



## Effect of Youth Mentoring on Depressive Symptoms of Single Mothers

Tina Braun<sup>1</sup>, Joachim Kruse<sup>1</sup>, Jennifer Singleton<sup>1</sup>, Benjamin Hiemeyer<sup>2,3</sup>, & Timo von Oertzen<sup>1,2</sup>

**Keywords:** depressive symptoms, single mothers, youth mentoring

**Author Biographies:** *Tina Braun*, is a postdoctoral researcher at the Bundeswehr University Munich. She has a PhD in Developmental Psychology and currently works in the Methods and Evaluation Department of the Psychology Institute. Next to her methodological research, she is interested in the evaluation of youth mentoring programs, working with “biffy Berlin” and “Balu und Du”. Tina has also worked as a practitioner in “Balu und Du” for the past three years, supervising more than 40 mentoring dyads. *Joachim Kruse*, is Professor for Clinical Psychology and Trauma Therapy at the Bundeswehr University Munich. His research is mainly in the area of developmental clinical psychology. Lately he focused on the role of emotion regulation in psychotherapy, e.g. the importance of guilt and shame in post-traumatic stress disorder. He is also a licensed clinical psychotherapist and head of the department’s outpatient clinic, organizing the clinical research and psychotherapy training. *Jennifer Singleton*, is a German Air Force officer and early career psychologist with a Master’s degree in Clinical Psychology from the Bundeswehr University Munich. Her Master’s thesis, which examined whether youth mentoring has a positive influence on single mothers, was rewarded with an outstanding achievement award. Jennifer currently holds a position as research assistant at the Bundeswehr University Munich and focuses on further research into youth mentoring and single parenthood. *Benjamin Hiemeyer*, is a Clinical and Research psychologist with a Master’s degree in Psychology from the Humboldt University of Berlin. He is currently working on his PhD in Clinical Psychology and Psychotherapy at University of Bern in cooperation with Medical School Berlin and in psychotherapeutic practice. Moreover, he is teaching Clinical, Developmental, and Health Psychology and is also an affirmative supporter of youth mentoring. *Timo von Oertzen*, is professor for quantitative psychology at the Bundeswehr University Munich. He is co-developer of several SEM software systems, including the graphical tool Onyx and the R-package OpenMx. His academical background is in computer science (dissertation 2003 from the University of the Saarland) and psychology (habilitation from the Humboldt University Berlin in 2013), with main research interests in mathematical methods in psychology and child- and youth mentoring.

---

<sup>1</sup> Bundeswehr University Munich

<sup>2</sup> Max Planck Institute for Human Development

<sup>3</sup> Medical School Berlin

**Recommended Citation:** Braun, T., Kruse, J., Singleton, J., Hiemeyer, B., & von Oertzen, T. (2020). Effect of Youth Mentoring on Depressive Symptoms of Single Mothers. *Global Journal of Community Psychology Practice*, 11(3), 1 - 17. Retrieved Day/Month/Year, from (<http://www.gjcpp.org/>).

**Corresponding Author:** Tina Braun, Department of Humanities, Bundeswehr University Munich, Werner-Heisenberg-Weg 39, 85577 Neubiberg, Germany. Contact: [tina.braun@unibw.de](mailto:tina.braun@unibw.de)

## Effect of Youth Mentoring on Depressive Symptoms of Single Mothers

Past evaluation studies of youth mentoring programs have focused solely on the children. While they are often the main recipient of the mentoring, effects on parents should not be neglected. Especially single mothers often face many challenges in their everyday life and might benefit from youth mentoring programs. In the present study we investigate whether youth mentoring programs can lower depressive symptoms in single mothers. The hypothesis was investigated using data of the youth mentoring program "biffy Berlin e.V. Big Friends for Youngsters". The results showed a significant association between depressive symptoms and duration of the mentoring relationship while relevant covariates were controlled. In a follow-up analysis we explored whether reduced levels of stress might mediate the association and the data was in line with this idea. Implications for future studies are discussed.

With 15 % of the 65.6 million families with children in Europe, single parents form a considerable part of our society (Eurostat, 2017). In the majority of single parent households, the mother is taking care of the child or children (OECD Family Database, 2016). Past research shows that in comparison to households with two parents, single mothers display a greater risk for physical and mental health disorders (Benzeval, 1998; Berkman, 1969; Ross, Mirowsky, & Goldsteen, 1990; Targosz et al., 2003). Especially depressions seem to be more prevalent in single compared to married mothers (Brown & Moran, 1997; Cairney, Thorpe, Rietschlin, & Avison, 1999; Cairney, Pevalin, Wade, Veldhuizen, & Arboleda-Florez, 2006; Davies, Avison, & McAlpine, 1997; Lipman, Offord, & Boyle, 1997; Wang, 2004). As one of the reasons for increased levels of depressive symptoms in single mothers is a lack of social support (Barnett, de Baca, Jordan, Tilley, & Ellis, 2015), a mentor for the child might be able to compensate some of the burden resting on single mothers. Therefore, in the present work we investigate whether youth mentoring might be one way to alleviate depressive symptoms in single mothers.

### Single Mothers and Depression

A wide range of cross-sectional studies shows

that single mothers are especially at risk of developing a depression within their lifetime (Crosier, Butterworth, & Rodgers, 2007; Subramaniam, Prasad, Abidin, Vaingankar, & Chong, 2014). In their longitudinal study, Brown and Moran (1997) compared married and single mothers during a two-year follow-up period and found a significantly higher risk for single mothers to develop a major depression. This and other longitudinal evidence (Cairney et al., 1999) suggests that women do not become single mothers because they already have a major depression, but rather develop depressive symptoms in response to the strain of single parenting. Another possible interpretation of the finding would be that a third so far unknown aspect of the mother's life results in their status as a single mother and their increase in depressive symptoms.

