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PATHWAYS TO FULFILLMENT: Understanding the interplay of Trust and Just World Beliefs in predicting Future Orientations

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Disclaimer:

This thesis has been written as a study assignment under the supervision of a Utrecht University teacher. Ethical permission has been granted for this thesis project by the ethics board of the Faculty of Social and Behavioural Sciences, Utrecht University, and the thesis has been assessed by two university teachers. However, the thesis has not undergone a thorough peer-review process so conclusions and findings should be read as such.

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Abstract

Introduction: The period of adolescence is crucial for identity development, including the formation of trust towards individuals and institutions. Given contemporary concerns such as climate change, promoting positive future orientations among adolescents is challenging, yet essential for understanding their overall well-being. This study investigates relationships between two types of trust (interpersonal and institutional) and future orientations among vocational education students in The Netherlands. Moreover, this study also investigates whether just world beliefs (JWB) mediate these relationships.

Methods: The total sample of this study consists of 810 participants, who filled in a questionnaire designed in the YOUth Got Talent project. Regression analyses were conducted to explore expectations that interpersonal and institutional trust are positively associated with future orientations (H1). Mediation analyses examined the expectation that JWB could explain the relationship between adolescents' trust and future orientations (H2).

Results: Results support both hypotheses on both forms of trust. JWB partially mediates the relationship between both forms of trust and future orientations, with the mediation model with interpersonal trust explaining 24,9% of future orientation outcomes, and the mediation model with institutional trust explaining 19,2% of future orientation outcomes.

Conclusion: It is concluded that trust and just world beliefs might be interrelated in predicting future orientations. Both are essential for shaping adolescents' perspectives on the future, highlighting the importance of cultivating trust to enhance adolescents' future orientations and well-being. Practical advice includes developing interventions to enhance adolescents' social skills, promoting effective parenting strategies for trust within families, and ensuring transparent communications from institutions.

Introduction

Future orientations are an essential component of identity development in adolescence (Johnson et al., 2016; Carey et al., 2023). The period of adolescence is characterized by physical, cognitive, and social changes (Steinberg, 2020; Zimbardo et al., 2017). These changes can lead to shifts in future expectations among young people, such as questioning their beliefs and developing goals towards the future (Henkens et al., 2022). Considering young people's concerns about the future, Fakkal et al. (2023) explain that there is a decline in positive future orientations among adolescents. Additionally, Handa et al. (2023) explain that life satisfaction rapidly declines in the period of adolescence. The current study aims to examine relationships with future orientations, seeking to explain the decline in future orientations and current concerns among young individuals. These concerns include recovery from the COVID-19 pandemic (Carey et al., 2023; Fakkal et al., 2023), climate change (Jones, 2023), and global conflicts (Alotaibi, 2021). According to Seginer (2019), investigating future orientations among adolescents may be important for the development of setting goals and planning, which is considered an important developmental task in adolescence. By identifying the underlying factors that may contribute to developing future perspectives, concerns about an uncertain future can be addressed by policymakers, educators, and mental health professionals. However, limited empirical studies have investigated how future orientations evolve in the transition to adulthood. Numerous studies have been conducted about positive relationships between future orientations and health outcomes, but limited research is done on what factors correlate with positive future orientations (Johnson et al., 2016). With this study, theoretical understanding of future orientations can be expanded, incorporating interdisciplinary insights. The examination of these constructs among vocational education students, a currently understudied population,

could offer valuable contributions to understanding the pathways to positive future orientations.

Trust in others and institutions may be an important topic in the development of future orientations. Since the beginning of the study in 2012, the Netherlands has exhibited the lowest percentage of trust in political institutions, with only 25% of individuals aged 15 years or older expressing confidence in these institutions (CBS, 2023). Jaffe (2018) claims that trust is the glue of society. Steinberg (2020) explains that trust influences adolescents' decision-making processes, which therefore can predict the development of goals for the future. Adolescents who have higher levels of trust might be more motivated to engage in activities that involve planning their future. Moreover, Long (2022) stresses the importance of enhancing both interpersonal and institutional trust during uncertain periods, such as the COVID-19 pandemic.

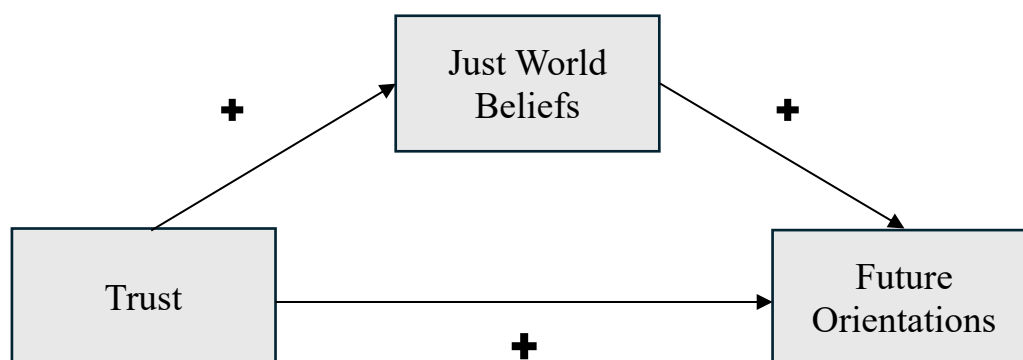
The relationship between trust and future orientations might possibly be explained by adolescents' just world beliefs (JWB). For example, Bartholomaeus & Strelan (2019) explain that people who have strong JWB tend to have more positive views of their future, which may be attributed to the concept of trust where JWB rises feelings of trust in the justice of one's fate. Zuckerman & Gerbasi (1977) describe that high levels of JWB and high levels of trust are interrelated. In addition, Stroebe et al. (2015) explain that JWB can be used as a coping mechanism, and therefore influence people's behavior towards the future. However, it is not entirely clear how JWB operates and influences adolescents (Bartholomaeus et al., 2019). Moreover, because trust and JWB might be interrelated, most research on this topic has used trust or future orientations as the dependent variable and JWB as a predictor (Fink & Wilkins, 1976; Sutton & Winnard, 2007). Considering the empirical evidence that links trust and JWB with future orientations, it is intriguing to explore if trust may also function as a

