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Neighbourhood poverty, work commitment and unemployment in early adulthood: a longitudinal study into the moderating effect of personality

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Abstract

We studied how personality moderates the effect of neighbourhood disadvantage on work commitment and unemployment in early adulthood. Using a personality typology of resilient, overcontrollers, and undercontrollers, we hypothesised that the association between neighbourhood poverty and both work commitment and unemployment would be stronger for overcontrollers and undercontrollers than for resilient. We used longitudinal data (N=249) to test whether the length of exposure to neighbourhood poverty between age 16 and 21 predicts work commitment and unemployment at age 25. In line with our hypothesis, the findings showed that longer exposure is related to weaker work commitment among undercontrollers and overcontrollers and to higher unemployment among undercontrollers. Resilient's work commitment and unemployment were not predicted by neighbourhood poverty.

Keywords: neighbourhood effects, youth unemployment, work commitment, personality, longitudinal study

Introduction

Growing up in neighbourhoods with high levels of poverty is often thought to have a negative impact on occupational outcomes later in life (e.g., Dietz, 2002; Durlauf, 2004; Ellen & Turner, 1997; Galster, 2002; van Ham, Manley, Bailey, Simpson & Maclennan, 2012, 2013). With regard to occupational outcomes, these so-called ‘neighbourhood effects’ have mainly been studied by examining the relation between neighbourhood disadvantage and unemployment (Brattbakk & Wessel, 2013; Manley & van Ham, 2012). The relation between neighbourhood disadvantage and unemployment may be understood through the socialisation mechanism: because youth in poor neighbourhoods are more likely to be exposed to unemployment in their local area than youth in more affluent neighbourhoods, youth in poor neighbourhoods may adopt lower work commitment, which may lead them to become unemployed as well. This reasoning leads to believe that attitudes towards work play an important role. However, so far neighbourhood effects studies of occupational outcomes have mainly looked at unemployment. In order to understand this process better, we will examine the relation between neighbourhood adversity and both unemployment and work commitment. This will allow us to not only to look at ‘hard’ measures of occupational outcomes, but also to examine how environmental disadvantage might be related to attitudes.

The outcomes of neighbourhood effects studies vary widely (see e.g., Dietz, 2002). One possible explanation for this great variation might be that studies are biased by unmeasured individual characteristics. Different individuals may be differentially susceptible to influences from neighbourhood deprivation, so when certain individual characteristics are omitted from the model, neighbourhood effects could be influenced by the unmeasured heterogeneity in the population, and therefore not represent ‘true’ neighbourhood effects. One such individual characteristic that might be important is personality. Previous research has shown that neighbourhood effects are moderated by personality. For instance, youth with a resilient personality may be better able to cope with neighbourhood disadvantage, because they experience a weaker effect of the neighbourhood on educational outcomes than youth with non-resilient personalities (i.e., undercontrollers and overcontrollers; Nieuwenhuis, Hooimeijer, van Ham & Meeus, 2013; Nieuwenhuis, Hooimeijer & Meeus, 2015). Further, when looking at unemployment and work commitment, it is plausible that resilient youth are better able to conform to norms that are dominant in society as a whole, and ignore local norms. One such norm is that work is important in order to contribute to society and to sustain ones livelihood. Comparably, non-resilient youth may be less successful in conforming to dominant norms, and instead might fall back on norms that are dominant in a more proximate area, such as the neighbourhood. For resilient youth this means that their work commitment and probability of unemployment are less likely to be influenced by the neighbourhood, while for non-resilient youth this means that the neighbourhood is more likely to exert an influence on their occupational outcomes.

This study will contribute to the literature in two ways. First, we will look at the relation between neighbourhood disadvantage and an attitudinal occupational outcome, work commitment. This differs from existing studies which have mainly looked at occupational outcomes such as unemployment. Studying work commitment in addition to unemployment will give us more insight in the underlying mechanism through which neighbourhood adversity could result in greater unemployment, as a lower commitment might be related to larger chances to quit a job or get fired. And second, we will examine the moderating role of person-

ality in the relation of neighbourhood poverty with work commitment and the probability of unemployment of young adults. This will allow us to study how people with different personalities may be differentially affected by neighbourhood poverty in their occupational outcomes.