Typical depressive symptoms like constant fatigue, feelings of hopelessness and generally decreased energy levels will intensify problems mothers might have had before in coping with the demands of life. Such symptoms like irritability, difficulties concentrating, or fatigue might directly hamper the interaction and relationship with a child. In addition to the many stressors and hassles single parents experience due to mostly having to get along alone, internal stressors accumulate and start a vicious cycle

of ever-increasing demands on the one hand and diminished resources on the other.

The negative impact of higher depressive symptoms in single mothers is not restricted to the mother herself. They also negatively affect the children in multiple ways. For example, higher depressive symptoms have been found to foster negative parenting practices like less responsive, more intrusive, and harsh parenting (Goodman et al., 2011; Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Riley et al., 2008). Another negative effect is that mothers perceive their children's behavior as more negative when they are in a depressed mood (Griest, Wells, & Forehand, 1979; Forehand, Wells, McMahon, Griest, & Rogers, 1982). This would again lead to harsher parenting and have an adverse effect on the children as well as on the mother. Moreover, children of depressed parents carry a risk of adverse consequences well into adulthood. They show a higher risk for depression, morbidity, and mortality that persists into middle adulthood (Weissman et al., 2016). In a recent study Gotlib et al. (2014) could even demonstrate that children of depressive mothers have shorter telomeres and that shorter telomeres were associated with greater cortisol reactivity to stress, showing effects on an epigenetic level.

A wide range of factors have been discussed as possible reasons for the higher prevalence of depressive symptoms in single mothers, for example socio-economic disadvantages, like unemployment, financial hardship, lack of social support, the responsibility of caring for children, trauma (e.g., domestic violence), lower education, and young age (15-24) (Brown & Moran, 1997; Butterworth, 2004; Coiro, 2001; Hope, Power, & Rodgers, 1999; Jackson, Brooks-Gunn, Huang, & Glassman, 2000; Kessler, Turner, & House, 1987; Parker & Ritch, 2001; Patten, 2001; Wade & Kendler, 2000). Lack of social support appears to be one of the most important of these factors (Crosier et al., 2007).

Single mothers often lack social support (Barnett et al., 2015; Cairney, Boyle, Offord, & Racine, 2003; Crosier et al., 2007; Youngblut, Thomas, Brady, & Brooten, 2000). The unavailability of social support has been found to be detrimental for both mothers and children, as it is associated with lower levels of parenting efficacy (Cochran & Niegro, 1995; Marshall, Noonan, McCartney, Marx, & Keefe, 2001; Suzuki, Holloway, Yamamoto, & Mindnich, 2009) and higher levels of depressive symptoms in single mothers (Barnett et al., 2015; Cairney et al., 2003; Crosier et al., 2007; Parker & Ritch, 2001; Patten, 2001; Wade & Kendler, 2000). Availability of social support might, therefore, be a factor which leads to lower levels of depressive symptoms in mothers. Social support can take on many forms. The distinction between instrumental and emotional social support for example is well established (House, Umberson, & Landis, 1988; Shakespeare-Finch & Obst, 2011; Tardy, 1985). In different life circumstances and depending on the kind of stressors one has to deal with, various facets of social support might be needed or helpful. Manuel, Martinson, Bledsoe-Mansori, and Bellamy (2012) discuss the hypothesis that the protective capacity of instrumental and emotional support might depend on the level of poverty. This might explain mixed findings concerning the buffering hypothesis of social support (Cohen & Wills, 1985). While there is some evidence that social support does not entirely buffer the negative effects of stress in depressive mothers, especially in low-income families (Manuel et al., 2012) there is a direct relationship between social support and depression and various studies show such an interaction effect exists (Moak & Agrawal, 2010). In order to better understand the mechanisms of what kind of social support might be helpful for single mothers, particularly for those dealing with depressive symptoms, intervention studies might be especially promising. One central aspect of this lack of social support for single mothers is support with the education of their

children. This issue might be addressed by youth mentoring, in which the mother receives social support in the caregiving and education of her children, from which not only the child directly, but also the mother might benefit, in particular with regard to depressive symptoms. Moreover, depressive symptoms, especially in a more severe form, may diminish the ability of a mother to obtain social support and hence exacerbate the vicious cycle described above.

Another aspect that might lead to higher rates of depression among single parents has to do with the separation preceding their current marital status. In a lot of cases a divorce or separation puts immense stressors on both partners, sometimes over the course of several years (Amato, 2010). Having gone through an emotionally exhausting divorce will leave parents with depleted resources for problems of all kinds. The children of families in separation face stressors themselves that might directly lead to more problems in child rearing as there would have been without a divorce of their parents. Not only when they feel guilty in some way that their parents do not want to stay together but also because of phenomena like 'pressure to side' or witnessing fights between their parents, maybe even going through legal battles (Walper, Kruse, Noack, & Schwarz, 2005). It has been reported in a variety of studies that children show higher levels of distress before marital dissolution (Amato, 2010). Sun and Li (2002) for example were able to show that compared to children with continuously married parents, students with divorced parents had lower test scores 3 years prior to divorce and further declining during the years post-divorce. Strohschein (2005) found that even before marital dissolution, children whose parents later divorced exhibited higher levels of anxiety, depression, and antisocial behavior than children whose parents remained married. Following a divorce, anxiety and depression levels increased even further.

