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Youth and Informal Mentoring:

The Mediating Role of Shared Decision-Making on Youth Resilience

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Abstract

Background The study of resilience seeks to understand how some young people grow up in adversity end up doing better than their peers in similar circumstances. Factors in the social environment may support resilience in young people from multi-problem families. For young people in youth care having an informal mentor, rather than care as usual, may increase youth resilience, through increasing their quality of relationship with adults and their perception of shared decision making (SDM). **Aim** The aim of the study is to explore the mechanisms that lead to resilience in a sample of young people in youth care. The possible mediating effect of SDM on the relationship between having an informal mentor (compared to care as usual) and youth resilience was examined. Additionally, for participants with a mentor, SDM was examined as a mediator between the quality of the relationship between mentor and youth resilience. **Methods** Data from the GRIP project was used. Participants were 67 adolescents in youth care with a multi-problem family background aged 10 to 18 (treatment group with a mentor, $n = 39$ and care as usual group, $n = 28$). Results were collected using self-report questionnaires: *CYRM-12* to measure youth resilience, *PARA* to assess relationship quality (mentor group only) and *SRS* to determine shared decision-making. Two mediation analyses were conducted. **Results** Analysis suggest that young people who have a mentor have higher SDM which partly explains why they have higher resilience. There was no mediation effect of SDM on the link between relationship quality between the mentor and the young person and resilience. **Conclusion** Findings support the idea that young people from multi-problem families with informal mentors have higher resilience because they feel more involved in decision making. This suggests informal mentors can play an important role in the social system for such young people.

Introduction

Multiproblem families in youth care

Multi-problem families are families where difficulties exist on multiple domains of family functioning and where at least on child is referred to youth mental health (Bodden & Dekovic, 2015). As of 2021, nearly one in ten young people in the Netherlands received some sort of youth care (CBS, 2021). They are referred or seek help in the youth care system, since they are at risk of harm, danger or getting into risky behaviour (NJI, 2007). Many of these young people have grown up in families with chronic and intergenerational struggles and have been exposed to difficult circumstances like parenting issues, psychiatric problems, troubled relationships, health and housing issues and conflict with the justice system (Tausendfreund et. al., 2016).

Resilience

The study of resilience in youth seeks to understand how some people escape the harmful effects of severe adversity while growing up, cope well and bounce back (Masten, 2014). Even though definitions of resilience may vary, most authors agree that it is not an individual trait, but rather a result of the interaction between the child and their environment (Masten, 20143; Shean, 2015). Resilience is an ordinary adaption given the right resources, which leads to individuals being able to recover and maintain adaptive behaviour in the face of significant adversity. Furthermore, from a social ecological perspective of resilience (Ungar, 2013), it is the ability of individuals and their environments to interact in ways that maximize the development process. According to this definition, resilience is an active process which involves the participation of resources involved in young person environment, such as their family and other services. Resilience is a process where the person navigates available resources, which depends on the capacity to seek help and the availability of the help sought (Ungar, 2008). According to the resources available the person can make decisions towards adaptive behaviour.

Participation and shared decision making

Involving young people in decision-making is commonly referred to as youth participation (Oliver, et. al., 2015). During the last decades, youth care services have moved towards increasing youth and family participation (Timmerman, 2008). Several frameworks to understand participation have been developed (Hart, 1992; Shier, 2001; Lundy, 2007). Participation can be understood within a spectrum where higher levels of participation mean young people initiate ideas and share decisions with adults (Hart, 1992). Participation of young people is especially important regarding decisions that affect them (UN General Assembly, 1989). However, greater levels of participation are not only essential from a rights perspective, but it can also improve the effectiveness of interventions. Participation can have several positive effects in youth, such as an increase in self-confidence and self-esteem, as well as the development of reasoning skills and the ability to formulate opinions (Catalano et al., 2002; Oliver, et.al., 2006; Kylie, et. al., 2006; Kennan, et. al., 2018; Kennan, et. al., 2019). Youth are more likely to feel engaged, connected, and empowered when they are part of the decision-making process (Oliver, Collin, Burns & Nicholas, 2014; Wierenga, 2003), which can also contribute to the development of resilience (Catalano et al., 2002). Participation can give young people the feeling of being heard, which increases a sense of control and connectedness, as they work together with others (Wierenga, 2003). Fostering participation can help children and young people to grow up as autonomous and resilient adults.

Mentoring and resilience

Mentoring programs have gained popularity in recent decades as a way to support youth at risk (Alarcón et al., 2021; Avery, 2011; DuBois et al., 2002) and build resilience (Rhodes, 1994). Having a positive mentor or role model has been proposed as a protective factor for resilience (Ungar, 2008). Mentoring relationships arise between a young people and a more experienced, older person commits to providing guidance, support, and encouragement (Schwartz & Rhodes, 2016). The development of positive bonds can show youth that their voices and perspective matters, and that their communities are a source of support (Albright, 2017). Furthermore, according to system theory approach of mentoring relationships (Keller, 2005), the inclusion of a new member in the system could help youth to speak out their concerns and wishes acting as a communication channel towards other parts of the system such as parents and case workers. As mentioned, individual resilience happens when there is an environment that facilitates the access to resources and a willingness of those who control these resources to provide these to the individual (Ungar, 2008). By including the mentor in this system, patterns of the whole system are affected, and this new relationship can initiate a chain of events resulting in reciprocal or circular responses that reflect on the different parts involved (Keller, 2005). According to this view of resilience, mentors can help young people at risk develop resilience by providing resources to participate in the decision-making processes regarding their lives.

Informal mentoring

Over recent decades formal mentoring programs where a high/middle class volunteer is paired with a low-income child has been increasingly criticized for being potentially patronizing (Schwartz & Rhodes, 2016). In contrast, informal mentoring relationships develop organically, usually within the extended family, schools, neighbourhoods, and communities where young people live (Schwartz & Rhodes, 2016; Schwartz et al., 2013).