Neighbourhood poverty and occupational outcomes

Exposure to neighbourhood poverty is generally considered to predict negative occupational outcomes for youth (e.g., Dietz, 2002; Durlauf, 2004; Ellen & Turner, 1997; Galster, 2002; van Ham et al., 2012; 2013). In the literature, various ideas exist about the possible mechanisms behind this neighbourhood effect (Galster, 2012). One prominent developmental principle is the socialisation mechanism, which suggests that social behaviour is learned through conditioning and imitation of other's behaviour (Akers, Krohn, Lanza-Kaduce & Radosevich, 1979). Applying this theory to the neighbourhood context – we would expect that adolescents are likely to incorporate norms that are dominant amongst neighbourhood residents (Friedrichs & Blasius, 2005; Wilson, 1987). Poor neighbourhoods are likely to contain more adult residents who are unemployed or not in the labour force compared to more affluent neighbourhoods (van de Wouden & de Bruijne, 2001). This suggest that poor neighbourhoods are less likely to contain positive role models who are able to demonstrate the benefits of employment and are instead more likely to contain residents with lower job satisfaction (Kifle, 2013). Furthermore, during adolescence, youths start to spend less time with parents and more with peers (Larson, Richards, Moneta, Holmbeck & Duckett, 1996). In poor neighbourhoods, this increased contact with neighbourhood peers increases the likelihood that adolescents come in contact with negative role models in the neighbourhood. With prolonged exposure to neighbourhood poverty during their formative years, youth may internalise negative attitudes towards work. These internalised negative attitudes could result in a higher likelihood to become unemployed in early adulthood.

Another factor that could explain the relation between neighbourhood poverty and occupational outcomes is the social capital that people can access through their social network. It is argued that in poor neighbourhoods, residents often have more homogeneous contacts, while residents of affluent neighbourhoods often have more heterogeneous contacts (Kearns & Parkinson, 2001). More heterogeneous social contacts often can provide more varied information. For instance, in poor neighbourhoods, where people have more homogeneous contacts, residents are less likely to have access to information about jobs and opportunities. As a result, adolescents are less likely to build up social networks that are able to provide job information or can help them find a job (Buck, 2001), therewith increasing their chances for unemployment in early adulthood.

The above theories suggest that exposure to neighbourhood poverty could result in weak work commitment for residents of the neighbourhood. Previous studies have already looked at 'hard' occupational outcomes: links have been found between neighbourhood poverty and income (Galster, Marcotte, Mandell & Wolman, 2007; Musterd, Galster & Anderson, 2012) and unemployment (Brattbakk & Wessel, 2013; Manley & van Ham, 2012). However, how neighbourhood poverty is related to residents' attitudes has not been studied before. By examining work commitment in a neighbourhood context, we aimed to gain more insight into how neighbourhood poverty is related to both a 'hard' occupational measure such as unemployment as well as to an attitudinal occupational measure such as work commitment.

It should be noted that neighbourhoods are not random selections of households. Instead, households sort into neighbourhoods based on their preferences and constraints. When this selection bias is neglected, neighbourhood effects could be misspecified. Since we study neighbourhoods during adolescence, selection bias in our analyses may be minimal, as children usually do not select their own neighbourhoods, but their parents decide when and where to move. However, it is possible that a selection bias is present through the parents. The optimal way to deal with this problem is to explicitly model parents' reasons for their choice of neighbourhood, however, information about parental neighbourhood choice is not available. We try to take parental selection into account in our models by including a whole range of family characteristics, which may explain neighbourhood choice, such as parental education, parental unemployment, and parental ethnicity.