Cairney et al. (2003) found higher levels of chronic stress in single compared to married mothers. Further, Avison (1995) and Cairney et al. (2003) found higher rates of depression in single mothers, explaining in their discussion that single mothers are more often exposed to stressors, and that these stressors are often more severe. Results from Krech and Johnston (1992) and Middlebrook and Forehand (1985) suggest that this influences the relationship to children: Mothers are exposed to stress tend to rate behavior of their children as more deviant than mothers with less stress rated the same behavior. Single mothers are therefore in danger to be trapped in a downward spiral: The stress of being a single mother, for example due to lack of social support (Sperlich, Arnhold-Kerri, & Geyer, 2011), may result in a more negative view of their children, which in turn increases the stress as the mother feels the need to react to this transgression (Krech & Johnston, 1992). This increased stress will also increase the probability of depressive symptoms (Kim & Shin, 2004). To break this circle, or ideally avoid it initially, interventions that reduce stress are needed. Providing social support can be such an intervention.

### **Youth Mentoring**

Youth mentoring programs typically partner an adult with a child, where the adult takes the role of a friend and mentor for the child, which may include, but is not limited to, the role of a teacher and educator (Grossman & Tierney, 1998). They meet regularly, spend time together at fun activities, and share experiences and stories with each other. In the best case, this results in the establishment of a mutually trusting relationship. Youth mentoring programs have been shown to be beneficial for children in multiple domains, like social-emotional, cognition, and identity (DuBois, Holloway, Valentine, & Cooper, 2002; DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). What has been neglected so far is how parents might benefit when their

children are paired with a mentor.

When a mentor becomes a stable part of their lives, mothers most likely benefit in addition to their children. As the mentor meets the child regularly for a variety of activities, the social participation of the child is increased. Mentors are not expected to spend money for the children, but by simply spending one-on-one time every week for a continued amount of time, the child will be able to make a wide array of new experiences. While this does not affect the lack of social participation of the mother herself directly, it removes the burden resting on her shoulders to enable her child to take part in a variety of activities.

The mother further receives direct support from the mentor in the form of care for the child. When mentor and child meet for a few hours every week, this gives the mother time for daily errands, time for herself, or maybe time for her other children. As a professional babysitter would further increase the financial strain single mothers likely refrain from using such options, meaning that they have less or even no time for themselves. A mentor offers regular free timeframes which can be used by the mother. If the mentoring relationship persists for a long time, it is possible that the mentor becomes an advisor or friend of the mother as well, offering further social support. The mentor can be an ally when a problem arises with the child, thereby further alleviating the pressure resting on the mother.

It seems therefore, likely that a mentoring relationship with the child of a single mother should alleviate the strain resting on the mother due to the lack of social support. More generally, a single mother should feel less pressured, or in other words less stressed, if her child has a mentor. This in line should lead to a decrease in depressive symptoms in single mothers. In other words, we believe that a mentor can reduce the stress, most likely in the domain of social support, a single mother experiences and thereby alleviate

depressive symptoms in the mother.

### **The Present Study**

The present study investigates the effect of mentoring within the mentoring project “Biffy Berlin – Big Friends for Youngsters.” The program was inspired by “Big Brothers Big Sisters of America” (Grossman & Tierney, 1998) and has been adjusted to the German society. Since 2001 a total of roughly 900 mentoring relationships have been matched. Mentors and mentees are free in how they spend their shared time. It is suggested that they meet once a week for a couple of hours. In order to maximize the chances of a successful mentoring relationship each mentor attends a workshop before being matched with a child. Every mentor is further required to submit a certificate of conduct to ensure the safety of the children. The matching then relies on former experience of the program organization, shared interests between mentor and mentee, and the proximity of mentor and mentee. The first four to six weeks of a newly matched dyad is considered a trial period. If both are satisfied with the relationship after this time, they are officially registered as matched. The program requires that the mentors commit for at least one year, but typically the mentoring relationship persists for multiple years, not rarely into the teenage or even young adult years of the mentee. The program actively promotes exchange between dyads by offering regular get-togethers and various activities such as comic-workshop, visiting the Berlin International Film Festival, creating new music instruments, or circus artist training. Biffy Berlin also offers individual supervision and supportive advice for all parties involved for the complete duration of the mentoring relationship. While especially for the first year regular updates on the current state of the mentoring relationships are requested, they are not required by the program organization. Biffy further follows most of the best practices found to enhance the effectiveness of youth

mentoring (DuBois et al., 2011, 2002). More precisely, they match mentors and mentee based on similar interests, provide training for the mentors, the children are young at the time of the matching (typically in primary school), and although not necessarily the case, many children in the biffy program can be considered to be at greater individual risk; for example, 79 % of them live in single mother households. This yields ideal circumstances to investigate the effectiveness of mentoring not only for the children, but single mothers as well.

Within this setting we investigate the hypothesis that the period of time that a child is in a mentoring relationship is associated with lower levels of depressive symptoms in single mothers. We explore the possibility that this is the case as single mothers experience less stress if their child is matched with a mentor. We controlled for age of the mother and the child, number of children, further social support, education of the mother, and household income, as these aspects are expected to have an impact on depressive symptoms (Butterworth, 2004; Coiro, 2001; Jackson et al., 2000; Wade & Kendler, 2000).

## Method

### *Sample*

Within the active sample of biffy, every mentor, mentee, and primary parent was invited to take part in an evaluation study. Of the completed 374 questionnaires, 71 were completed by a primary parent and could be matched to an actively mentored child. Of these, 47 were completed by single mothers and were included in the present analysis. The mothers were on average 44.69 years old (SD = 6.56) and had 1.80 children (SD = 0.83).

