Toddler’s Social Competence: Impacts of Socioeconomic Status and Parenting Behavior

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Abstract

This study investigated the impacts of parents’ socioeconomic status (SES) and parenting behavior on toddlers’ later social competence. Data of 2,478 mother-child dyads from the German National Educational Panel Study (NEPS) – Newborn Cohort were included. The basic model considered SES at 7 months (as predictor), the observed supportive parenting and children’s language at 26 months (as mediators), and children’s social competence at 38 months (as outcomes). The model also further controlled for children’s characteristics.

Findings demonstrated that maternal education was a significant predictor of toddlers’ social competence, whereas family net income only showed indirect effects through children’s language on it. Most notably, children’s language and maternal supportive parenting behavior mediated the effects exerted from maternal education on toddlers’ social competence.

Keywords: socioeconomic status, parenting behavior, social competence, language competence, toddlerhood

Introduction

In early childhood, particularly family background and family processes contribute to child development due to few other socialization influences, such as peers, compared with later childhood (Eamon, 2001). Empirical studies have revealed the impact of social disparities on child development by examining relations between family background (e.g. parental education, income), family processes (e.g. parenting behavior), and child development at different ages drawing on the bioecological theory of human development.
TODDLER’S SOCIAL COMPETENCE: IMPACTS OF SOCIOECONOMIC STATUS AND PARENTING BEHAVIOR

(e.g. Raviv, Kessenich, & Morrison, 2004). Specially, several studies have interpreted those aforementioned associations with a focus on family stressors (e.g. low socioeconomic status) and its adverse consequence on family process (e.g. parent-child conflict) as well as the successive impact on child development (e.g. Newland, Crnic, Cox, & Mills-Koonce, 2013; Zhang, 2014). Considering the stimulating factors (stimulus) like supportive parenting, which have been indicated to promote child development, previous studies were mainly conducted in a more piecemeal manner, suggesting the association between parenting and children’s socio-emotional competence (e.g. Baer et al., 2015; Newton, Laible, Carlo, Steele, & McGinley, 2014).

Therefore, the current study sought to unpack the mechanisms underlying the association between SES and children’s development by using an integrated bioecological within-family model and drawing attention to supportive parenting behavior as a stimulating factor with specific emphasis on toddlers’ social competence (Bronfenbrenner & Morris, 2006). Particularly, we considered the child’s language competence as a possible mediator within the model, because language development has been shown to be a crucial psychological tool (resource) in gaining mastery over behavior and cognition (Vygotsky, 1962).

The bioecological model and empirical findings

The revised bioecological model from Bronfenbrenner and Morris (2006) elaborates human development through dynamic, interactive relationships among four essential components: Process, Person, Context, and Time (PPCT-model). More specifically, proximal processes that can be defined as the dynamic interaction between some context aspects and the developing person (as biologically based) over time—which could be found in feeding, playing with an infant etc.—have been acknowledged as the key factor of the PPCT-model.
However, the extent of the influence of proximal process on developmental outcomes varies substantially from the characteristics of Person, a certain Context and the Time periods, in which the proximal processes occur (Bronfenbrenner & Morris, 2006).

Drawing on this theoretical background, diverse empirical studies have investigated children’s development (Person) by involving their socioeconomic status (SES – Context), family processes (Process). In toddlerhood, previous research has mostly focused on the impact of economic pressure (e.g. low income) on variety of maternal symptoms such as depression, which in turn to hinder mothers providing sensitive, supportive parenting behaviors (Newland et al., 2013). Before that, Conger et al. (2010) have already claimed that two indicators of SES, i.e. education and occupational status, have been largely only used as covariates, or combined with income to an overall index of SES. However, such an approach cannot explain the unique influences of each marker of SES (Conger et al., 2010; Duncan & Magnuson, 2003). Particularly, education is one of the robust indicators of SES inasmuch as its impact on later income and occupation (Krieger, Williams, & Moss, 1997). In this instance, Zhang (2014) included both family income and parental education as indicators of SES to examine the impact thereof on toddler’s social problem behavior. The author concluded that each marker of higher SES significantly predicted children’s less externalizing problem behavior; parent-child conflict played a mediating role between each SES and children’s social behavior problems. Moreover, Newton and colleagues (2014) proved that not only paternal education was associated with paternal sensitivity at 54 months and third grade prosocial behavior, but also maternal education was consistently related to more maternal sensitive parenting behavior and children’s prosocial behavior at third and fifth grades. Thus, in the current study, we include maternal education as well as family income as separate indicators of socioeconomic status.
Supportive parenting behavior as proximal process