predictor of future orientations that can be explained by JWB. Hence, more research is required to fully examine and theorize this triangle of concepts.

In sum, there is a lack of research on adolescents' future orientations and how they relate to institutional and interpersonal trust explained by JWB. Therefore, the following research question was formulated: *What is the relationship between interpersonal and institutional trust and future orientations among vocational education students in the Netherlands, and is this possible relationship explained by their just world beliefs?*

Figure 1

Conceptual model



Theoretical framework

Adolescents' trust in relation with future orientations

Future orientations is defined as 'the ability to set goals and monitor progress toward a person's achievement and hope and optimism regarding one's future potential, goals, and options' (Youth Development executives of King County, n.d.). In adolescence, future perspectives are a key aspect in growing into adulthood. Greene (1986) claims that changes

in adolescents' future perspectives are due to the emergence of formal-operational reasoning, explaining that older students show more positive future perspectives compared to their younger counterparts. Additionally, Johnson et al. (2016) describe future orientations as an important part of identity development in adolescence, where young people envision multiple aspects of their future, such as education and career aspirations, health outcomes and family goals. When adolescents view these aspects positively, it indicates that they have clearer goals and a better ability to overcome obstacles to their desired path (Johnson et al., 2016).

Although little studies have examined the relationship between trust and future orientations, Beck & Giddens' Risk Society Theory may provide some evidence for a potential relationship (Troncoso, 2021). This theory implies that we are currently living in a society characterized by high uncertainty and risk, but where trust can offer a sense of stability (Ekberg, 2007). As an expression of trust, individuals cooperate in social systems, such as entering the labor market and marriage (Misztal, 1996). This suggests that individuals acknowledge the uncertainty of their personal futures; however, through placing trust in one another, institutions, and engaging with established social structures, they can alleviate feelings of uncertainty. Beck suggests that risk can be defined as a systematic way of dealing with fear of uncertainty and development of modernization (Austen, 2009). Ovcharova & Polina (2020) stress that trusting others is an important part of interpersonal resources that help adolescents deal with uncertainty in life and build their own life strategy. Thus, trust might predict future orientations by offering a sense of stability in uncertain environments and situations, giving individuals an opportunity to plan their future goals ahead.

Trust can be seen as two distinct aspects: interpersonal trust and institutional trust. Interpersonal trust is defined as 'the willingness to accept vulnerability and risk based on confident expectations that another person's future actions will produce positive results', while institutional trust is defined as confidence toward particular organizations, such as the

national government, police, school- and health care institutions (Borum, 2010; Hillman et al., 2015). Both forms of trust are relevant aspects in the functioning of societies, where both can promote each other (Campos-Castillo et al., 2016; Spadaro et al., 2020). Additionally, the Rational Choice Theory by Kegan and Scholz (1984) imposes that both forms of trust can encourage individuals to follow the societal order (Yuan et al., 2022). Considering interpersonal trust, Williams (n.d.) claims that interpersonal trust is vital in everyday human interaction. The framework of trust mechanisms explains that the way that trust is build, can be divided into two separate areas: the cognitive-affective area and the behavioral area. The cognitive-affective area represents individuals' beliefs and emotions related to trusting others, while the behavioral area is about how individuals act based on trust (Williams, n.d.). The importance of trust in relation with future orientations of adolescents refers to the assumption that trusting your close environment, may be particularly important for positive future orientations (Troncoso, 2021). For example, an empirical study about the relationship between family wealth and school dropout among vocational education students claims that trusting relationships play an important role in promoting adolescent well-being, reducing risk behaviors, emotion regulation and focusing on their future (Finkenauer et al., 2023).

Considering institutional trust, Maturo et al. (2016) describe a decline in trust in governments and professionals in high income countries. In lower income countries, discussions and considerations about social capital have arisen, which raises questions about how social capital influences certain aspects of development of a country (Maturo et al., 2016). According to Rothstein (2002), trust is considered as an aspect of the social capital, which is in turn an important resource for promoting various positive outcomes such as individual health and personal happiness. However, a pertinent concern lies in adolescents' reliance on interactions with institutions, encompassing both positive and negative engagements. Since the 1970s, our global community faces a profound crisis of trust,

characterized by a steady decline in confidence in societal institutions (Samson, 2018). Such interactions with institutions often engender the internalization of norms pertaining to fairness, social responsibility, and social justice, thereby shaping adolescents' civic attitudes, and fostering critical consciousness through their direct involvement with these institutions (Finkenauer, 2023). Empirical studies like Troncoso (2021), who examined the association between both forms of trust and future orientation outcomes among vocational education students, found that adolescents who consider institutions to be trustworthy may be more likely to develop a sense of agency to shape their future. This implies that trusting institutions may be an important aspect for developing positive future orientations. Empirical studies like Zhi et al. (2021), who examined the relationship between college students' future perspectives and trust in government, confirm that individuals who benefit from institutions such as the government, are more likely to trust the government, cooperate with the government and therefore reinforce their positive future perspectives.