The child in the mentoring relationship was on average 11.41 years old (SD = 3.00). The household net income of the single mothers was on average between 1000EUR and

2000EUR a month. Their mean time of education was 15.82 years (SD = 3.71). The children of 4.26% of the mothers had only been just matched by the time of the assessment, the others had been in a mentoring triad for 49.61 months on average, with a standard deviation of 32.62 month; the longest mentoring relationship in the sample lasted for 117 months.

### *Measures*

Participants each received an e-mail with a link to the online assessment. The questionnaire started with the production of a unique pseudonymous code for each triad, consisting of mentor, mentee, and primary parent. This allowed the matching of the completed questionnaires. All participants who completed the assessment had signed a consent form and were informed about the study aims.

Depressive symptoms and stress. Depressive symptoms and stress were assessed with the depression and stress subscales of the short version of the German translation of the Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995; see Nilges & Essau, 2015, for the German translation). With Cronbach's alpha values of .91 for the depression and .92 for the stress subscale the DASS provides good reliability in the current sample. The participants were asked to think about the past week when answering the items. Both subscales consist of seven items (e.g., "I could not experience any positive feelings," for depression and "I had the tendency to overreact to certain situations" for stress) and are answered on a 4-point likert-scale, ranging from 0 (*did not apply to me at all*) to 3 (*applied to me strongly or most of the time*). The sum for each scale was calculated as the measure of each construct, respectively, leading to a maximum score of 21 and a minimum of 0. A score of 10 or higher is considered clinically relevant (Nilges & Essau, 2015). 42.6% of the current sample were above this threshold for depression, stress, or

both. No one reported a clinical diagnosis of depression.

Mentoring relationship. The duration of the mentoring relationship in months was retrieved from the biffy data file. Mentoring relationships are expected to persist for at least one year. They can persist for as long as all involved individuals like them to.

Covariates. *Participant's age* and the *age of the child* in a mentoring relationship was assessed in years. Further, the mothers were asked to state the *number of children* they have, as well as the number of years they spent on their *education*. Each participant was asked to rate their monthly *household net income* on a scale from 1 (less than 1000 EUR) to 6 (more than 5000 EUR). Finally, it was assessed how much *social support* the mothers had in addition to the mentor. Six categories of potentially helpful people, like grandparents or friends, were given. The number of categories ticked by the mothers, indicating that they received help from at least one person fitting this category, served as a score of *social support*.

## Results

First, we depict descriptive statistics of the sample. The following paragraph focusses on the analysis of the first hypothesis, testing the association between depressive symptoms and duration of the mentoring relationship. The last paragraph addresses the second hypothesis, exploring whether the association between depressive symptoms and duration of the mentoring relationship can be explained by stress experienced by the single mother.

The analyses are conducted using *Ωnyx* (von Oertzen, Brandmaier, & Tsang, 2015), a program used to compute structural equation models. This allows us to use full information

maximum likelihood, meaning that participants with missing data do not have to be excluded from the analysis. All analyses are controlled for age of the mother, age of the child, number of children, social support, as well as education and income of the mother.

### *Descriptive statistics*

The average of the single mothers on the scale of depressive symptoms was 5.30 (SD = 5.49), with a minimum of 0 and the maximum reached in the sample was 19. 10 single mothers (21.3 %) scored 10 or higher, the cut-off value for clinically relevant scores. For stress an average of 8.91 (SD = 5.82) was reached, 0 being the minimum and 19 being the maximum. 20 mothers (42.6 %) scored a 10 or higher.

### *Main analyses*

Association between depressive symptoms and mentoring. Depressive symptoms were regressed on the duration of the mentoring relationship. Depressive symptoms and duration of the mentoring relationship were controlled for the age of the mother, her education, income, age of the child, and number of children, as well as other social support the mother received. All variables were z-transformed before entering them into the analysis. The model is saturated, resulting in a perfect model fit.

For each standard deviation of the mentoring duration, the depressive symptoms in single mother were 0.62 units lower, CI = [-1.04; -0.20]. In other words, over every time span of 33 months of mentoring, single mothers decreased by 3.4 points on the scale assessing depressive symptoms. This finding is in line with our hypothesis. Additionally, the age of the child shared a significant association with depressive symptoms. Full descriptions of the results can be found in Table 1.



**Table 1**

*Effect of the mentoring duration on depressive symptoms controlled for age, number of children, social support, education, and income*

Model Parameters	B	SE	LR (1)	p
Effect on depressive symptoms (controlled)				
Duration mentoring	-0.62	0.21	7.55	.006
Effect of control variables on depressive symptoms				
Age	0.21	0.15	1.84	.175
Number of children	0.06	0.12	0.24	.626
Social support	0.23	0.15	2.05	.152
Age of the child	0.56	0.14	13.62	.000
Education	0.05	0.12	0.14	.708
Income	0.14	0.14	1.00	.317

Mediating the association using stress. In a second step, a mediation analysis was calculated to test whether the association between mentoring duration and depressive symptoms can be explained as the stress experienced by the mother is lowered. The model was similar to the one described above. Additionally, z-transformed stress was added to the regression of depressive symptoms. Stress was further regressed on duration of the mentoring relationship. All three variables were controlled for the covariates listed above. The model is saturated, resulting in a perfect model fit.