Moderating role of personality

Although exposure to neighbourhood poverty is in general linked to negative occupational outcomes, the associations may be different for individuals with different personalities; that is, not all youth's occupational outcomes will be equally affected by their neighbourhood. Some youth may have negative occupational outcomes because they are more vulnerable to the negative influences of the neighbourhood they lived in, while other youth may still have good occupational outcomes despite growing up in a neighbourhood characterised by poverty. Because youth with different personalities may differ in their responses to poverty neighbourhoods, these youth may also differ in their occupational outcomes.

An influential typology of personality distinguishes three types: resilient, overcontrollers, and undercontrollers (Block & Block, 1980). These three personality types differ in the levels of ego-control and ego-resiliency. Ego-control refers to the tendency to contain versus express motivational impulses. Ego-resiliency refers to the tendency to respond flexibly versus rigidly to environmental demands. Whereas resilient respond relatively more adaptively and flexibly, both overcontrollers and undercontrollers are relatively inflexible in reacting to environmental challenges (Block & Block, 1980). Hence, resilient may be less susceptible to the influence of the neighbourhood than the less flexible overcontrollers and undercontrollers.

This personality typology is ideal for studying individuals' reactions to environmental challenges such as negative neighbourhood environments. We expect that neighbourhood adversity will interact with individuals' personality, provoking individuals with non-resilient personality types (i.e., overcontrollers and undercontrollers) to have more negative occupational outcomes when they grow up in poor neighbourhoods when compared with resilient individuals.

To summarise, we first hypothesise that exposure to neighbourhood poverty will be associated with weaker work commitments and higher odds of unemployment. Second, we expect that individuals with non-resilient personality types will be more at risk in poor neighbourhoods. Therefore, we hypothesise that the association between exposure to neighbourhood poverty and work commitments and unemployment will be weaker for resilient than for overcontrollers and undercontrollers.

Method

Participants

Participants were 249 Dutch youths from the middle-to-late adolescent cohort of the CONAMORE sample who were not in full-time education during early adulthood and had a job (i.e., at risk of becoming unemployed; $n=232$) or were unemployed ($n=17$). They were part of an ongoing panel study CONflict And Management Of Relationships study (CONAMORE; Meeus, Akse, Branje, Ter Bogt, Crommelin, Delsing et al., 2010). The middle-to-late adolescent cohort of the CONAMORE sample consisted of 390 respondents recruited from various high schools in the province of Utrecht, the Netherlands, with an average age of 16.7 (range 16-20) years at the first wave. More than 99% of the approached families signed an informed consent form. There was an underrepresentation of ethnic minorities: 12.6% in our sample vs. 22% in the Netherlands (Statistics Netherlands, 2015). In waves 1, 2, 3, 4, 5 and 6 the number of respondents was 390, 390, 370, 369, 362, and 291, respectively. The first five waves of the CONAMORE were collected annually, starting in 2001. The sixth wave was collected in 2010 and included an additional Life History Calendar (LHC; Caspi, Moffitt, Thornton, Freedman, Amell, Harrington et al., 1996) with retrospective questions from the age of 12 until the sixth wave. The LHC contained questions about where respondents lived, when they finished education, and whether they have been (un)employed. For the first five waves, sample attrition was very low (7% from wave 1 to 5). Attrition for the sixth wave was higher (20%), because of the 5-year time gap between wave five and six, compared to the one-year gap between the earlier waves. We used data from all waves and the retrospective questions of the Life History Calendar (LHC; Caspi et al., 1996). We were specifically interested in the relation between poverty in the adolescent neighbourhood and employment outcomes for young adults who were not in full-time education anymore, because they were at risk of becoming unemployed. As most adolescents go to school until about age 21 (especially in higher vocational and scientific education), wave 5 included a large sample of respondents still in school; at wave 6 (average age 25), most respondents finished education ($N=249$). Because the question for work commitment was not asked to respondents that were unemployed at the time of wave 6, the sample size for work commitment was slightly smaller ($N=232$).