Hence, it is more widely known in literature that higher levels of interpersonal and institutional trust are associated with higher levels of (subjective) well-being, but little empirical evidence is known about the relationship between trust and future orientations among adolescents (Jovanović et al., 2021; Poising & Grimes, 2022; Shiroka-Pula et al., 2022). Moreover, Troncoso (2021) found that both interpersonal and institutional trust were positively related with positive future expectations and positive future emotions. Therefore, expectations for this study are that both interpersonal and institutional trust will be positively related to positive future orientations (**H1**).

The role of believing in a just world

The just-world hypothesis embodies the belief that the world operates in a fundamentally fair manner, wherein individuals' actions serve as the basis for their outcomes (Correia & Vala, 2004; The Decision Lab, 2024). This perspective fosters the conviction that righteous

behavior leads to rewards, while negative behaviors incur punishment. Interestingly, the just world theory correlational research alternates between its positive and negative effects and between viewing JWB as a predictor or as an outcome (Thomas, 2022). For example, viewing the world as just may be perceived as a coping mechanism through which individuals navigate life's challenges, finding meaning in their personal suffering, by minimizing or rationalizing it (Bartholomaeus & Strelan, 2019). In addition, Andre & Velasquez (2015) explain that individuals naturally have a strong desire to believe that the world is a predictable just place, and therefore people get what they deserve. An explanation for this could be that concerns and motivations for justice are rooted in a 'personal contract', which means that individuals have certain requirements to comply to in order to get what they desire (Hafer & Rubel, 2015). Empirical studies support this hypothesis, demonstrating that individuals with high levels of JWB are more likely to be motivated to comply to their personal contract (Ma et al., 2023).

Looking at existing knowledge about the relationship between trust and JWB, JWB is more widely researched as a predictor of trust (Correia & Vala, 2004; Fink & Wilkins, 1976). However, there are reasons to believe that this might be a reinforcing construct. It may be logical to think that individuals who have higher levels of trust are also more likely to believe in a just world. Trust can function as a reinforcing construct, where the trust of individuals may be influenced by those who highly believe that the world is fair. Conversely, JWB can be seen as a coping mechanism to deal with misfortune and unfairness (Bartholomaeus & Strelan, 2019; Stroebe et al., 2015). Hommel and Colzato (2015) state that when we trust or distrust others, we make predictions about their behaviour based on previous information and our judgement of their presentation, which may influence whether someone perceives the social environment as fair. Thus, believing that the world operates justly may therefore reinforce feelings of trust or distrust. Dalbert (2001) furthermore provides theory for the

pathway of JWB and future orientations; He identified a relationship between JWB and interpersonal trust, wherein JWB enhances interpersonal trust, and therefore gives individuals the confidence to invest in long term goals (Correia & Vala, 2004).

According to Bartholomaeus & Strelan (2019), the concept of trust may extend to JWB, where trust gives individuals the confidence that they will be treated fairly because of the belief that the world operates justly. Hence, it might be intriguing to investigate this study's hypotheses whether current theories on the relationship between trust and JWB also operates in the opposite direction: can higher levels of trust predict JWB and, consequently, predict future orientations? However, it is important to note that this study cannot make statements about a causal relationship. Multiple empirical studies have found that the concept of JWB plays a mediating role in various associations. Li (2020) for example found that young people in Hong Kong develop a positive mindset during periods of hardship explained by believing that the world is just place as an underlying mechanism. Furthermore, Hadarics & Kende (2023) claim that JWB reinforce the perception that institutions operate fairly and trustworthy. Hence, they conclude that the context is important to where the constructs are placed in the equations, as JWB is a complex construct. Lastly, Ma et al. (2023) envision trust as a function of JWB, which may predict future orientations. Therefore, it is expected in this study that future orientations is explained by trust along the pathway of just world beliefs (H2).

Methods

Participants, procedure, and design

The participants of this study were vocational education students aged 16+, recruited from various schools in region Utrecht, the Netherlands. These students are majoring in creative

fields, technical studies, health education and business studies. Vocational education students in The Netherlands are divided into various tracks (1 – 4) based on the extend of theoretical compared to practical instruction. Three schools consented to participate in four waves of data collection after being approached and asked to take part in the YOUth Got Talent project. In this sample, only the first wave of data collection is analyzed. It is important to mention that this study may contain selection bias due to a limited sample size and the questionnaire only being administered in region Utrecht. and is therefore not representative for all vocational education students. For this project, vocational education students had to fill out a self-report questionnaire covering a wide range of topics, administered by trained researchers who visited the students' classrooms. The duration of the questionnaires was roughly 20 to 30 minutes.