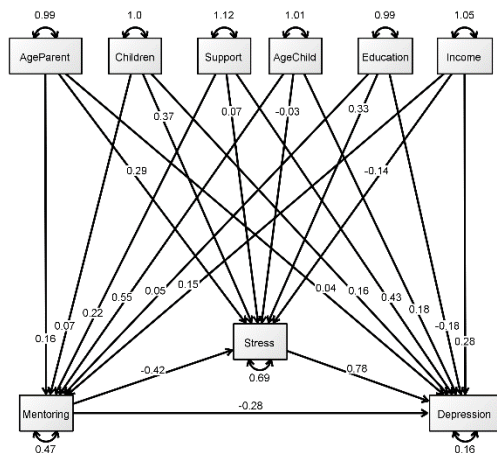
As can be seen in Table 2, stress experienced by single mothers was 0.42 units lower, CI = [-0.82; -0.02], for each standard deviation of the mentoring duration. In other words,

single mothers scored 2.4 points lower on the scale assessing stress for each 33 months the mentoring relationship had persisted. When stress is added to the regression of depressive symptoms, duration of the mentoring shares a smaller significant association with depressive symptoms than without stress. This shows that the relationship between mentoring duration and depressive symptoms is partially mediated by (lower) stress of the mother. Depressive symptoms in single mothers were 0.78 units higher, CI = [0.58; 0.98], for each standard deviation of stress experienced by the mother. This means that for each 5.8 points on the scale assessing stress, single mothers displayed a 4.3 higher score on the scale assessing depressive symptoms. The full mediation model can be seen in Figure 1.

**Table 2**

*Stress as a mediator of the association between the mentoring duration and depressive symptoms controlled for age, number of children, social support, education, and income*

Model Parameters	B	SE	LR (1)	p
Effect on depressive symptoms (controlled)				
Duration mentoring	-0.28	0.12	4.22	.040
Stress	0.78	0.10	30.00	.000
Effect on stress (controlled)				
Duration mentoring	-0.42	0.20	3.87	.049



*Figure 1.* Stress as a mediator of the association between the mentoring duration and depressive symptoms controlled for age of the mother, number of children, social support, age of the child, education, and income. Covariances between all covariates are omitted, given that none exceeded a value of 0.3 except for the covariance between age of the mother and income,  $B=0.45$ ,  $LR(1)=8.47$ ,  $p=.004$  and between age of the mother and age of the child,  $B=0.49$ ,  $LR(1)=12.92$ ,  $p<.001$ .

## Discussion

The aim of the present article was to investigate whether youth mentoring is one possibility to alleviate depressive symptoms in single mothers. The analysis shows that in this population, depressive symptoms are on average reduced by roughly 0.11 to 0.75 standard deviations for each standard deviation of mentoring duration, which is equivalent to a decrease of 0.60 to 4.06 points on the DASS over each duration of 33 months of mentoring. Multiple possible confounds were controlled for in this analysis. This confirms the hypothesis that mentoring is in fact beneficial for single mothers with regard to depressive symptoms. The analysis further suggests that the association between depressive symptoms and the duration of the mentoring relationship is mediated by the stress experienced by the mother.

## *Effect of Youth Mentoring on Single Mothers*

Past studies have focused nearly exclusively on the effects of youth mentoring on the children, neglecting possible additional advantages for parents (DuBois et al., 2002, 2011). The present work addresses this gap in past literature by showing how single mothers benefit when their child is matched with a mentor. As single mothers are confronted with a large number of obstacles (Brown & Moran, 1997; Butterworth, 2004; Coiro, 2001; Costello, 1991; Jackson et al., 2000; Parker & Ritch, 2001; Patten, 2001; Wade & Kendler, 2000), the potential to improve their situation is larger than it would be, for example, in married couples. Our results suggest that it is beneficial for single mothers to seek out a mentor for their child. As youth mentoring programs are still not widely known in the public, it is important for agencies and practitioners to inform single mothers about this possibility.

Mentoring duration is associated with lower depressive symptoms, and depressive symptoms in turn are associated with negative parenting practices (Goodman et al., 2011; Lovejoy et al., 2000; Riley et al., 2008). Therefore, it is possible that positive aspects for children are associated with mentoring via this pathway, in that parents are able to engage in more successful parenting strategies, in addition to direct positive effects. Further research studying how parents benefit from youth mentoring programs might additionally increase our understanding on how children benefit. This stresses the need to investigate not only mentors and mentees, but full triads of mentor, child, and parent in youth mentoring research. Interdependencies are very likely to occur and understanding these might be helpful to further maximize the positive effects of mentoring programs.

We also explored whether one mechanism by which youth mentoring is associated with

lower levels of depressive symptoms is decreasing stress of the mother. In fact, the mediation analysis showed that the direct effect of mentoring on depressive symptoms was reduced considerably when adding the pathway via stress of the mother. Therefore, a possible explanation for the association between mentoring duration and decreasing depressive symptoms is a causal pathway in which mentoring reduces stress, which in turn reduces depressive symptoms. Mentoring as one form of social support provides mothers with help on multiple levels, instrumental as well as emotional. Increased time for herself or for work, direct help with child rearing, relief from solely borne parenting responsibilities will all reduce stress via social support. However, since the current study is only quasi-experimental, future research is needed to test whether this causal pathway can be confirmed.

#### *Covariates and Characteristics of Biffy*

Some noteworthy findings deserve to be mentioned in addition to the main hypotheses of this analysis. While financial hardship was one of the strongest predictors of depressive symptoms in single mothers in former studies (Crosier et al., 2007; Hope et al., 1999), it did not show a significant association with depressive symptoms in the present study. If our estimated reliability is true for the population, a post-hoc power analysis showed that one would need roughly four times as many participants ( $N = 188$ ) to find a significant effect. Nevertheless, the effect size is rather low even then. An additional possible explanation of this finding is that as single mothers often have a lower income, the variance in the income variable is reduced in this study compared to the general population. With less variance available, it is more difficult for the effect to reach the significance level. The reduction of variance is even stronger considering that social aid in Germany is relatively high compared to other

countries; therefore, levels of income which actually threaten the existence of single mothers are very rare in this sample. This explanation should be further investigated in cultural comparison studies, when evaluating youth mentoring programs.