Research has shown that informal mentoring programs can improve educational retention, vocational and behavioural outcomes, physical health, and psychosocial wellbeing in youth (DuBois et al, 2002; Van Dam et al, 2018, Van Dam et al, 2021). Encouraging findings point out that natural mentors are beneficial for all youth regardless of their risk-status (e.g., teenage mothers, homeless youth, youth in foster care) (Van Dam et al, 2018), which implies that they can address several issues in different contexts.

Mentor – youth relationship quality

The impact of the mentor relationship relies heavily on the nature and quality of that bond (Rhodes et al., 2006), being maybe the strongest determinant of a successful intervention (Keller, 2005). This is because trust, a basic aspect of relationship quality (Spencer, 2007), can allow

young people to be more confident and secure about seeking out help and speaking out their concerns, leading to higher degrees of participation and SDM. Literature suggests that informal mentors can establish stronger relationships than case workers, as informal mentors have longer lasting bonds, greater commitment to endure their relationship (Avery, 2011) and normally share a common cultural background (Albright, 2017).

YIM Approach

The Youth Initiated Mentors (YIM) is a new approach in child and family services, that builds on the evidence presented so far. In this new approach families and youth care organizations collaborate with an informal mentor from the adolescent's social network. Young people in youth care choose a mentor from within their environment to work as a confidential advisor and stand up for the interests. This approach has been adapted from informal mentoring programmes in the United States (Schwartz & Rhodes, 2016; Spencer, Drew & Horn, 2020) to be implemented recently in the Netherlands (Koper et. al., 2021; Koper et. al., 2020; Van Dam et. al., 2021; Van Dam et. al., 2019; Schwartz & Van Dam, 2020). Young people participating in this programme come from multiproblem families and are referred to youth care services. This hybrid model combines the strengths of informal mentoring with the infrastructure and support provided by youth care services, to create lasting and functional pedagogical alliances between the family and its social network.

Scientific and Social Relevance

Informal mentoring, as described earlier, is an innovate approach to improve youth resilience (Rhodes, 1994; Alarcón et al 2021; Koper et al., 2020), strengthen existing social networks (Van Dam, 2019; Rhodes et al., 2006) and increase participation in the shared decision-making process.

Although the benefits of natural mentoring relationships are generally acknowledged, interventions rarely focus on such relationships since they are, by definition, naturally forming, and viewed as outside the scope of youth care (Schwartz & Van Dam, 2020). This approach has started to be implemented in the Netherlands; however, research has been conducted predominantly in the United States (Van Dam, 2018; Schwartz et al. 2013; Rhodes, 1994, DuBois et al., 2002; Erdem et al, 20016; Greeson & Bowen, 2008; Rhodes et al, 2006; Schwartz & Rhodes, 2016; Schwartz, 2013; Spencer, 2007). Increasing knowledge in European contexts such as the Netherlands, is of significant scientific relevance as informal mentoring arises as a potentially more ecologically valid and long-lasting model of mentoring (Schwartz et al. 2013) that aligns with youth care reforms. Youth care is moving towards decreasing specialized care and increasing the provision of services that are based on youth and families own strength,

participation, and problem-solving abilities (Timmermann, 2008; NJI, 2019). It should be provided based on youth and families' own capacities, engagement, and problem-solving abilities (NJI, 2019). Informal mentoring could potentially benefit a vast percentage of young people in youth care, as evidence suggest that informal mentors can be beneficial for all youth regardless of their risk-status (e.g., teenage mothers, homeless youth, youth in foster care) (Van Dam et al, 2018).

Specifically, the mechanism in mentoring relationships could be understood clearer through research (Keller, 2005; Rhodes et al. 2006; Erdem, et al, 2016). Psychological theories about resilience (Ungar, 2008) and system theory (Keller, 2005) help us navigate the complex relationships that develop through mentoring and the mechanism that lead to resilience. Identifying mediators has become increasingly important, however, studies of mediation are relatively scarce (Ng & Weisz, 2016). Understanding the complex process involved in the development of resilience can improve the effectiveness and efficiency of future interventions.

Research Question and Hypothesis

This paper aims to understand the mechanisms involved in the development of resilience in youth. For that, the following question is posed: (Q1) Does SDM mediate the effect of having a mentor on the youth resilience? It is expected that (H1) the effect of SDM positively mediates the effect of having a mentor (compared to not having a mentor) on youth resilience.

Furthermore, to understand the mechanisms involved more deeply for those youth who do have a mentor, we will examine if the relationship quality between a mentor and youth is mediated through the how much youth participate and feel heard in the decision-making process. Specifically, the second research question of this study is (Q2) Does shared decision-making mediate the effect of mentor-youth relationship quality on youth resilience? We theorize that the quality of the relationship between mentor and youth predicts how they share decisions, predicting the development of youth resilience in a positive way. In other words, the hypothesis suggested is that (H2) shared decision-making positively mediates the relationship quality and the outcome of youth resilience.

Methods and Design

Sample and participants

This study uses the data by the Growth in Personal environment (GRIP) project conducted in 2020 and 2021, which is cooperative research between the University of Utrecht, the University of Amsterdam, five youth care organizations[1] and the YIM Foundation. The aim

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[1] The five youth care organisations are Enver, Jeugdformaat, Juzt, Spirit and Youké.

of the study was to investigate the effectiveness and effective mechanisms of youth care to prevent (repeated or long-term) out-of-home placement (GRIP, 2022; Koper et al. 2020). The intervention was based on the Youth Initiated Mentors (YIM) approach, in which families and youth care organizations collaborate with an informal mentor from the adolescent's social network. First, youth nominate a person in their environment their trust. This person us informed and an agreement about privacy, termination and type of support is established. Second, youth, families, mentor, and case workers analyse the individual and family problems and define solutions. After that, all participants provide a plan with learning goals and efforts, which also serves as a monitoring tool. Lastly, all parties discuss the sustainability and system's adaptivity, meaning how they will deal with new challenges and how the alliance will be adapted in the future. The intervention can last between six and nine months (Van Dam, et. al, 2017).