The first wave of data was collected between September 27th 2019 and February 14th 2020, where the total sample consists of 810 participants after excluding cases due to attrition and missing values, participants who considered the questionnaire too difficult, incorrectly filling out the questionnaire, and participants who gave extreme or unusual repetitive answers on multiple scales. Considering data cleaning, participants over the age of 25 were excluded from the analyses to control for developmental differences. Younger participants are still undergoing significant brain development related to decision-making, social cognition, and different socialization processes, which can influence their view on trust, future orientations and JWB. All participants gave active consent to participating in this research and were informed that the data would be anonymized. Considering that a few topics might be sensitive topics, ethical approval was gained from the Ethics Assessment Committee of the Faculty of Social Sciences at Utrecht University.

Measurements

Future Orientations

Future orientations has been measured with eight statements about future expectations (e.g. “How big do you think the chance would be to have a job that pays well?”) and seven statements about future emotions (e.g. “When you think about your future, to what extent do you feel enthusiasm?”) (Fakkkel et al., 2023). All statements are measured on a Likert scale from 1 (= very small/not at all) to 5 (= very big/a lot) and a mean score has been used for analyses, where a higher score indicates more positive future orientations. Future orientations consists of 373 missing values. Additionally, a confirmatory factor analysis and reliability test were conducted, which revealed a high reliability of the scale ($\alpha = .874$).

Interpersonal trust

Interpersonal trust and institutional trust have been measured separately with various questions. Interpersonal trust has been measured with five questions (e.g. “To what extent do you trust people that I know personally?”) on a Likert scale from 0 (= not at all) to 10 (= totally) where the mean score has been used for analyses and a higher score indicates higher interpersonal trust (OECD, 2017.). The variable consists of 381 missing values. Confirmatory factor analysis and reliability test were conducted, which scored the scale as highly reliable ($\alpha = .856$).

Institutional trust

Institutional trust has been measured with seven questions (e.g. “To what extent do you trust Dutch politicians?”) on a scale from 0 (= not at all) to 10 (= totally). The mean score has been used for analyses, where a higher score indicates higher institutional trust (OECD, 2017). The

variable consists of 396 missing values. Additionally, a confirmatory factor analysis with reliability test has been conducted, which scored the scale as highly reliable ($\alpha = .898$).

Just World Beliefs

The mediator JWB has been measured with seven statements (e.g. “I think I largely deserve what happens to me”) on a Likert scale from 1 (= totally disagree) to 7 (= totally agree). All statements combined form the ‘just world beliefs scale’ (Dalbert, 1999), where the mean score has been used for analyses. A higher score indicates higher JWB. The variable consists of 724 missing values. A confirmatory factor analysis and reliability test were conducted, which revealed a high reliability of the scale ($\alpha = .814$).

Control Variables

Lastly, control variables age and sex have been considered for analyses. Age is considered as control variable due to age differences in future orientations, where younger adolescents show weaker future orientations than older adolescents (Steinberg et al., 2009). Age is measured with the question “when are you born” and is answered with the year of birth. This variable consists of 309 missing values. Sex is considered as control variable due to gender differences in future orientations and trust, where boys seem to have more positive outlooks on the future and have higher levels of trust than girls (Lemmers-Jansen et al., 2017; Stevens et al., 1992). Sex is measured with the question “are you a boy or a girl”, which is answered with ‘girl’ (= 0) or ‘boy’ (=1). This variable consists of 304 missing values.

Analysis

To test the two hypotheses of this study, several analysis methods have been used with statistics program JASP, where the Null-Hypothesis Significance Testing has been applied. First, the data has been analyzed through descriptive statistics. In addition, a correlation

analysis has been conducted between all variables. Regression analysis has been applied to investigate whether there is a positive relationship between interpersonal trust and institutional trust as independent variables, and future orientations as a dependent variable, covering the first hypothesis. For regression analyses, the assumptions linearity and normality have been evaluated, where Shapiro-Wilks test yielded a significant result, indicating the data may not be entirely normally distributed. Furthermore, JWB has been investigated for the second hypothesis in a mediation analysis using Structural Equation Modeling to see whether positive future orientations outcomes due to high levels of trust is (partly) dependent on JWB. The assumption of multicollinearity was evaluated and found to be met. Outliers were not removed, as 'extreme answers' are typical in scale variables. Given that Cronbach's Alpha was greater than .8 for all scale variables, we can conclude that the scales effectively measured the intended constructs, suggesting a high internal validity for this study.

Results

Data collection from the YOUth Got Talent study, as shown in Table 1, reveals a mean score of 3.725 out of 5. This indicates an average score of future orientations among vocational education students in this study. The descriptive statistics report a mean score of 6.293 out of 10 for interpersonal trust, suggesting an average score of trust on others among vocational education students. Institutional trust shows a mean score of 5.388 out of 10, indicating an average score of trust in institutions among vocational education students. Furthermore, JWB shows a mean of 4.641 out of 7, reflecting an average belief in a just world among this sample. The mean age of participants in this study is 17 years old. Lastly, the sample comprises 54,9% boys and 45,1% girls.