Another aspect that deserves notice is the high education level of the single mothers in this study. Single mothers are typically less educated than married mothers (Subramaniam et al., 2014). In the current sample, the average time of education is 15 years, which is, for example, equivalent to a university degree. A possible explanation is that single mothers with a higher level of education are more likely to recruit the help provided by a mentoring program.

#### *Limitations and Future Directions*

The present study gives a first indication how parents, more precisely single mothers, can benefit from youth mentoring programs. While the results support our hypothesis that depressive symptoms are lower the longer a mentoring relationship lasts, a range of open questions remains.

The current study is cross-sectional, comparing depressive symptoms in single mothers who had been in the mentoring program for different amounts of time. Longitudinal studies are needed to investigate Granger Causality of the association (Granger, 1969). Further causal conclusions are important and can only be drawn from experimental designs.

Even assuming a causal link underlying the correlation between youth mentoring and lower depressive symptoms, there could be multiple mechanisms of how a mentor for the child results in lower depressive symptoms in the mother. We explored the hypothesis that the mentoring relationship reduces the stress level experienced by the mother and, hence, results in less depressive symptoms;

however, other pathways most likely exist in parallel. Also, future research is needed to investigate more precisely what mechanisms can explain the lower stress levels for single mothers with children in a mentoring relationship. We described some pathways on how this might occur, for example that the mother has more time to allocate on activities of her liking as the mentor supervises the child for a couple of hours every week. Yet, it seems likely that this is not the only pathway on how a mentor can reduce stress levels experienced by the mother. For example, the mother might appreciate a second opinion on the development of her child, calming her worries, or she might grow to see an ally in the mentor when an argument arises with the child. It is possible to think of a wide array of pathways on how a mentor might reduce the stress experienced by a mother and future studies are needed to investigate which are the most important ones to further the effectiveness of youth mentoring programs.

Also note that in the current study, we only investigated depressive symptoms, not single mothers who have been diagnosed with an actual depression. While some of the mothers showed depressive symptoms over the threshold of a clinically relevant depression, to our knowledge none had been diagnosed with a depression by a clinician. A clinical sample might depict different results when investigating the same research questions, as for example interactions between mentor and a depressive single mother might be more strained, or there might be problems in keeping appointments to meet. However, the current data points in the direction that mentoring for children of single parents may be a support factor to overcome a mother's depression.

### Conclusion

The present work is a first step in broadening our understanding on the variety of positive outcomes of youth mentoring programs, extending our view beyond the child as the

unit of analysis. Data of the biffy mentoring program showed that single mothers can benefit from a mentor for their child in the form of lower depressive symptoms the longer the mentoring relationship had persisted. We explored the possibility that this might be the case as the stress experienced by the single mother is lower the longer the mentor had been a part of the child's life. The data was in line with this hypothesis, prompting further research to increase our understanding of the underlying mechanisms and multiple benefits of youth mentoring. In summary, it might be beneficial for single mothers if practitioners would inform them about local options of youth mentoring programs.

### References

- Amato, P. R. (2010). Research on Divorce: Continuing Trends and New Developments. *Journal of Marriage and Family*, 72 (3), 650–666. doi:10.1111/j.1741-3737.2010.00723.x
- Avison, W. R. (1995). Roles and resources: the effects of family structure and employment on women's psychosocial resources and psychological distress. *Research in community and mental health*, 8, 233–256.
- Barnett, M. A., de Baca, T. C., Jordan, A., Tilley, E., & Ellis, B. J. (2015). Associations Among Child Perceptions of Parenting Support, Maternal Parenting Efficacy and Maternal Depressive Symptoms. *Child & Youth Care Forum*, 44 (1), 17–32. doi: 10.1007/s10566-014-9267-9
- Benzeval, M. (1998). The self-reported health status of lone parents. *Social Science & Medicine*, 46 (10), 1337–1353. doi: 10.1016/S0277-9536(97)10083-1

- Berkman, P. L. (1969). Spouseless Motherhood, Psychological Stress, and Physical Morbidity. *Journal of Health and Social Behavior, 10* (4), 323. doi: 10.2307/2948439
- Brown, G. W., & Moran, P. M. (1997). Single mothers, poverty and depression. *Psychological medicine, 27*, 21–33.
- Butterworth, P. (2004). Lone mothers' experience of physical and sexual violence: association with psychiatric disorders. *British Journal of Psychiatry, 184* (01), 21–27. doi: 10.1192/bjp.184.1.21
- Cairney, J., Boyle, M., Offord, D. R., & Racine, Y. (2003). Stress, social support and depression in single and married mothers. *Social Psychiatry and Psychiatric Epidemiology, 38* (8), 442–449. doi: 10.1007/s00127-003-0661-0
- Cairney, J., Pevalin, D. J., Wade, T. J., Veldhuizen, S., & Arboleda-Florez, J. (2006). Twelve-Month Psychiatric Disorder among Single and Married Mothers: The Role of Marital History. *The Canadian Journal of Psychiatry, 51* (10), 671–676. doi: 10.1177/070674370605101007
- Cairney, J., Thorpe, C., Rietschlin, J., & Avison, W. R. (1999). 12-month prevalence of depression among single and married mothers in the 1994 National Population Health Survey. *Can J Public Health, 90*, 320–324.
- Cochran, M., & Niegro, S. (1995). Parenting and social networks. In M. H. Bornstein. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 3. Status and social conditions of parenting* (Vol. 3, pp. 393–418). Mahwah, NJ, US: Erlbaum.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98* (2), 310–357. doi: 10.1037/0033-2909.98.2.310
- Coiro, M. J. (2001). Depressive Symptoms Among Women Receiving Welfare. *Women & Health, 32* (1-2), 1–23. doi: 10.1300/J013v32n01.01
- Costello, E. J. (1991). Married with Children: Predictors of Mental and Physical Health in Middle-aged Women. *Psychiatry, 54* (3), 292–305. doi: 10.1080/00332747.1991.11024558
- Crosier, T., Butterworth, P., & Rodgers, B. (2007). Mental health problems among single and partnered mothers: The role of financial hardship and social support. *Social Psychiatry and Psychiatric Epidemiology, 42* (1), 6–13. doi:10.1007/s00127-006-0125-4
- Davies, L., Avison, W. R., & McAlpine, D. D. (1997). Significant Life Experiences and Depression among Single and Married Mothers. *Journal of Marriage and the Family, 59* (2), 294. doi: 10.2307/353471
- 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. doi: 10.1023/A:1014628810714
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How Effective Are Mentoring Programs for Youth? A Systematic Assessment of the Evidence. *Psychological Science in the Public Interest, 12* (2), 57–91. doi: 10.1177/1529100611414806