As mentioned at the beginning, children in pre-kindergarten age experience mainly family socialization processes (Eamon, 2001), in which parent-child interaction frequently takes place and functions as an important proximal process influencing children’s development. In this instance, support is one of the frequently used salient dimensions while describing parenting behavior in parent-child interaction (Maccoby, Martin, Mussen, & Hetherington, 1983; Rollins & Thomas, 1979). Supportive parenting which refers to warmth, sensitivity, responsiveness, and emotional presence, works as an important positive contributor to socialization processes in the first few years of life (Ainsworth, 1979). It encourages more prosocial behavior (Spinrad et al., 2007), and subsequently promotes acquiring higher social competence (Barnett, Gustafsson, Deng, Mills-Koonce, & Cox, 2012) and also buffers adverse impact from cumulative risk (Lengua, Honorado, & Bush, 2007). For example, Barnett et al. (2012) suggested not only the reciprocal relations between social competence and observed supportive parenting at age two and three, but also the different pathways thereof by children’s gender. However, considering the precursor of (supportive) parenting behavior, previous research has drawn more attention on the impact of family stressors (e.g. economic pressure) on parenting behavior through different family dysfunctional processes, such as maternal depression and marital stress. With regard to the evidenced mediating effect of supportive parenting behavior between SES and child development, scholars have conducted those investigations mainly with special emphasis on examining children’s language competence (Raviv et al., 2004). Taken together, although a large number of research has investigated the associations between SES, supportive parenting and children’s social competence, including variables such as temperament, gender difference, a few studies examined those associations under a complex framework, which could elaborate those mechanisms within one integrated model. Thus, the current study
explores supportive parenting as a mediator that influences the effects from SES on toddlers’ social competence by using a unified framework.

**Three types of person characteristics**

According to the tenets of the bioecological model, the characteristics of Person, which influences the power of proximal process, cannot be ignored while examining the dynamic, interactive human development (Bronfenbrenner & Morris, 2006). Three determinant types of characteristics—resource, demand, and disposition—should be addressed. The resource characteristics refer to conditions that limit or disrupt the development. Apart from some obvious examples of resource such as low birthweight, persistent illness, developmental assets include ability, knowledge, skill, and experience which evolve over most of the life course, extend the domains of proximal process and thereby becoming another source facilitating more complex patterns of interaction.

**Resource - language competence**

Several research has shown the unidirectional effect of early language competence, such as receptive and expressive skills, on later social functioning (Aro, Eklund, Nurmi, & Poikkeus, 2012; Girard, Pingault, Doyle, Falissard, & Tremblay, 2017; Rose, Weinert, & Ebert, 2018). This reveals the crucial role of language competence as a developmental resource during toddlerhood. Girard et al. (2017) demonstrated that better expressive language at age three was longitudinally related to increased prosocial behavior at five years even controlling for a series of covariates, such as parenting behavior. Furthermore, the receptive language at three years also reveals significant effect on children’s cooperative behavior at seven years (Rose et al., 2018). By contrast, children with limited language skills seem to be less likely involved in social interaction, and by that reducing their chances to develop more social skills (Menting, Van Lier, & Koot, 2011; Rhee et al., 2013). Particularly,
children with less language competence are more likely to be rejected by peers, and this leads to an increased risk of externalizing behavior problems (Menting et al., 2011). With regard to the development of young children’s language competence, several studies have evidenced the significant association between SES and children’s language acquisition. For example, early study from Walker and colleagues (1994) demonstrated that maternal education, family income, and occupational status were highly linked to expressive language at age three. Thereby, combining the abovementioned theoretical basis and empirical evidence concerning children’s language competence, it is innovative to include the toddler’s language development as an additional mediator between SES and children’s social competence in the current study.