Participants in the treatment group belonged to so called multi-problem families (Koper et. al., 202). At the beginning of the intervention young people and their families were recruited by their youth care organization and asked for permission to be approached by the research group. Participation was voluntary and anonymous. Younger than 16-year-olds required additional parental consent. The study involved four measurements over the course of approximately 15 months. The young person, family member and mentor had to fill out a questionnaire of about 20 to 40 minutes. Current research only used the data collected in the first measurement, and only of the young person. Questionnaires were answered on average 10 weeks (SD=8.2) after intake, which means that young people were participating in the intervention for about 2 and a half months.

Participants of the control group were young people and families who received another form of outpatient systemic youth care (care as usual)[2]. Participants of the control group worked together with a (1) case worker in (2) the family, while participants in the treatment group worked with a (1) case worker, (2) the family and a (3) mentor. Participants were placed in the control group based on their decision and consent. They could also be advised by care workers, but no clear criteria were established to recommend participation.

The initial sample has 115 participants. However, only participants who provided all demographic information and answered at least 75% of the questions of the youth-mentor

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[2] Care as usual was provided by four of the same youth care organizations that participated in the study and one youth care organization from another region that did not implement the YIM approach. This is because four youth care centres offered the YIM approach, while also maintaining their usual services. Only one organization offered the YIM approach to all families. Therefore, another youth centre from another region was added to the control group.

relationship, SDM and/or resilience were included. Cases with missing values were imputed
with mean values of each scale.

The final sample consisted of 67 participants and was divided in two groups - a
treatment group and a control group. Participants of the treatment group ($n = 39$) were able to
nominate an informal mentor, while the control group participated in the study without a mentor
and who received care as usual. Almost half the sample was female (45%), and most
participants identified their ethnicity as Dutch (76%)[3], which is very similar to the national
percentage (79%) of people of Dutch ethnicity in the Netherlands (World Population Review,
n.d). The average age of participants was 15 years (range: 10-18 and SD =1.87).

Data and measurements

Data was collected by trained professionals about 2,5 months after the intake in the
study. The research had the approval of the Faculty Ethical Review Committee (FETC) of the
Faculty of Social Sciences of Utrecht University and is conducted in accordance with the
international guidelines of the Declaration of Helsinki (World Medical Association, 2013). The
following measurements were used to collect data (for more information see appendix A).

To measure **youth resilience,** the Child and Youth Resilience Measure (CYRM-12) was
used (Liebenberg, Ungar & LeBlanc, 2013). It is a self-report instrument, originally used with
youth facing adversity. It has 12 items, rated on a 5-point scale, ranged from 1 (poor) to 5
(excellent). Higher scores in this measurement indicate higher youth resilience. Some
statements include "I have people to look up to"; "I am treated fairly in my community" and "I
have opportunities to develop my job skills". The scale ranges between 0 and 60. Higher scores
suggest higher levels of resilience.

The **relationship quality** is measured through the Psychological Availability and
Reliance on Adult Scale (PARA) (Schuengel & Zegers, 2003). This scale was only measured
for participants in the treatment group who have a mentor. This scale often used to measure
relationship quality in asymmetric relationships has three domains: (1) psychological
availability, (2) appeal and (3) affective bond (Zegers, 2007). Some statements include "For
support and advice, go to your mentor", "Your mentor can comfort you when you are sad" and
"You raise your concerns with your mentor". The continuous variable was the sum of scores of
the 16 items, which ranged from 0 to 64, with higher scores indicating a better relationship
quality.

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[3] 24% of the sample identified themselves as other ethnic groups such as Moroccan, Surinam, Belgium,
Eritrea, Indonesia, Cape Verde, Turkey, and Asia.

To rate **shared decision making** the brief Session Rating Scale (SRS) (Duncan, et. al., 2003)
was used, which measures therapeutic alliance and the perception of SDM (Duncan et al.,
2003). It consists of a four-item visual analogue instrument that tap[4] into the (1) relational
bond, (2) agreement on the goals, (3) agreement on the tasks, and (4) the youth's view of the
session(s). Statements include "My counsellor didn't always listen to me"and "What we did and
what we talked about wasn't that important to me". The scale ranges from 0 to 40, with higher
scores indicating higher levels of shared decision-making. In the case of the control group this
scale referred to the alliance between youth and the case worker, while in the treatment group it
referred to the alliance between mentor and youth.

During the analysis, the following **control variables** were used: gender (female=1,
male=0), ethnicity[5] (Dutch=1, non-Dutch=0) and age of the adolescents.

Statistical Analysis

To examine the mechanisms involved with resilience in youth, two mediation analysis
were conducted[6]. Mediation analysis is a widely used statistical method for estimating direct
and indirect effects in single and multiple mediation models (Hayes, 2017; Hayes, 2022; Imai,
Keele & Tingley, 2010; Imai, Keele & Yamamoto, 2010). In particular, the "PROCESS
v3.5beta for R" package developed by Hayes (2022) was used, which was implemented in R-
Studio statistical software. By default, PROCESS generates 95% percentile bootstrap
confidence intervals for all indirect effects. For this study, bias-corrected bootstrap confidence
intervals were used.

Results

Descriptive statistics

Table 1**¡Error! No se encuentra el origen de la referencia.** presents descriptive
statistics for the variables included in the study. 76% of the sample identified themselves as
from Dutch ethnicity, 44% as female and the mean age of participants was 15 years. Comparing
the observed characteristics between treatment and control group, no statistically significant

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[4] Participants mark their agreement with each statement on a line on each sheet. Points marked are
measured in centimetres and converted into points. See Appendix A: Instruments, Child Session Rating
Scale (SRS-C).

[5] Participants were also asked about the birth country of their parents. However, to construct the variable
of migration background many missing values were identified, leading to choose the self-reported
ethnicity variable. Participants responded to the question: "To which population group do you count
yourself?"

[6] More information on the mediation model tested and the variables involved in each analysis can be
found in the result section, Figures 1 and 2

differences were identified, which makes both groups comparable, at least regarding these variables.