Measurements

Work commitment. Work commitment was measured at the sixth wave for respondents who had a job ($N=232$), using the Utrecht-Management of Identity Commitments Scale (U-MICS; Crocetti, Rubini & Meeus, 2008), which consisted of five items to measure the degree to which adolescents derive self-confidence from the occupational choices they made, with response categories 1 (completely true) to 5 (completely untrue). The items are (translated from Dutch): “My work makes me feel confident about myself”; “My work gives me certainty in life”; “Because of my work I feel certain about myself”; “My work gives certainty for the future”; and “Because of my work I can perceive the future optimistically”. We reverse coded the answers and constructed a scale for work commitment with high reliability (Cronbach’s $\alpha=.92$).

Unemployment. For unemployment, we used the LHC to construct a dichotomous variable measuring whether respondents have been unemployed for three months or more (1, $n=27$) or not (0, $n=222$), at the time of the sixth wave.

The LHC data was geo-coded, and included all six-digit postcodes (areas containing, on average, 17 households, range 0-1485) where respondents lived between the age of 12 and the time of the sixth wave. This enabled us to merge the individual-level data with neighbourhood characteristics on the postcode-level as provided by Statistics Netherlands (CBS, 2006).

To measure exposure to neighbourhood poverty, we used the average property value measured in 2004. The mean property value of dwellings in the neighbourhood was used as a proxy to measure neighbourhood wealth, because it captures the quality of the dwelling and the social and physical attributes of the neighbourhood (Visser, van Dam & Hooimeijer, 2008). The variable was measured at the scale of six-digit postcode areas, which is a good scale to measure socialisation, because socialisation is more likely to happen through neighbours in close proximity than through neighbours living blocks away (Oberwittler & Wikström, 2009). To measure exposure, we calculated the number of months respondents lived in neighbourhoods in the lowest quintile of wealth (i.e., the poorest neighbourhoods), between the ages of 16 and 21. We chose these years because the parental neighbourhood may be more informative than the neighbourhood where people lived during early adulthood, because the latter can likely be seen as a transitional neighbourhood during the period of higher education. The continuous variable ranged from 0 to 1, where 0 indicated no exposure and 1 indicated that the respondent was exposed to neighbourhood poverty during the entire period from age 16 to 21.

Personality was assessed annually for five years with the Quick Big Five questionnaire (Goldberg, 1992; Vermulst & Gerris, 2005). Thirty personality markers were used to assess five personality dimensions (each with 6 items): extraversion (e.g., “talkative”), agreeableness (e.g., “sympathetic”), conscientiousness (e.g., “systematic”), emotional stability (e.g., “worried”, reverse-scored), and openness to experience (e.g., “creative”). Adolescents rated their personality on a 7-point Likert scale ranging from 1 (very untrue) to 7 (very true). Various studies have reported adequate reliability and validity of this scale (e.g., Branje et al., 2007). In the current study, across wave 1 to wave 5, Cronbach’s α ranged from .80 to .87 for extraversion, from .81 to .87 for agreeableness, from .85 to .91 for conscientiousness, from .80 to .83 for emotional stability, and from .76 to .77 for openness to experience. Several studies have shown that Block and Block’s (1980) three personality types (i.e., overcontrollers, undercontrollers, and resilient) can be constructed directly from the Big Five dimensions (Robins, John, Caspi, Moffitt & Stouthamer-Loeber, 1996; Klimstra et al., 2010; Meeus et al., 2011). An earlier study constructed types of personality development with Latent Class Growth Analysis (LCGA; Nagin, 2005) on the original 1313 cases, including the current sample (Branje, Hale, Frijns & Meeus, 2010). Therefore, in the current research, we adopted that study’s classification of personality types. The Big Five profiles of these three personality types were consistent with those of other studies (e.g., Asendorpf & van Aken, 2003; Dubas, Gerris, Janssens & Vermulst, 2002). See Branje et al., 2010 for specific scores on Big Five traits for each personality type. In our sample, there were 83 (33.3%) overcontrollers, 70 (28.1%) undercontrollers, and 96 (38.6%) resilient. This was quite similar compared to the overall sample where the percentages were: overcontrollers: 33.5%, undercontrollers: 30%, resilient: 36.5%.