Table 1*Descriptive Statistics*

	N	Mean/%	SD	Min.	Max.
Future Orientations	1182	3.725	0.546	1.533	5.000
Interpersonal Trust	1174	6.293	1.700	0.000	10.000
Institutional Trust	1159	5.388	1.947	0.000	10.000
Just World Beliefs	831	4.641	0.905	1.000	7.000
Age	1246	17.332	1.631	16.000	25.000
Sex (Boy)	1251	54.9%	-	0.000	1.000

Correlation analyses (Table 2) showed that all variables were significantly correlated to the dependent variable future orientations ($p < .001$ with IPT, ITT and JWB, $p = .006$ with age and $p = .005$ with sex). Interpersonal trust, institutional trust, JWB, and sex revealed positive significant correlations with future orientations, while age revealed a negative significant correlation. Interpersonal trust was significantly correlated with institutional trust ($p < .001$), JWB ($p < .001$), and sex ($p < .001$). Here institutional trust, JWB and sex were positively correlated while age was negatively correlated. Institutional trust was further positively correlated with JWB ($p < .001$) and showed a negative significant correlation with age ($p = .004$). Moreover, JWB was further positively and significant correlated with sex ($p < .001$). Based on the correlation values and their significance, we expect positive relationships between the independent variables interpersonal- and institutional trust and the dependent variable future orientations. Moreover, significant positive relationships are expected between interpersonal- and institutional trust and JWB, as well as significant positive relationship between JWB and future orientations. Control variables are expected to have an impact on the main analyses. However, their effect is expected to be small.

Table 2
Correlation table

Variable	Future Orientations	Interpersonal Trust	Institutional Trust	Just World Beliefs	Age	Sex
Future Orientations	-					
	-					
Interpersonal Trust	0.472***	-				
	< .001	-				
Institutional Trust	0.376***	0.662***	-			
	< .001	< .001	-			
Just World Beliefs	0.399***	0.414***	0.369***	-		
	< .001	< .001	< .001	-		
Age	-0.096**	-0.064	-0.101**	-0.038	-	
	0.006	0.067	0.004	0.282	-	
Sex	0.098**	0.117***	-0.032	0.139***	0.057	-
	0.005	< .001	0.359	< .001	0.108	-

Note I: Pearson correlations.

Note II: N = 810

Note III: * p < .05, ** p < .01, *** p < .001.

Main Analyses

Regression analyses were conducted as a first step to test H1 and investigate relationships between independent variables and the dependent variable future orientations. Table 3 reveals that the regression analysis for interpersonal trust has a significant positive relationship with future orientations ($t = 16.601$, $p < .001$), defined as a medium effect ($\beta = .438$). The regression analysis with interpersonal trust revealed an R squared of .191, which indicates that interpersonal trust explains 19,1% of all future orientation outcomes. Institutional trust was also found to have a significant positive relationship with future orientations ($t = 11.523$, $p < .001$) and defined as a small to medium effect ($\beta = .322$). This regression model with institutional trust revealed an R squared of 0.104, which indicates an explained variance of

10,4% of all future orientation outcomes. Control variables age and sex barely made any difference in the regression models for both interpersonal trust and institutional trust. Here interpersonal trust shows a significant positive relationship with future orientations ($t = 16.198, p < .001$) defined as a medium effect ($\beta = .429$). Institutional trust controlled for age and sex shows a significant positive relationship with future orientations ($t = 11.312, p < .001$) defined as a small to medium effect ($\beta = .316$). Explained variances with control variables slightly increased (19,9% for interpersonal trust and 11,7% for institutional trust).

Table 3

Regression Values Future Orientations

	B	β	F	t	p	R squared
Interpersonal Trust	0.140	0.438	275.581	16.601	< .001***	0.191***
Institutional Trust	0.090	0.322	132.791	11.523	< .001***	0.104***
Interpersonal Trust controlled for age and sex	0.138	0.429	96.089	16.198	< .001***	0.199***
Institutional Trust controlled for age and sex	0.089	0.316	50.528	11.312	< .001***	0.117***

Note I: Outcome variable Future Orientations

Note II: Independent variables have been measured in separate regression analyses to the outcome variable.

Note II: * $p < .05$, ** $p < .01$, *** $p < .001$.

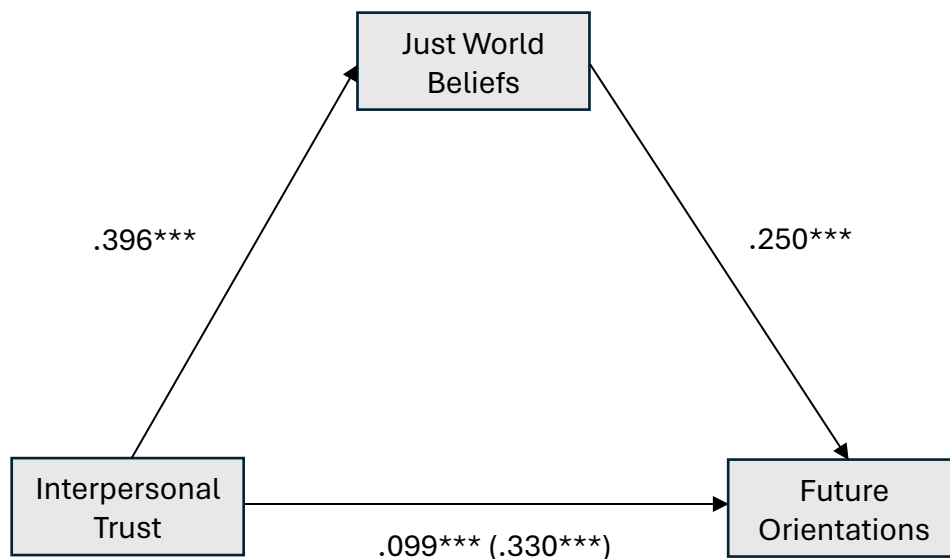
Interpersonal Trust, Just World Beliefs, and Future Orientations