Regarding the study variables in the total sample (N=67), an average of 44.7 (SD=5.7) points of resilience and 27.8 (SD=8.8) points of SDM were observed. A positive and statistically significant difference between both variables was identified, both in SDM and youth resilience, with the treatment group having 46.5 (SD=5) and the control group showing 42.3 (SD=6) points on the resilience scale. Only the treatment group (N=39) reported relationship quality with an average of 60.6 (SD=6.4) points. Overall, it is possible to say that young people with a mentor have higher youth resilience and shared decision-making scores than their peers without a mentor.

To assess the size and direction of the linear relationship between the study variables and control variables a bivariate Pearson's correlation was calculated. Regarding the correlation between study variables and control variables, only a medium positive correlation between relationship quality and gender was found (0.37), meaning that females tend to have a better relationship quality with their mentors. All other control variables had small correlations with study variables.

Table 1 Descriptive statistic for study variables

	Total (N=67)	Treatment (N=39)	Control (N=28)	Diff. of						
	Mean	Mean	Mean	Means	1	2	3	4	5	6
1. Gender (% female)	44.78%	48.72%	39.29%	9.43%	-					
2. Ethnicity (% Dutch)	76.12%	76.92%	75.00%	1.92%	0.16	-				
3. Age	15.18	15.15	15.21	-0.06	0.15	0.04	-			
4. Relationship Quality	60.62	60.62			0.37^{*}	0.13	0.01	-		
5. SDM	27.85	30.53	24.13	6.40^{**}	0.06	0.09	0.02	0.53^{***}	-	
6. Resilience	44.71	46.45	42.29	4.17^{**}	-0.11	-0.06	0.22^{+}	0.35^{*}	0.37^{**}	-

Note: The diff column is the coefficient of a simple regression of treatment status on the variable. Stars indicate whether this difference is significant. Standard errors in parenthesis.

*p < 0.001 '***' p < 0.01 '**' p < 0.05 '*' p < 0.1 '+'*

Regarding correlations within study variables, resilience had a medium positive
correlation with relationship quality (0.35) and shared-decision-making (0.37). The only large
positive correlation was found between shared-decision-making and relationship quality (0.53),
meaning that those young people who have a better relationship with their mentors also tend to
be more involved in the decision-making process.

Mediation Analysis of Shared Decision Making on Treatment

Figure 1 shows the associations between having a mentor (treatment), SDM and youth
resilience. On average, young people with a mentor have 3.11 more units in the youth resilience
scale. Results also provide provisional support for hypothesis 1, that is, that the effect of SDM
positively mediates the effect of having a mentor on youth resilience. Young people in the
treatment group report 6.40 more units in SDM, comparted to those without mentor.
Furthermore, adolescents who felt involved in shared decision-making scale were more resilient
(0.18), which shows that there this variable is a potential indirect path.

Figure 1 Model 1 Associations between having a mentor (treatment), SDM and youth resilience
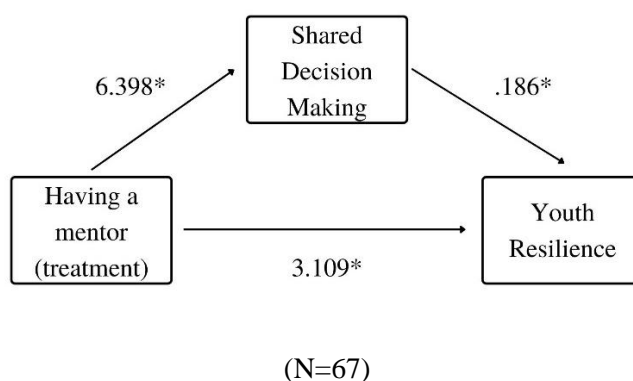

(N=67)

Table 2 presents the total, direct and indirect effects of having a mentor (treatment) on
youth resilience. Results suggest that having a mentor has a significant positive indirect effect
through SDM. Findings imply that young people with a mentor are more resilient than those
receiving care as usual, supporting the first hypothesis of the study. Direct and total effects were
also found through this analysis, indicating partial mediation. Overall, the indirect effect of
having a mentor account for about 27% of the total effect.

Table 2 Mediation analysis on SDM on Resilience

| Type	Path	Estimate	95% C.I. (Bootstrap)	
			Lower	Upper
Indirect Effect	Mentor -> SDM -> Res	1.187*	0.296	2.71
		(0.575)		
Direct Effect	Mentor -> Res	3.109*	0.406	5.93
		(1.350)		
Total Effect	Mentor -> Res	4.296**	1.457	6.85
		(1.306)		
Observations (N)	67			

*Note: Stars indicate whether this difference is significant. Bootstraped standard errors in
parenthesis. Confidence Intervals computed with method: Bias corrected bootstrap.*
*$p < 0.001$ '***' $p < 0.01$ '**' $p < 0.05$ '*' $p < 0.1$ '+'*

Mediation Analysis of SDM on Relationship Quality

   Second, Figure 2 shows the associations between relationship quality, SDM and youth
resilience within the treatment group (N=39), as only these group reported relationship quality.
On average, every additional point on the relationship quality scale increases resilience in 0.2
points. However, these results are not statistically significant, meaning it is not possible to
identify if a better relationship quality results in higher youth resilience. However, results show
that relationship quality and SDM are correlated. For every additional point on the relationship
quality scale, young people report 0.5 more points on shared decision-makings, meaning a
better relationship quality can result in young people feeling more involved in the process.

Figure 2 Model 2 Associations between relationship quality, SDM and youth resilience
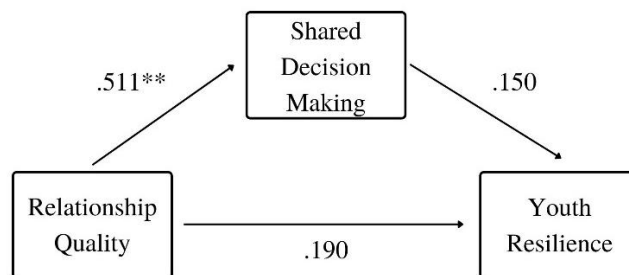
(N=39)

Finally, Table 3 presents the total, direct and indirect effects of the relationship quality
on youth resilience. Even though the direction of the effects aligns with previous findings, no
evidence for a significant indirect effect for quality relationship was observed. In view of this,
the second hypothesis of the study is not supported by the found results.