Control variables. As individual-level control variables we used sex and highest achieved educational qualification. Sex was a dummy variable (male=0 (40%); female=1 (60%)). Education was measured as an ordinal variable with categories, from lowest to highest: 1) high school or lower (20%), 2) middle-level vocational education (20%), 3) higher vocational education (29%), and 4) university (31%).

In order to control for the family background we included parental education, parental unemployment, and parental ethnicity. Parental education was measured as a set of six dummy variables, including: 1) lower vocational education or lower (5%); 2) preparatory middle-level vocational education (8%); 3) middle-level vocational education (19%); 4) higher general continued education or preparatory scientific education (10%); 5) higher vocational education (23%); and 6) university or higher (35%). Parental unemployment was measured as a dummy where 1 indicated that the family's breadwinner had been unemployed during the period where the respondent was between 16 and 18 years old (12%), and 0 not (88%). Parental ethnicity was also measured as a dummy (1=both parents were foreign born (11%); 0=else (89%)).

Analytical method

In our analyses, the outcome variables unemployment and work commitment were both measured at the sixth wave, when respondents were on average 25 years of age. Both personality and exposure to neighbourhood poverty were measured over the period of the first five waves, i.e., between the ages 16 and 21. In this way, exposure to neighbourhood poverty represents a lag that allows us to test the effect of exposure in middle-to-late adolescence on outcomes in early adulthood. We conducted the analyses in Stata 13 (StataCorp, 2013).

The variables work commitment and education had missing cases. To test whether these cases were missing completely at random (MCAR) we performed Little's MCAR test (Li, 2013). This test did not reject the MCAR assumption ($\chi^2(2)=5.04, p=.08$), meaning we could impute the missing cases. We used an imputation method that imputes multiple variables by using chained equations, and takes into account the auxiliary variables (i.e., exposure to neighbourhood poverty, personality, sex, parental education, parental unemployment, and parental ethnicity; Asendorpf, van der Schoot, Denissen & Hutteman, 2014; van Buuren, 2007). We used 20 imputations. Work commitment had 224 non-missing cases and 8 were imputed (3%). Education had 213 non-missing cases and 19 were imputed (8%). The imputed sample had a larger proportion of resilient, males, respondents with highly educated parents, and respondents with foreign parents. We included all variables in the imputation process as auxiliary variables in order to account for the differences between the imputed and the non-imputed sample.

Because of the measurement levels for the dependent variables, we used two models: for the dichotomous variable unemployment we used logistic regression, and we used regression for work commitment. We calculated robust standard errors. Because respondents were selected from schools and not neighbourhoods, and occasionally moved in the measurement period, respondents were not clustered within neighbourhoods. This made a multilevel design unnecessary. To test whether adolescents with different personalities experienced different neighbourhood effects, we employed interaction effects between personality and exposure to neighbourhood poverty.

Results

We examined whether adolescents with different personality types had different scores on the three key variables: exposure to neighbourhood poverty, work commitment, and unemployment. Table 1 shows the descriptive statistics for each personality type, which revealed minor differences on the three key variables. We conducted a series of tests to examine differences between the personality types, but found no significant differences between the personality types in neighbourhood poverty (ANOVA: $F(2)=.50$, $p=.61$), work commitment (ANOVA: $F(2)=.53$, $p=.59$), and unemployment (Pearson $\chi^2(2)=.87$, $p=.65$).