- Eurostat. (2017). Families with children in the EU. Forehand, R., Wells, K. C., McMahon, R. J., Griest, D., & Rogers, T. (1982). Maternal perception of maladjustment in clinic-referred children: An extension of earlier research. *Journal of Behavioral Assessment, 4* (2), 145–151. doi: 10.1007/BF01321388
- Goodman, S. H., Rouse, M. H., Connell, A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal Depression and Child Psychopathology: A Meta-Analytic Review. *Clinical Child and Family Psychology Review, 14* (1), 1–27. doi:10.1007/s10567-010-0080-1
- Gotlib, I. H., LeMoult, J., Colich, N. L., Foland-Ross, L. C., Hallmayer, J., Joormann, J., . . . Wolkowitz, O. M. (2014). Telomere length and cortisol reactivity in children of depressed mothers. *Molecular Psychiatry, 20*, 615.
- Granger, C. W. J. (1969). Investigating Causal Relations by Econometric Models and Cross-spectral Methods. *Econometrica, 37*, 424. doi: 10.2307/1912791
- Griest, D., Wells, K. C., & Forehand, R. (1979). An examination of predictors of maternal perceptions of maladjustment in clinic-referred children. *Journal of Abnormal Psychology, 88* (3), 277–281. doi: 10.1037/0021-843X.88.3.277
- Grossman, J. B., & Tierney, J. P. (1998). Does Mentoring Work? An Impact Study of the Big Brothers Big Sisters Program. *Evaluation Review, 22* (3), 403–426. doi: 10.1177/0193841X9802200304
- Hope, S., Power, C., & Rodgers, B. (1999). Does financial hardship account for elevated psychological distress in lone mothers? *Social Science & Medicine, 49* (12), 1637–1649. doi: 10.1016/S0277-9536(99)00251-8
- House, J. S., Umberson, D., & Landis, K. R. (1988, August). Structures and Processes of Social Support. *Annual Review of Sociology, 14* (1), 293–318. Retrieved 2020-06-26, from <http://www.annualreviews.org/doi/10.1146/annurev.so.14.080188.001453> doi:10.1146/annurev.so.14.080188.001453
- Jackson, A. P., Brooks-Gunn, J., Huang, C., & Glassman, M. (2000). Single Mothers in Low-Wage Jobs: Financial Strain, Parenting, and Preschoolers' Outcomes. *Child Development, 71* (5), 1409–1423. doi: 10.1111/1467-8624.00236
- Kessler, R. C., Turner, J. B., & House, J. S. (1987). Intervening processes in the relationship between unemployment and health. *Psychological Medicine, 17* (04), 949. doi: 10.1017/S0033291700000763
- Kim, J. S., & Shin, K. R. (2004). A Study on Depression, Stress, and Social Support in Adult Women. *Journal of Korean Academy of Nursing, 34* (2), 352. doi: 10.4040/jkan.2004.34.2.352
- Krech, K. H., & Johnston, C. (1992). The Relationship of Depressed Mood and Life Stress to Maternal Perceptions of Child Behavior. *Journal of Clinical Child Psychology, 21* (2), 115–122. doi: 10.1207/s15374424jccp2102
- Lipman, E. L., Offord, D. R., & Boyle, M. H. (1997). Single mothers in Ontario: sociodemographic, physical and mental health characteristics. *Canadian Medical Association Journal, 156*, 639–645.