Table 3 Mediation analysis on SDM on Relationship Quality

Type	Path	Estimate	95% C.I. (Bootstrap)	
			Lower	Upper
Indirect Effect	Relationship -> SDM -> Res	0.077 (0.064)	-0.053	0.214
Direct Effect	Relationship -> Res	0.190 (0.152)	-0.118	0.499
Total Effect	Relationship -> Res	0.267^{+} (0.136)	-0.009	0.543
Observations (N)	39			

*Note: Stars indicate whether this difference is significant. Bootstrapped standard errors in
parenthesis. Confidence Intervals computed with method: Bias corrected bootstrap.*
*$p < 0.001$ '***' $p < 0.01$ '**' $p < 0.05$ '*' $p < 0.1$ '+'*

Discussion

The current study aimed to examine the relationship between having a mentor and youth
resilience, and the possible mediating effect of SDM. Additionally, the quality of the
relationship between mentor and youth was also examined in the subsample of young people
who had a mentor, to further understand its connection with youth resilience and SDM.
Evidence was found to support the first hypothesis of the study, meaning that higher levels of
shared-decision-making positively mediate the effect of having a mentor (compared to not
having a mentor) on youth resilience. However, the analysis conducted did not provided
evidence to support the assumption that SDM positively mediates the relationship quality and
the outcome of youth resilience.

Discussion of results

The mediation analysis suggests that young people who have a mentor are more
involved in the decision-making process and therefore, see their levels of resilience positively
impacted. This is in line with theories about youth resilience, which state that a mentor can

work as a facilitator or third party between youth and other system members such as parents or caseworkers, so that they can speak out their concerns and wishes (Keller, 2005). Also, mentors may have the power to provide resources necessary for resilience, that otherwise would not be available for young people (Ungar, 2008). Because informal mentors share a previous relationship and a common cultural background (Albright, 2017), it is more likely there will be trust between the two, encouraging the young person to seek out help and the mentor to provide the support needed in a culturally appropriate way. Ungar (2008) names this as a navigation and negotiation process of resilience that the individual goes through, and that is also dependent on the environment. Regarding the importance of the relationship quality between the mentor and the young person, it was not possible to find a significant indirect effect. This means, that no support could be given to the second hypothesis that states that *s*hared decision-making positively mediates the relationship quality and the outcome of youth resilience. A possible explanation for the lack of results could be that treatment groups may already have higher scores on resilience and a smaller standard deviation; therefore, resilience does not vary greatly according to relationship quality.

Methodological Limitations and Strengths

Several limitations should be considered when interpreting the current study. First, the sample size is relatively small, which makes it more difficult to identify significant relationships. This limitation is aggravated by the drop out in the sample due to missing values. Additionally, the design of the study with treatment and control group also further limits the analysis that can be conducted, as the second hypothesis only could be tested with the treatment group, meaning the sample size was reduced to 39. A bigger sample size could have allowed for more precise results, as large studies produce narrow confidence intervals.

A second limitation of the study is that, even though there is a control group, these were not randomly assigned. Randomized control trials prevent selection biases and help mitigate the influence of non-observed variables that might be important for the studied outcome. In this case, participants were naturally allocated in the treatment or control group with no clear criteria. Therefore, it is self-selection biases and unknown variables could be influencing reported results.

A third limitation is the use of self-report questionnaires, which can compromise data's objectivity. Even though anonymity was ensured, the use of self-report questionnaires still invites participants to socially desirable answers. This risk was previously assessed, and the original study design included data reported by the mentor and a family member to be able to triangulate information. However, during the data cleaning phase too many missing values

were identified in both databases, which would have reduced the small sample even more. Data reported by mentor and family members were therefore not included in the current study but could have helped to reduce the limitations of self-reported questionnaires in a bigger sample.

Lastly, a fourth limitation of the study is the time young people have been placed in the intervention. Data was collected on average 10 weeks after intake, with a relatively high standard deviation (SD=8.2). The intervention can last up to nine months. Two and a half months is still considered early in the intervention and may not be long enough to see differences between treatment groups and controls. The original study is longitudinal and could shed some light on how the variables behave over time. However, data is still being collected.

Despite the stated limitations of the study, several strengths are also worth mentioning. Firstly, it is remarkable to have a study sample of young people from multi-problem families. This population is often difficult to reach and therefore there is a general lack of studies that include them.

Even though it is mentioned before that randomized control trials would have been a way to reduce limitations since they are a golden standard for evidence-based research, this study benefits from being conducted under real-life circumstances. Real world evidence is increasingly important to research effectiveness outside of the tightly controlled conditions of RCTs, increases the ecological validity and generalizability into other settings.

Finally, this is a study where young people between the ages of 10 and 18 reported their views and were consulted. Many studies on resilience use data reported by family members or teachers, and neglect representing young people's opinion on matters that affect their own life. This study contributes to the representation and validation of young people's experience, specially of a population often neglected.

Implications and recommendations for practice

Findings suggest that informal mentoring programs allow young people to be more involved in interventions leading to youth resilience. This approach is potentially more ecologically valid and aligns with recent youth care reforms in the Netherlands. Increasing evidence of its effectiveness and mechanisms of change can have important policy implications. If interventions are theoretical and/or empirical effective they can be added to the "Database of Effective Youth Interventions" (NJI, 2015) which includes a range of interventions in youth care, health care, welfare care and criminal law in the Netherlands. Evidence can also help replicate similar approaches in European contexts.