Table 1: Descriptive statistics of key variables for each personality type

	Exposure to neighbourhood poverty ($N=249$)				Work commitment ($N=232$)				Unemployment ($N=249$)
	Mean	S.D.	Min.	Max.	Mean	S.D.	Min.	Max.	%
Undercontrollers	.12	.26	0	1	2.66	.71	0	4	10.0
Overcontrollers	.08	.23	0	1	2.66	.74	.60	4	10.8
Resilients	.07	.21	0	1	2.81	.76	.60	4	11.4

Note: The scale anchors for work commitment were 0-4.

To test our hypotheses, we first examined the direct effects of exposure to neighbourhood poverty on work commitment (Table 2: M1) and unemployment (Table 2: M2). We did not find a significant effect of neighbourhood on work commitment. The model for unemployment shows that growing up in poor neighbourhoods was related to a higher likelihood to become unemployed in early adulthood. Furthermore, lower educated respondent were more likely to be unemployed than higher educated respondents. Parental education was found to predict work commitment.

Table 2: Models predicting early adulthood work commitment and unemployment

	M1: Regression of work commitment (N=232)	M2: Logistic regression of unemployment (N=249)
	B (95% CI)	B (95% CI)
Exposure to neighbourhood poverty	-.05 (-.12, -.03)	.34 (.01, .68)*
Personality		
Undercontrollers vs. resilient	-.07 (-.18, .04)	-.01 (-.48, .47)
Overcontrollers vs. resilient	-.09 (-.21, .02)	-.11 (-.58, .36)
Sex (female)	.02 (-.19, .24)	.73 (-.19, 1.64)
Education	.08 (-.01, .16)	-.41 (-.75, -.08)*
Parental education (ref.: 6) university or higher)		
1) lower vocational education or lower	.24 (-.37, .84)	-1.08 (-3.45, 1.28)
2) preparatory middle-level vocational education	.25 (-.17, .66)	-.83 (-2.56, .90)
3) middle-level vocational education	.28 (-.02, .59)	-.32 (-1.59, .96)
4) higher general continued education or preparatory scientific education	.26 (-.08, .60)	-1.69 (-4.08, .70)
5) higher vocational education	.27 (.03, .51)*	-.38 (-1.49, .73)
Parental unemployment	.30 (-.02, .62)	-.08 (-1.70, 1.86)
Parents foreign	-.02 (-.34, .29)	1.00 (-.45, 2.45)
Intercept	2.29 (2.01, 2.57)**	-1.35 (-2.48, -.22)*
R2	.07	
Pseudo-R2 ^a		.09
F	1.61	1.45

Note: Exposure to neighbourhood poverty and personality were standardised.

Note 2: The table shows the pooled results of 20 imputations.

** p<.01; * p<.05. a. The reported pseudo-R2 is McFadden's R2.

In Table 3 we included interaction effects between personality types and exposure to neighbourhood poverty in order to examine if there are different neighbourhood effects for adolescents with different personalities. Both the model predicting work commitment (Table 3: M1) and the model predicting unemployment (Table 3: M2) revealed significant interaction effects between personality (i.e., undercontrollers vs. resilient) and neighbourhood poverty. The model predicting unemployment also showed a significant interaction effect between personality (i.e., overcontrollers vs. resilient) and neighbourhood poverty. Education remained consistently significant in the model predicting unemployment, as did parental education in the model predicting work commitment. Furthermore, in the model predicting work commitment, parental unemployment was significant: respondents who experienced parental unemployment during their youth were more likely to have higher work commitment in early adulthood.

Table 3: Interaction effects between adolescent personality types and exposure to neighbourhood poverty on early adulthood work commitment and unemployment

