's emotional response to events. Therefore, the way people cope with events in life, results in different emotional outcomes (Kaiser et al., 2004), which may not be related to gender. Predictors of future emotions therefore remain to be investigated.

Another finding was that gender differences in future expectations were mediated by the level of self-esteem, which is partly in line with the second hypothesis. This indicates that girls have a lower self-esteem than boys resulting in lower future expectations for girls. This finding is consistent with previous studies which found that female adolescents have in general a lower level of self-esteem than male adolescents (Birndorf et al., 2005; Knox et al., 2000; Puskar et al., 2010) Additionally, the Possible Selves theory (Carrasco, 2020) further supports this finding by theorizing that the future-oriented image of an individual is shaped by the present image of the self. When this current image of the self is less positive, one might have lower expectations towards one's own future.

Furthermore, perceived gender discrimination did also fully mediate the association between gender and future expectations which is partly in line with the third hypothesis. These results are validated by the knowledge of previous research which found that female students experience more gender discrimination than male students (Andriessen et al., 2020; Barthelemy et al., 2016; Nora et al., 2002; Schmitt et al., 2002) and by the assumption of Dickerson and Tylor (2000) that feelings of discrimination can lower future perceptions of own abilities and opportunities.

This study thus showed that self-esteem and perceived gender discrimination can explain somewhat lower future expectations for girls than for boys, but these mediators

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explained smaller parts of the association after controlling for life satisfaction. The amount of life satisfaction correlated with gender and relatively strong with the future orientations. This suggests closer examination of girls' current life satisfaction as another possible explanation for lower future orientations additional to self-esteem and perceived gender discrimination is relevant.

Strengths and limitations

As far as known, this study is the first that focuses on gender differences within adolescents' future orientations and uses different outcome measures for this concept. Moreover, this research is based on a large sample size and has a proportionate distribution of girls and boys. Alongside these strengths, conclusions of this study should be seen in the light of some limitations. Firstly, since this study was cross-sectional, it is not possible to speak of causal links. To examine the mechanisms behind the associations found in this study, longitudinal research is required. For instance, it can be argued that lower future expectations or less positive feelings about the future may influence the level of self-esteem or that it contributes to a higher likeliness of perceptions of discrimination.

Another limitation is the measurement of self-esteem, which is measured by only one item. It is recommended that another validated scale made up of more items should be used, to give a more comprehensive image of self-esteem. The same goes for the perception of gender discrimination, as this scale only uses one question, asked in three different contexts. Further, the sample of this study consisted only of adolescents with the same level of education, resulting in a less representative sample. However, in the HBSC report of 2017 (Stevens et al., 2018) there were no differences in secondary educational level in gender discrimination, suggesting educational level does not make a difference here. Yet it remains to be seen whether a study using students from other educational levels, such as higher vocational school or university, would generate different findings for future expectations and levels of self-esteem and gender discrimination.

Conclusion and implications

The present study gave new insights into the differences between male and female adolescents regarding their expectations of the future. Girls reported slightly lower future expectations than boys, which could be explained by a higher perceived gender discrimination and a lower level of self-esteem in girls as compared to boys. It should be highlighted that the finding of gender differences regarding one's expectations for the future, which are mediated by self-esteem and perceived gender discrimination, has not been previously found in the Netherlands.

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Although the differences found are small, these findings are still of great societal relevance, particularly because in today's Dutch society it is often thought that the inequalities and differences between the sexes are becoming minimal. The research of McWhirter and McWhirter (2008) concluding that adolescents with positive expectations of the future are more hopeful, have higher school-related self-efficacy, and are more connected to school and to their families does highlight the importance of the results of the current study.

However, since the findings demonstrate thus only slight differences between boys and girls in their future expectations, it is suggested to first identify which girls are at risk to develop these lower future expectations, and thereby see if there are certain groups where the issue is more prevalent. Identifying risk factors for girls where differences in future expectations compared to boys do appear, can be valuable to specify the approach to address this issue.

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