Interventions still tend to focus on individual components (Shean, 2015), neglecting to understand it as a socioecological process. There is a need for ecological approaches that target youth's environments (Ng & Weisz, 2016), especially by strengthen youth's social resources, increase they SDM processes and support personalized interventions (Van Dam, 2018). Approaches that promote young people's participation through SDM also can contribute to the establishment of a children's right perspective in youth care.

Conclusion

To better understand how resilience occurs in youth at risk, this study contributes to the evidence of informal mentors in European contexts. Findings suggest that that young people who have a mentor are more involved in the decision-making process and therefore, see their levels of resilience positively impacted.

To gain mor insight into the mechanisms embedded in youth resilience and informal mentoring, more research is needed. The current study may help as a steppingstone for future studies. Bigger samples and multiple informants may help to achieve more precise results. A longitudinal study of this population is needed in order to prove whether informal mentoring also has long-term effects in the European context. What is clear by now, it that youth at risk are more likely to participate in life decisions when they have informal mentors, and mentors are therefore can be considered protective factors for youth resilience.

References

Alarcón, X., Bobowik, M., & Prieto-Flores, Ò. (2021). Mentoring for Improving the Self-Esteem,
Resilience, and Hope of Unaccompanied Migrant Youth in the Barcelona Metropolitan
Area. *International Journal of Environmental Research and Public Health*, *18*(10), 5210.

Albright, J. N., Hurd, N. M., & Hussain, S. B. (2017). Applying a social justice lens to youth
mentoring: A review of the literature and recommendations for practice. *American
journal of community psychology*, *59*(3-4), 363-381.

Avery, R. J. (2011). The potential contribution of mentor programs to relational permanency for
youth aging out of foster care. *Child welfare*, *90*(3).

Bodden, D. H., & Deković, M. (2016). Multiproblem families referred to youth mental health:
What's in a name?. *Family process*, *55*(1), 31-47.

Catalano, R.F., Berglund, M.L., Ryan, J.A.M., Lonczak, H.S., & Hawkins, J.D. (2002). Positive
youth development in the United States: Research findings on evaluations of positive
youth development programs. *Prevention and Treatment,* 5(1), 15.

CBS (Centraal Bureau voor de Statistiek) (2021) How many under-18s are receiving youth
assistance?. Retrieved from https://longreads.cbs.nl/the-netherlands-in-numbers-
2020/how-many-under-18s-are-receiving-youth-assistance/

DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring
programs for youth: A meta-analytic review. *American Journal of Community
Psychology*, *30*(2), 157-197.

Duncan, B. L., Miller, S. D., Sparks, J. A., Claud, D. A., Reynolds, L. R., Brown, J., & Johnson,
L. D. (2003). The Session Rating Scale: Preliminary psychometric properties of a
"working" alliance measure. *Journal of Brief Therapy*, *3*(1), 3-12.

Erdem, G., DuBois, D. L., Larose, S., De Wit, D., & Lipman, E. L. (2016). Mentoring
relationships, positive development, youth emotional and behavioral problems:
Investigation of a mediational model. *Journal of Community Psychology*, *44*(4), 464-483.

Greeson, J. & Bowen, N,. (2008) "She holds my hand" The experiences of foster youth with their
natural mentors *Children and Youth Services Review*, 30 (2008), pp. 1178-1188

GRIP (2022) Groeien in persoonlijke omgeving. Retrieved from https://grip.sites.uu.nl/

Hart, R. A. (1992). Children's participation: From tokenism to citizenship (No.
inness92/6).Shier, H. (2001). Pathways to participation: Openings, opportunities and
obligations. Children & society, 15(2), 107-117.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A
regression-based approach.* Guilford publications.

Hayes, A.F. (2022) *Introduction to Mediation, Moderation and Conditional Process Analysis: a
Regression-Based Approach. Third Edition*. Guilford publications

Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation
analysis. *Psychological methods*, *15*(4), 309.

Imai, K., Keele, L., & Yamamoto, T. (2010). Identification, inference and sensitivity analysis for
causal mediation effects. *Statistical science*, *25*(1), 51-71.

Keller, T. E. (2005). A systemic model of the youth mentoring intervention. *The Journal of
Primary Prevention*, 26(2), 169–188. https://doi.org/10.1007/s10935- 005-1850-2

Kennan, D., Brady, B., & Forkan, C. (2018). Supporting children's participation in decision
making: A systematic literature review exploring the effectiveness of participatory
processes. *The British Journal of Social Work, 48(7), 1985-2002. ISO 690*

Kennan, D., Brady, B., & Forkan, C. (2019). Space, voice, audience and influence: the Lundy
model of participation (2007) in child welfare practice. *Practice*, *31*(3), 205-218.

Koper, N., Creemers, H. E., Branje, S., Stams, G. J. J., & van Dam, L. (2020). Effectiveness and
working mechanisms of the InConnection approach in multi-problem families: study
protocol of a mixed-methods study. *BMC Health Services Research*, *20*(1), 1-16.

Koper, N., Creemers, H. E., van Dam, L., Stams, G. J. J., & Branje, S. (2021). Needs of Youth
and Parents From Multi-Problem Families in the Search for Youth-Initiated
Mentors. *Youth & Society*, 0044118X211058217.

Kylie G. Oliver, Philippa Collin, Jane Burns & Jonathan Nicholas (2006) Building resilience in
young people through meaningful participation, Australian e-Journal for the
Advancement of Mental Health, 5:1, 34-40

Liebenberg, L., Ungar, M., & LeBlanc, J. C. (2013). The CYRM-12: a brief measure of
resilience. *Canadian Journal of Public Health*, *104*(2), e131-e135.

Lundy, L. (2007). 'Voice'is not enough: conceptualising Article 12 of the United Nations Convention on the Rights of the Child. British educational research journal, 33(6), 927-942.

Masten, A. S. (2014). Global perspectives on resilience in children and youth. *Child development*, *85*(1), 6-20.

Ng, M. Y., & Weisz, J. R. (2016). Annual research review: Building a science of personalized intervention for youth mental health. *Journal of Child Psychology and Psychiatry*, *57*(3), 216-236.