	M1: Regression of work commitment (N=232)	M2: Logistic regression of unemployment (N=249)
	B (95% CI)	B (95% CI)
Exposure to neighbourhood poverty	-.02 (-.09, .04)	-.21 (-.11, .53)
Personality		
Undercontrollers vs. resilient	-.08 (-.19, .03)	-.07 (-.59, .46)
Overcontrollers vs. resilient	-.10 (-.21, .01)	-.16 (-.64, .32)
Neighbourhood poverty*Undercontrollers vs. resilient	-.09 (-.16, -.02)**	.41 (.02, .79)*
Neighbourhood poverty*Overcontrollers vs. resilient	-.07 (-.12, -.01)*	.33 (-.00, .66)
Sex (female)	.01 (-.20, .22)	.86 (-.12, 1.85)
Education	.07 (.01, .16)	-.39 (-.73, -.04)*
Parental education (ref.: 6) university or higher		
1) lower vocational education or lower	.23 (-.38, .84)	-1.10 (-3.47, 1.26)
2) preparatory middle-level vocational education	.25 (-.15, .66)	-.71 (-2.45, 1.04)
3) middle-level vocational education	.26 (-.04, .57)	-.16 (-1.44, 1.11)
4) higher general continued education or preparatory scientific education	.27 (-.08, .61)	-1.72 (-4.17, .74)
5) higher vocational education	.26 (.01, .50)*	-.24 (-1.34, .86)
Parental unemployment	.34 (.02, .66)*	-.19 (-2.49, 2.12)
Parents foreign	-.09 (-.41, .23)	1.38 (-.07, 2.84)
Intercept	2.33 (2.03, 2.62)**	-1.68 (-2.92, -.44)**
R2	.08	
Pseudo-R2 ^a		.11
F	3.32**	1.52
ΔR^2 ^b	.01	
Δ Pseudo-R2 ^b		.02
ΔF	1.71	.07

Note: Exposure to neighbourhood poverty and personality were standardised.

Note 2: The table shows the pooled results of 20 imputations.

** p<.01; * p<.05; a. The reported pseudo-R2 is McFadden's R2. b. Model improvement test was based on a log likelihood test comparing to the models without interaction terms.

The results in Table 3 show that adolescent personality moderates the associations between neighbourhood poverty and occupational outcomes. After finding significant interaction effects, we calculated simple slopes of the effects of neighbourhood poverty for the different personality types (Aiken & West, 1991). Resilient youth were not affected by neighbourhood poverty in their unemployment ($b = .21$; $s.e. = .16$; $p = n.s.$) and their educational commitment ($b = -.02$; $s.e. = .03$; $p = n.s.$). Overcontrollers ($b = -.09$; $s.e. = .04$; $p < .05$) and undercontrollers ($b = -.11$; $s.e. = .03$; $p < .01$) developed negative work commitment. Undercontrollers who had a longer exposure to neighbourhood poverty in their formative years

had higher unemployment in early adulthood than adolescents with shorter exposure ($b = .62$ = s.e. = .23; $p < .01$). In sum, the results show that respondents' personality type moderated the association between exposure to neighbourhood poverty and both work commitment and unemployment.

Conclusion and discussion

In this paper, we set out to examine whether exposure to neighbourhood poverty during middle-to-late adolescence (between ages 16-21) influences work commitment and unemployment in young adults (aged 25), and we studied how this neighbourhood effect differs for individuals with different personality types. In the model without moderation by personality, we did not find an association between neighbourhood poverty and work commitment, but we did find an association between neighbourhood poverty and unemployment. However, when examining the moderating role of the three personality types (undercontrollers, overcontrollers, and resilient), we found that adolescents with different personality types are affected differently by their neighbourhood.

The finding that undercontrollers' and overcontrollers' work commitment was weaker and undercontrollers' likelihood of unemployment was higher with longer exposure to neighbourhood poverty during adolescence is in accordance with our hypotheses. That is, individuals with a non-resilient personality are more vulnerable to negative environments. These results are consistent with the findings of previous studies showing that individuals who score low on resiliency are particularly vulnerable to contextual factors such as negative parenting behaviour and low friendship quality (O'Connor & Dvorak, 2001; Dubas et al., 2002; van Aken, & Dubas, 2004). These findings underscore the need for research that would clarify why non-resilient individuals are more vulnerable to negative environments than resilient. It may be that resilient are better able to understand the dominant norm in society that work is important, and are therefore better able to resist the influence of negative norms and attitudes in the neighbourhood. Overcontrollers and undercontrollers, however, have difficulties in adapting to societal norms, and may therefore more easily fall back on norms that are dominant in a more proximate area. Thus, they may be more likely to absorb the negative norms and attitudes about work when growing up in poor neighbourhoods, leading to low work commitment or unemployment.