To test H2, mediation analyses using Structural Equation Modeling were conducted, where interpersonal trust and institutional trust were analyzed separately. First, a mediation analysis containing the independent variable interpersonal trust, the mediator JWB, and dependent variable future orientations are presented in figure 2. Important to note, is that control variables age and sex are considered in this model, and that all variables in the model have been controlled for each other. The direct effect of interpersonal trust on future orientations has been found significantly positive ($B = .106, p < .001$). This relationship can be defined as

a small to medium effect ($\beta = .330$). Notably, this value differs from the regression value because the direct effect pathway of interpersonal trust to future orientations is controlled for JWB. The indirect effect of interpersonal trust on future orientations through JWB shows a significant positive relationship ($B = .032, p < .001$). This relationship is defined as a very small effect ($\beta = .099$). Lastly, the total effect of interpersonal trust on future orientations controlled for JWB reveals a significant positive effect ($B = .138, p < .001$), which is defined as a medium effect ($\beta = .429$). The significance of the direct, indirect, and total effects in the complete mediation model suggests partial mediation. This means that the effect of interpersonal trust on future orientations is partly dependent on JWB. The total R squared of the model is .249. This indicates that the complete mediation model explains 24,9% variation of future orientation outcomes. However, it should be kept in mind that the indirect effect is very small.

Figure 2

Mediation path model Interpersonal Trust



Note I: All estimates are standardized, and control variables Age and Sex are considered.

Note II: Pathway of interpersonal trust to future orientations: The value between brackets = direct effect, the value without brackets = indirect effect.

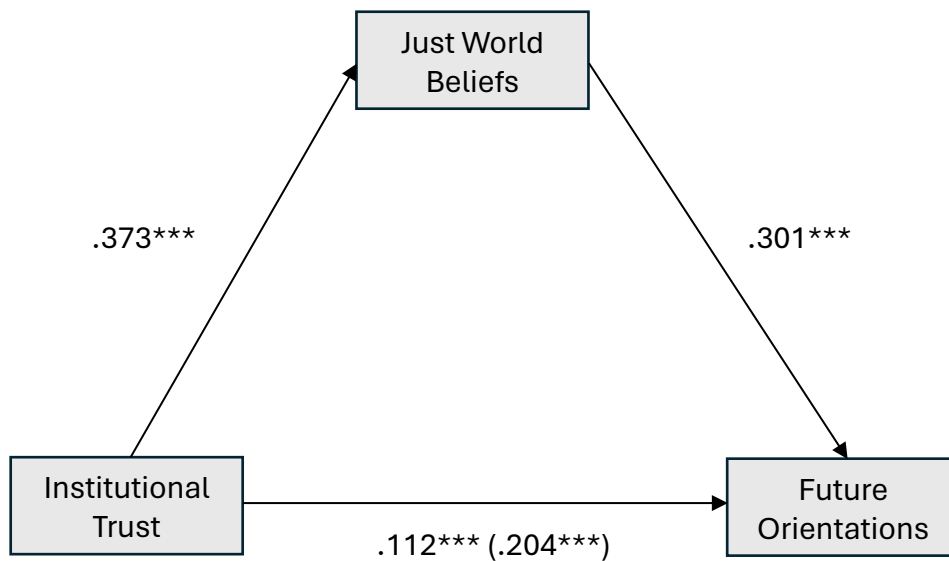
Note III: * $p < .05$, ** $p < .01$, *** $p < .001$.

Institutional Trust, Just World Beliefs, and Future Orientations

Secondly, a mediation analysis containing independent variable institutional trust, mediator JWB, and outcome variable future orientations was conducted to further investigate H2 (figure 3). In this analysis, control variables age and sex are considered in this model and all variables have been controlled for each other. The direct effect of institutional trust on future orientations shows a significant positive effect ($B = .057, p < .001$). This effect can be defined as a small effect ($\beta = .204$). The indirect effect of interpersonal trust on future orientations through JWB, also reveals a significant positive effect ($B = .031, p < .001$). This effect can be defined as a small effect ($\beta = .112$). Furthermore, the total effect of interpersonal trust on future orientations via JWB indicates a significant positive effect ($B = .088, p < .001$), which can be defined as a small to medium effect ($\beta = .316$). The complete mediation model indicates partial mediation, given that the direct, indirect, and total effects are all significant. This means that the effect of institutional trust on future orientations is partly dependent on JWB. However, it should again be kept in mind that the effect is very small. The total explained variance of the mediation model is 19,2%, slightly less than the explained variance of interpersonal trust.

Figure 3

Mediation path model Institutional Trust



Note I: All estimates are standardized, and control variables Age and Sex are considered.

Note II: Pathway of institutional trust to future orientations: The value between brackets = direct effect, the value without brackets = indirect effect.

Note III: * $p < .05$, ** $p < .01$, *** $p < .00$.

Discussion

The aim of this study was to investigate relationships between interpersonal and institutional trust as predictors of future orientations among vocational education students in the Netherlands, and whether JWB had a mediating role in these relationships. The hypotheses stated that both forms of trust would positively relate with future orientations and that JWB would mediate in predicting future orientations with trust. Results indicated that higher levels of interpersonal and institutional trust were associated with more positive future orientations, confirming H1. Additionally, results demonstrated that JWB partially mediated the relationship between both forms of trust and future orientations, thereby confirming H2.

As described in the theoretical framework, Beck & Giddens' risk society theory might explain the results of the relationship between trust and future orientations (Ekberg, 2007).