Oliver, K. G., Collin, P., Burns, J., & Nicholas, J. (2006). Building resilience in young people through meaningful participation. *Australian e-Journal for the advancement of Mental Health*, *5*(1), 34-40.

Rhodes, J. E. (1994). Older and wiser: Mentoring relationships in childhood and adolescence. *Journal of primary prevention*, *14*(3), 187-196.

Rhodes, J. E., Spencer, R., Keller, T. E., Liang, B., & Noam, G. (2006). A model for the influence of mentoring relationships on youth development. *Journal of community psychology*, *34*(6), 691-707.

Schuengel, C., & Zegers, M. (2003). Psychological availability and reliance on adult, manual. *Amsterdam/Zetten: Free University Amsterdam/Orthopedagogical center OGH*.

Schwartz, S. E., & Rhodes, J. E. (2016). From treatment to empowerment: New approaches to youth mentoring. *American Journal of Community Psychology*, *58*(1-2), 150-157.

Schwartz, S. E., Rhodes, J. E., Spencer, R., & Grossman, J. B. (2013). Youth initiated mentoring: Investigating a new approach to working with vulnerable adolescents. *American Journal of Community Psychology*, *52*(1-2), 155-169.

Schwartz, S., & van Dam, L. (2020). Cultivation of natural mentors to strengthen resiliency in youth: a program theory of Youth Initiated Mentoring (YIM). *Journal of Social Intervention: Theory and Practice*, *29*(1), 3-20.

Shean, M. (2015). Current theories relating to resilience and young people. *Victorian Health Promotion Foundation: Melbourne, Australia*, *2*.

Shier, H. (2001). Pathways to participation: Openings, opportunities and obligations. *Children & society*, *15*(2), 107-117.

Spencer, R. (2007). "It's not what I expected" A qualitative study of youth mentoring relationship failures. *Journal of Adolescent Research*, *22*(4), 331-354.

Spencer, R., Drew, A. L., & Horn, J. P. (2021). Program staff perspectives on implementing youth-initiated mentoring with systems-involved youth. *Journal of Community Psychology*, *49*(7), 2781-2794.

Tausendfreund, T., Knot-Dickscheit, J., Schulze, G., Knorth, E. & Grietens, H., (2016) Families in multi-problem situations: Backgrounds, characteristics, and care services, *Child & Youth Services*, 37:1, 4-22, DOI: 10.1080/0145935X.2015.1052133

NJI (The Netherlands Youth Institute). (2007). Youth Policy in the Netherlands: an overview of policies, structures and provisions concerning children and young people living in the Netherlands. Utrecht: Netherlands

NJI (The Netherlands Youth Institute). (2015). Databank effectieve jeugdinterventies [Database effective youth interventions]. Retrieved from: from http://www.nji.nl/nl/Kennis/Databanken/Databank-EffectieveJeugdinterventies..

NJI (The Netherlands Youth Institute). (2019). Reform of the Dutch system for child and youth care: 4 years later.

Timmerman, G. (2009). Youth policy and participation: An analysis of pedagogical ideals in municipal youth policy in the Netherlands. *Children and Youth Services Review*, *31*(5), 572-576

UN General Assembly (1989) *Convention on the Rights of the Child*. Retrieved from: https://www.refworld.org/docid/3ae6b38f0.html

Ungar, M. (2008). Resilience across cultures. *The British Journal of Social Work*, *38*(2), 218-235.

Ungar, M. (2013). Resilience, trauma, context, and culture. *Trauma, violence, & abuse*, *14*(3), 255-266.

Van Dam, L., Neels, S., de Winter, M., Branje, S., Wijsbroek, S., Hutschemaekers, G., Dekker, A., Sekreve, A., Zwaanswijk, M., Wissink, I., & Stams, G. (2017). Youth initiated mentors: Do they offer an alternative for out-of-home placement in youth care?. *The British Journal of Social Work*, *47*(6), 1764-1780.

Van Dam, L., Bakhuizen, R. E., Schwartz, S. E. O., De Winter, M., Zwaanswijk, M., Wissink, I.
B., & Stams, G. J. (2019). An exploration of youth–parent–mentor relationship
dynamics in a youth-initiated mentoring intervention to prevent out-of-home
placement. *Youth & Society*, 51(7), 915-933.

van Dam, L., Heijmans, L., & Stams, G. J. (2021). Youth initiated mentoring in social work:
Sustainable solution for youth with complex needs? *Child and Adolescent Social Work
Journal*, 38(2), 149-155.

van Dam, L., Smit, D., Wildschut, B., Branje, S.J., Rhodes, J.E., Assink, M., & Stams, G.J.
(2018). Does Natural Mentoring Matter? A Multilevel Meta-analysis on the Association
Between Natural Mentoring and Youth Outcomes. *American Journal of Community
Psychology, 62*, 203 - 220.

Wierenga, A. (2003). *Sharing a New Story: Young People in Decision Making.* Australian
Youth Research Centre, Working Paper 23. Melbourne: The Foundation for Young
Australians.

World Medical Association. (2013). World Medical Association Declaration of Helsinki: ethical
principles for medical research involving human subjects. *Jama*, *310*(20), 2191-2194.

World Population Review (n.d). Netherlands Population 2022. Retrieved from
ttps://worldpopulationreview.com/countries/netherlands-population

Zegers, M. (2007). Attachment among institutionalized adolescents. Mental representations,
therapeutic relationships and problem behavior. *Institute for the Study of Education and
Human Development.*

Appendices

Appendix A: Instruments

Database and Codebook[7] were provided by Natasha Koper, PhD candidate, and part of the GRIP research team. For this study only three scales were used, which are described in the present appendix.