We hypothesised that only the non-resilient personality types (undercontrollers and overcontrollers) would be affected by exposure to neighbourhood poverty. However, between undercontrollers and overcontrollers, the association between neighbourhood poverty and work commitment and unemployment appears to differ as well: work commitment was predicted by neighbourhood poverty for both undercontrollers and overcontrollers, however unemployment was only predicted by neighbourhood poverty for undercontrollers, and not for overcontrollers. The varying effects we found for each personality type suggest differences in vulnerability to neighbourhood effects. It seems that although overcontrollers' work commitment is weaker if they grow up in a poverty neighbourhood, their chances for unemployment are not affected. For undercontrollers, however, both work commitment and employment chances are lower if they grow up in a poor neighbourhood. The results seem to point to a differential effect of neighbourhood poverty for overcontrollers' and undercontrollers' employment status and work commitment. The results might be understood by differences in how overcontrollers and undercontrollers approach the outside world. Overcontrollers tend to

move away from the world, meaning that they tend to attribute problems (e.g., unemployment) to themselves. They also tend to act as followers in society (e.g., everyone should try to find a job). These combined thoughts of attributing joblessness to themselves and trying to follow the idea that ‘everyone should try to find a job’ might encourage overcontrollers to actively search for a job. However, undercontrollers have the tendency to move against the world, meaning that they have more difficulties adjusting to regular societal processes, such as increased levels of aggression or delinquency (van Aken et al., 2002; van Aken & Dubas, 2004). Undercontrollers are also more likely to repel themselves from society, thus they might not actively search for a job – especially when they live in poor neighbourhoods where more negative values towards employment are present.

An frequent problem in neighbourhood effects studies is that of selection bias; that is, individual characteristics that influence neighbourhood choice may also influence the studied outcome variables. When individual characteristics are not controlled for in the model, neighbourhood effects may therefore reflect the effect of the individual characteristics. In our analyses we had the advantage to study adolescent respondents. Given that it is generally the parents and not the adolescents who decide where to move, selection effects of the adolescents’ individual characteristics are unlikely. However, this does not preclude an intergenerational selection effect through the parents (see also van Ham, Hedman, Manley, Coulter & Östh, 2014). For example, unemployed parents may have certain economic constraints, forcing them to choose a relatively disadvantaged neighbourhood with lower house prices. This same parental unemployment may also affect the child because they do not have positive role models in the home environment, possibly leading to negative work attitudes and even unemployment later in life. We attempted to control for this by including parental education, parental unemployment, and parental ethnicity in the models, which give some information about the home environment. Unfortunately, a more direct measure such as parental income was not available. Furthermore, longitudinal measurements of our dependent variables were not available, excluding modeling possibilities such as fixed-effects models, which can better deal with selection issues. Therefore, it is possible that an intergenerational selection effect may still bias the results to some extent. Despite that, our analyses suggest different vulnerabilities to neighbourhood effects for individuals with different personality types. Future research would benefit from longitudinal analyses to further deepen our understanding of individual responses to neighbourhood adversity.

In sum, work commitment and unemployment of resilient individuals were not affected by neighbourhood poverty, whereas the work commitment and unemployment of individuals with non-resilient personality types (i.e., overcontrollers and undercontrollers) were. Our findings underline the importance of studying different vulnerabilities of personality types in distal environments such as the neighbourhood, compared to more commonly researched proximate environments such as the family. Furthermore, it calls into question the efficiency of neighbourhood based intervention policies, where a more specific focus on at risk individuals may be more appropriate.

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