This theory emphasizes that trust can offer a form of stability, and therefore reduces feelings of fear and anxiety in an uncertain world. As a result, future orientations of young individuals may be predicted through the concept of trust. It seems that interpersonal trust is a stronger predictor of positive future orientations than institutional trust. This can be explained by multiple theories that emphasize the importance of interpersonal trust in everyday human interaction, as explained in Williams' article (n.d.). Additionally, Finkenauer et al. (2023) explain that trusting relationships are important for focusing on the future, while Rothstein (2002) stresses that interpersonal trust can reduce uncertainty about the future.

It may also be the case that interpersonal and institutional trust have gained importance recent years due to multiple crises, such as worries about climate crisis and the COVID-19 pandemic. Empirical studies like Navarro-Carrillo et al. (2018) found that higher levels of interpersonal trust were found in participants who showed higher perceived personal impact of a crisis. While interpersonal trust is crucial for identity forming in adolescence Johnson et al. (2016), institutional trust may be shaped by time and experiences with institutions (Akyüz, 2021). This indicates that over time, individuals have more interactions with institutions, thereby shaping their trust in them by the nature of their experiences. For example, positive experiences such as pleasant services enhance trust, while negative experiences such as corruption diminishes trust. However, it should be kept in mind that the development of interpersonal and institutional trust is dependent on multiple factors that should be examined on a broader aspect and in relationship with each other, expanding existing theories such as the Rational Choice Theory by Kegan and Scholz (1984).

The results of JWB playing a mediating role in this study, support the expectations that the concept of trust and JWB may be interrelated, and together predict future orientations among vocational education students. As existing empirical studies have shown, JWB is also positively related to both forms of trust (Correia & Vala, 2004; Fink & Wilkins, 1976;

Zuckerman & Gerbasi, 1977). In turn, higher levels of JWB provides young individuals with a higher sense of stability, possibly leading to a more positive view of their future and thereby reducing feelings of uncertainty. The positive pathways in relationship with JWB confirm and emphasize the beneficial effects of JWB. This supports the assertion by Bartholomaeus & Strelan (2019) that JWB might serve as a coping mechanism for dealing with contemporary uncertainties about the future. Furthermore, the partial mediation observed with both interpersonal and institutional trust suggests that trust may be a function of JWB, as proposed by Ma et al. (2023). However, Sutton & Douglas (2005) explain differences in beliefs that the world is fair to the self (JWB-self), and beliefs that the world is fair to others (JWB-others). According to their study, high levels of JWB-self is linked to indicators of psychological health, but high levels of JWB-others is associated to negative social attitudes (Sutton & Douglas, 2005). This study does not cover distinctions between JWB-self and JWB-others and their relationships with trust and future orientations, and could thus be a reason to examine the concept of JWB further.

To delve deeper into the meanings of trust, JWB and future orientations, conducting qualitative could be beneficial, where conducting interviews would provide valuable insights into how adolescents perceive, understand, and give meaning to these concepts. Qualitative research could be interesting to examine how individuals interpret these concepts, considering this might vary among individuals or certain groups of individuals such as youth with a migration background or youth who have mental health problems (Clarke et al., 2020; Krieg et al., 2022).

Limitations

It is important to note that several factors may limit the external validity of this study. This study contained a final sample of 810 participants when all variables are considered. It should therefore be considered that this study is only representative for vocational education students

in region Utrecht. Considering theoretical limitations, control variables age and sex may contribute differently to the models with interpersonal compared to the models with institutional trust. This study does not cover age and sex differences in interpreting the results. Furthermore, the high Cronbach's Alpha of all variables showed that combining questions regarding future expectations and future emotions is an effective way of measuring future orientations. However, future expectations and future emotions may not entirely cover all views of future orientations, considering that multiple theories explain that the development of future orientations considers the ability to plan and create future goals (Seginer, 2019; Steinberg, 2020; Zimbardo et al., 2017).

Important to note, is that effect sizes were generally small. While this study confirms both hypotheses, the results should be interpreted carefully when integrating this research into the existing literature on trust, JWB, and future orientations. Nonetheless, the clear methodology allows other researchers to replicate the results of this study and contributes to high statistical validity. Lastly, levels of trust, JWB and future orientations may vary for adolescents in higher education and adolescents in smaller villages. However, this study still contributes positively to the external validity of vocational education students, as this is an understudied population.

Implications

In the light of science, the results offer valuable insights into the relationship between the two forms of trust and future orientations in adolescents and provides meaningful information on the functioning of JWB. The theoretical framework of trust and JWB and future orientations can thus be expanded, providing clear links between the pathways. This understanding offers greater insight into the complexity of JWB mechanisms. However, future research should focus on gaining insight in deeper meanings of these results, possibly with conducting qualitative research. Additionally, longitudinal research could determine causal relationships

between trust, JWB and future orientations and would provide insights in how these constructs evolve over time. Various populations could also be included in these studies to cover differences in educational levels, age, and sex.