Child and Youth Resilience Meter (CYRM-12)
Informant
Adolescent
Reference
Liebenberg, L., Ungar, M., & LeBlanc, J.C. (2013). The CYRM-12: A brief measure of resilience. *Canadian Journal of Public Health*, 104(2), 131-135.
Scoring
5-point scale: 1 = Not at all, 2 = Little, 3 = A little, 4 = Quite a lot, 5 = A lot999 = missing
Items
12 items 1. I have people I look up to 2. Completing an education is important to me 3. My parent(s)/carer(s) know a lot about me 4. I'm trying to finish what I'm getting into 5. I am able to solve problems without harming myself or others (e.g. through drug use and/or violence) 6. I know where in my area I can get help 7. I feel at home at school 8. My family supports me in difficult times 9. My friends support me in difficult times 10.I am treated fairly in my environment

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[7] Codebook is not available online but was provided as a word document. The original version was provided in Dutch.

Psychological Availability and Reliance on Adult (PARA)
Informant
Adolescent
Reference
Zegers, M. (2007). Attachment among institutionalized adolescents. Mental representations, therapeutic relationships and problem behavior. *Institute for the Study of Education and Human Development.*
Scoring
4-point scale: 1 = disagree; 2 = disagree a little; 3 = agree a little; 4 = agree999 = missing
Items
1. Your JIM empathizes with you when he/she listens to you 2. You feel happiest in front of your JIM 3. When you're sad, your JIM responds 4. Your JIM makes sure you're walking around with something 5. *You never let your (personal) thoughts or feelings show to your JIM* 6. If something nice or nice happens, you would like to tell your JIM 7. Your JIM sometimes spontaneously shows that he/she appreciates you 8. *It doesn't make any difference to you who your JIM is* 9. For support and advice, go to your JIM 10. Your JIM is there for you when you're worried about something 11. When you go on a weekend or when you know you won't see your JIM for a few days, you always want to say goodbye 12. Your JIM can comfort you when you are sad 13. You can easily talk to your JIM about your thoughts and feelings 14. Your JIM is warm and understanding 15. You raise your concerns with your JIM 16. *You keep your JIM at bay when you are scared or sad* 17. You sometimes miss your JIM

Child Session Rating Scale (SRS-C)
Informant
Adolescent
Reference
Duncan, B. L., Miller, S. D., Sparks, J. A., Claud, D. A., Reynolds, L. R., Brown, J., & Johnson, L. D. (2003). The Session Rating Scale: Preliminary psychometric properties of a "working" alliance measure. *Journal of Brief Therapy*,*3*(1), 3-12.
Scoring
By placing a pointer on a continuous scale of 10 cm, distance is measured with a rules in cms. Then multiply the number of cm by 10 to calculate the score on that item (with a minimum of 0 and a maximum of 100).
Items
1.   Listen My counselor didn't always listen to me My counselor listened to me 2.   How important What we did and what we talked about wasn't that important to me. What we did and what we talked about was important to me. 3.   What we've done I didn't like what we did I liked what we did 4.   All in all I wish we could do something different I hope next time we're going to do the same kind of stuff.

Appendix B: Analysis Code Syntax

The following appendix summarizes de code syntax used for the present study done in R-Studio.

```r
```{r setup}

## PACKAGES ##
knitr::opts_chunk$set(echo = TRUE)


## IMPORTING DATA ##
library(readr)
data0 <- read_delim("data0.csv",
                    delim = ";",
                    escape_double = FALSE,
                    locale = locale(decimal_mark = ","),
                    trim_ws = TRUE)

data0

```
```

```r
```{r descriptive analysis}

## RELEVANT VARIABLES ##
cov0 <- c("female", "age", "dutch")
interest <- c("youthrqua", "SRS", "youthres")

## SAMPLE DESCRIPTION ##
data0 %>%
  dplyr::select(one_of(cov0, interest)) %>%
  summarise_all(funs(mean(., na.rm = TRUE), sd=sd(dutch)))

## DESCRIPTION BY TREATMENT ##
data0 %>%
  group_by(treat) %>%
  dplyr::select(one_of(cov0, interest)) %>%
  summarise_all(funs(mean(., na.rm = TRUE), sd=sd(dutch)))

## ARE THE DIFFERENCES SIGNIFICANT? ##
summary(lm(dutch ~ treat,data=data0))
summary(lm(age ~ treat, data=data0))
summary(lm(female ~ treat,data=data0))
summary(lm(youthres~treat,data=data0))
summary(lm(SRS~treat,data=data0))

### CORRELATION MATRIX ###
library(Hmisc)

rcorr(as.matrix(data0 %>% dplyr::select(female, age, dutch, youthrqua, SRS, youthres)))

```
```

```{r hypothesis 1 mediation analysis}

set.seed(2014)

## MAIN REGRESSIONS ##
simple.fit <- lm(SRS ~ treat, data = data0)
med.fit <- lm(SRS ~ treat + female + age + dutch, data = data0)
out.fit <- lm(youthres ~ treat + SRS + female + age + dutch, data = data0)

## REGRESSIONS RESULTS ##
summary(simple.fit) # = (c) but without covariates
summary(med.fit) # = (a)
summary(out.fit) # = (b,c')

## PROCESS - MEDIATION ANALYSIS ##
process(data=data0, y="youthres", x="treat", m="SRS", model = 4, effsize=1, total=1, stand=1, conf=95, cov=cov0, boot=1000, modelbt=1, seed=654321)

```


```{r hypothesis 2 mediation analysis}

set.seed(2014)

## MAIN REGRESSIONS ##
simple.fit <- lm(youthres ~ youthrqua, data = data0 %>% filter(treat==1))
med.fit <- lm(SRS ~ youthrqua + female + age + dutch, data = data0 %>% filter(treat==1))
out.fit <- lm(youthres ~ youthrqua + SRS + female + age + dutch, data = data0 %>% filter(treat==1))

## REGRESSIONS RESULTS ##
summary(simple.fit) # = (c) but without covariates
summary(med.fit) # = (a)
summary(out.fit) # = (b,c')

## PROCESS - MEDIATION ANALYSIS ##
process(data=data0 %>% filter(treat==1), y="youthres", x="youthrqua", m="SRS", model = 4, effsize=1, total=1, stand=1, conf=95, cov=cov0, boot=1000, modelbt=1, seed=2010)

```