- (2), 191–201. doi:  
10.1093/pubmed/fdp093
- Lovejoy, M., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior. *Clinical Psychology Review, 20* (5), 561–592. doi: 10.1016/S0272-7358(98)00100-7
- Lovibond, P., & Lovibond, S. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy, 33* (3), 335–343. doi: 10.1016/0005-7967(94)00075-U
- Manuel, J. I., Martinson, M. L., Bledsoe-Mansori, S. E., & Bellamy, J. L. (2012). The influence of stress and social support on depressive symptoms in mothers with young children. *Social Science & Medicine, 75* (11), 2013–2020. doi: 10.1016/j.socscimed.2012.07.034
- Marshall, N. L., Noonan, A. E., McCartney, K., Marx, F., & Keefe, N. (2001). It Takes an Urban Village: Parenting Networks of Urban Families. *Journal of Family Issues, 22* (2), 163–182. doi: 10.1177/019251301022002003
- Middlebrook, J. L., & Forehand, R. (1985). Maternal perceptions of deviance in child behavior as a function of stress and clinic versus nonclinic status of the child: An analogue study. *Behavior Therapy, 16* (5), 494–502. doi:10.1016/S0005-7894(85)80027-7
- Moak, Z. B., & Agrawal, A. (2010). The association between perceived interpersonal social support and physical and mental health: results from the national epidemiological survey on alcohol and related conditions. *Journal of Public Health, 32* (2), 191–201. doi: 10.1093/pubmed/fdp093
- Nilges, P., & Essau, C. (2015). Die Depressions-Angst-Stress-Skalen: Der DASS ein Screeningverfahren nicht nur für Schmerzpatienten. *Der Schmerz, 29* (6), 649–657. doi: 10.1007/s00482-015-0019-z
- OECD Family Database. (2016). SF1.1: Family size and household composition., OECD- Social Policy Division - Directorate of Employment, Labour and Social Affairs. Retrieved from <http://www.oecd.org/els/family/>
- Parker, G., & Ritch, J. (2001). The influence of an uncaring partner on the type and outcome of depression. *Journal of Affective Disorders, 66* (2-3), 207–214. doi: 10.1016/S0165-0327(00)00311-6
- Patten, S. B. (2001). Long-term medical conditions and major depression in a Canadian population study at waves 1 and 2. *Journal of Affective Disorders, 63*, 35–41. doi: 10.1016/S0165-0327(00)00186-5
- Riley, A. W., Valdez, C. R., Barrueco, S., Mills, C., Beardslee, W., Sandler, I., & Rawal, P. (2008). Development of a Family-based Program to Reduce Risk and Promote Resilience Among Families Affected by Maternal Depression: Theoretical Basis and Program Description. *Clinical Child and Family Psychology Review, 11* (1-2), 12–29. doi: 10.1007/s10567-008-0030-3
- Ross, C. E., Mirowsky, J., & Goldsteen, K. (1990). The Impact of the Family on Health: The Decade in Review. *Journal of Marriage and the Family, 52* (4), 1059. doi: 10.2307/353319

- Shakespeare-Finch, J., & Obst, P. L. (2011). The Development of the 2-Way Social Support Scale: A Measure of Giving and Receiving Emotional and Instrumental Support. *Journal of Personality Assessment, 93* (5), 483–490. doi: 10.1080/00223891.2011.594124
- Sperlich, S., Arnhold-Kerri, S., & Geyer, S. (2011). What accounts for depressive symptoms among mothers? The impact of socioeconomic status, family structure and psychosocial stress. *International Journal of Public Health, 56* (4), 385–396. doi: 10.1007/s00038-011-0272-6
- Strohschein, L. (2005). Parental Divorce and Child Mental Health Trajectories. *Journal of Marriage and Family, 67* (5), 1286–1300. doi: 10.1111/j.1741-3737.2005.00217.x
- Subramaniam, M., Prasad, R. O., Abdin, E., Vaingankar, J. A., & Chong, S. A. (2014). Single mothers have a higher risk of mood disorders. *Ann Acad Med Singapore, 43*, 145–151.
- Sun, Y., & Li, Y. (2002). Children's Well-Being during Parents' Marital Disruption Process: A Pooled Time-Series Analysis. *Journal of Marriage and Family, 64* (2), 472–488. doi: 10.1111/j.1741-3737.2002.00472.x
- Suzuki, S., Holloway, S. D., Yamamoto, Y., & Mindnich, J. D. (2009). Parenting Self-Efficacy and Social Support in Japan and the United States. *Journal of Family Issues, 30* (11), 1505–1526. doi: 10.1177/0192513X09336830
- Tardy, C. H. (1985). Social Support Measurement. *American Journal of Community Psychology, 13* (2), 187–202.
- Targosz, S., Bebbington, P., Lewis, G., Brugha, T., Jenkins, R., Farrell, M., & Meltzer, H. (2003). Lone mothers, social exclusion and depression. *Psychological Medicine, 33* (4), 715–722. doi: 10.1017/S0033291703007347
- von Oertzen, T., Brandmaier, A. M., & Tsang, S. (2015). Structural Equation Modeling with Onyx. *Structural Equation Modeling: A Multidisciplinary Journal, 22* (1), 148–161. doi: 10.1080/10705511.2014.935842
- Wade, T. D., & Kendler, K. S. (2000). The relationship between social support and major depression: cross-sectional, longitudinal, and genetic perspectives. *The Journal of nervous and mental disease, 188*, 251–258.
- Walper, S., Kruse, J., Noack, P., & Schwarz, B. (2005). Parental Separation and Adolescents' Felt Insecurity with Mothers: Effects of Financial Hardship, Interparental Conflict, and Maternal Parenting in East and West Germany. *Marriage & Family Review, 36* (3-4), 115–145. doi: 10.1300/J002v36n03-07
- Wang, J. L. (2004). The difference between single and married mothers in the 12-month prevalence of major depressive syndrome, associated factors and mental health service utilization. *Social Psychiatry and Psychiatric Epidemiology, 39* (1), 26–32. doi: 10.1007/s00127-004-0699-7
- Weissman, M. M., Wickramaratne, P., Gameroff, M. J., Warner, V., Pilowsky, D., Kohad, R. G., . . . Talati, A. (2016). Offspring of Depressed Parents: 30 Years Later. *American Journal of Psychiatry, 173* (10), 1024–1032. doi: 0.1176/appi.ajp.2016.15101327



Youngblut, J. M., Thomas, D. J., Brady, N. R., &  
Brooten, D. (2000). Factors  
Influencing Single Mother's

Employment Status. *Health Care for  
Women International*, 21 (2), 125-  
136. doi: 10.1080/073993300245357