Reflecting on societal implications, the findings suggest that both forms of trust positively predict adolescents' future orientations, and therefore we have contributed to understanding how we can improve adolescents' overall well-being from a perspective of trust. Interventions build around improving adolescent well-being can include improving interpersonal and institutional trust. Interventions to improve interpersonal trust might include training social skills of adolescents, which can enhance developing empathy and communication among adolescents. In turn, these skills can help with building interpersonal relationships. Moreover, parents could be involved in interventions by promoting effective parenting strategies that enhance trusting relationships within families. Interventions to improve institutional trust can target institutions by educating them about transparent communication. For example, they could include adolescents in making decisions about their policies by providing them with platforms to voice their opinions. As expected, this study highlights the positive effects of JWB. Recognizing this, promoting a sense of fairness might be important for social environments, such as schools. This again includes transparent communication.

Overall, this study provides empirical evidence that both interpersonal and institutional trust play significant roles in predicting future orientation, with JWB acting as a mediating factor. Therefore, this study contributes to expanding the theoretical framework of these constructs, but also offer practical insights to improve well-being among adolescents through described intervention possibilities, such as enhancing trust through social skills trainings, effective parenting strategies and transparent communication. Future research

should focus on conducting longitudinal and qualitative methods across various populations to determine causality.

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Appendices

Appendix 1 – interdisciplinarity reflection

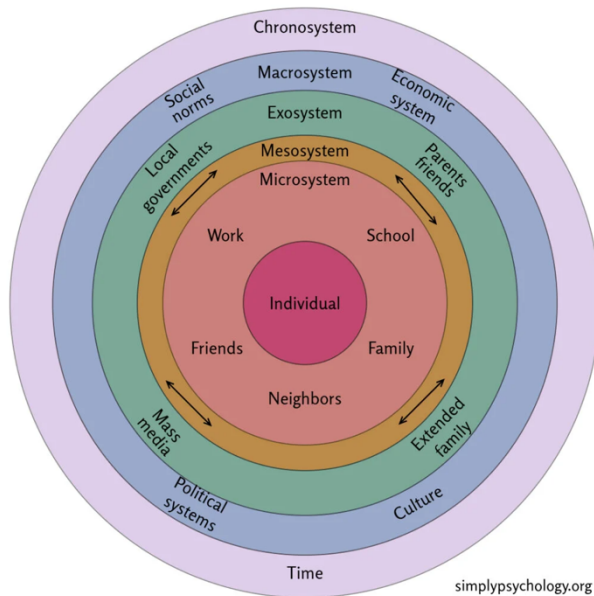
This study adopts an interdisciplinary approach to investigate relationships between interpersonal and institutional trust, just world beliefs, and future orientations among vocational education students in The Netherlands. To understand the complexity of these interrelated concepts, psychological and sociological theories were examined. Moreover, the constructs used in this study are analyzed through a systems perspective.

Psychological theories in this study focused on identity development considering future orientations in adolescence, the role of trust, and the mechanisms of just world beliefs, while sociological theories focused on how trust and just world beliefs operate within society and their relationship with the development of future orientations. Understanding the significance of psychological approaches is crucial for comprehending how adolescents form their views on the future, considering this is an internal process. From a sociological point of view, it is essential to understand how these individual processes influence the functioning of a society as a whole.

Although psychological approaches to explaining trust, just world beliefs, and future orientations are primarily based on an individual level, they lack information about how these constructs operate on a broader societal level, considering various factors such as group dynamics, social and cultural norms, and broader societal structures. Within the theoretical framework in this study, existing literature incorporates sociological perspectives where certain psychological mechanisms and group behaviours are analyzed. Beck & Giddens' Risk Society Theory explains how trust can offer a sense of stability in today's uncertain world, which is crucial in contextualizing the results within broader societal changes and crises (Ekberg, 2007). Additionally, theories on just world beliefs, such as perceiving believing in a just world as a coping mechanism, provide insights in societal perceptions of justice and how this complex concept impacts trust and future orientations. Combining the psychological and sociological approaches therefore provides a more holistic understanding of trust, just world beliefs and future orientations, encompassing both individual mechanisms and their implications for the social environment.

Figure 4

Bronfenbrenner model



(Guy-Evans, 2024).

Considering Bronfenbrenner's model, psychological mechanisms are influenced by multiple system levels, such as the microsystem, exosystem, and macrosystem. This systems perspective integrates both psychological and sociological approaches in explaining the constructs used in this study. For example, individuals in the microsystem such as family and friends influence individual processes of identity- and resilience development in the context of trust, just world beliefs and future orientations, which are already shaped by societal norms and values and thus reinforced onto the individual. Additionally, institutions within the exosystem such as local governments and mass media can influence social norms regarding trust and just world beliefs, subsequently affecting individual processes of the development of these constructs. Moreover, views on future orientations may be shaped by the chronosystem, where evolving time and generational changes influence both societal norms and individual processes.

An interesting aspect of this study was examining how the concept of just world beliefs operates, given the existing literature's varying perspectives on its positive and negative effects. The results of this study support psychological theories suggesting that just world beliefs can serve as a coping mechanism within individuals, thereby defining positive relationships between both forms of trust and future orientations. Important to keep in mind,

is integrating sociological perspectives in further research. The group adolescents in the current and following generations should be carefully reviewed in such studies, considering that the psychological and societal views of trust, just world beliefs, and future orientations are constantly evolving. By integrating these various perspectives, we have created an expanded knowledge about how trust and just world beliefs operate, and what their relationship with future orientations looks like. This expanded knowledge can help to improve overall well-being of adolescents by implementing interventions on various levels of Bronfenbrenner's model, such as training adolescents to have better social skills, enhancing trusting relationships in the family by teaching about effective parenting strategies, and emphasizing transparent communication within institutions.