Demand and disposition

The demand characteristics act as an immediate stimulus to another person. As a classic indicator of demand characteristic, children’s gender was mainly concluded to influence toddlers’ social competence (Eisenberg & Fabes, 1998; Girard et al., 2017). Findings suggest that girls behave more prosocially than boys during toddlerhood and the early preschool period (e.g. Girard et al., 2017). Furthermore, gender differences have been also demonstrated in children’s language development, like that girls have generally better language abilities than boys (Bornstein, Hahn, & Haynes, 2004; Rhee et al., 2013). A recent study indicated that the impact of both receptive and expressive language at three years on children’s later socio-emotional competence differed between boys and girls (Rose et al., 2018). Finally, with respect to disposition characteristics, Baer et al. (2015) found that the significant effect of early maternal parenting on children’s social development disappeared while considering children’s temperament into model. They suggested therefore that research should examine how parents could promote their children’s social development in the presence of temperamental risk. Moreover, children’s negative emotionality, which defined
as predisposition for negative affectivity, has been negatively linked to their prosocial behavior (Laible, Carlo, Panfile, Eye, & Parker, 2010). Children with those characteristic are also more apt to develop behavior problems (Thomas & Chess, 1989). Given those evidence, we therefore control children’s negative affectivity, which is defined as children’s tendency to react to stressors with a high degree of emotionality, including anger, irritability, fear, or sadness (Rothbart, Ahadi, & Hershey, 1994). In addition, we also want to examine whether young children’s family migration background would have an impact on obtaining social competence.

**The present study**

Taken together, the present study investigate the mechanisms underlying the association between social inequality and toddler’s social competence by including supportive parenting behavior and child’s language competence while controlling for a series of covariates (see Figure 1). Drawing on longitudinal large-scale data, we aim to explore the following research questions:

1) What is the impact of SES (measured in the first year of life; wave 1 of the assessments) on child’s later social competence at 38 months (wave 4)?

2) Does supportive parenting behavior and children’s language at 26 months (wave 3) mediate the effect of SES on children’s social competence?

3) Does the effect of SES on child’s social competence change when considering mothers’ and children’s characteristics (i.e. gender, temperament, and migration background)?

Along with the foregoing empirical evidences, we attempt to evaluate the following hypotheses. We expect that the positive effects of maternal education and family net equivalent income on children’s later social competence at 38 months (wave 4) would be
evident in our sample (hypothesis 1). These associations are hypothesized to be positively mediated by both supportive parenting behavior and children’s language competence at 26 months (wave 3; hypothesis 2). Finally, we also expect those foregoing effects remain, when involving mothers’ as well as child characteristics (i.e. gender, temperament, and migration background; hypothesis 3). With respect to control variables, we anticipate that girls would comparing boys master better language competence, have higher social competence. Children with more negative affective were supposed to negatively influence mothers’ supportive parenting behavior, and have poor social competence. Lastly, we expect to see that mothers with migration background should behave different in terms of supportive parenting and their children should acquire different level of German language at 26 months and have different social competence than native German children.

Methods

The National Educational Panel Study (NEPS)

Our data stemmed from the Newborn Cohort of the ongoing German National Educational Panel Study (NEPS; Blossfeld & Roßbach, 2019; doi:10.5157/NEPS:SC1:6.0.0), which is a national longitudinal study addressing educational process and trajectories. The Newborn Cohort, which was representatively recruited in 2012, is a national sample with 3,481 children (age six to eight months). This dataset offers large-scale information about targeted children from birth and their families in Germany. In the first four years of children’s life, four measurements were conducted when children were around 7, 16, 26, and 38 months old. Parents provided a number of demographic information and reported children’s characteristics in each measurement point (wave). The current study included 2,478 mother-child dyads who remained in this longitudinal study until wave 4. At the Time 1 (T1; wave 1), mothers reported on their years of education received ($M = 14.93$, $SD = 2.54$), had an average age of 32.72 years ($SD = 4.97$). The average family net equivalent income summed
up to 1,723.86 € (SD = 868.53). Children in this sample were born in Germany from March to August 2012 (49.00% female, age in months at T1: $M = 7.10$, $SD = 0.74$). Around 44.00% children ($N = 1,092$) came from families with migration background.

Measures

**Socioeconomic status (SES).** SES indicators included maternal education as continuous variable of years of education, and family net equivalent income at children’s age of seven months (T1). Using the OECD-modified equivalence scale which was first proposed by Hagenaars, De Vos, and Asghar Zaidi (1994) and assigns a weight of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child, the family net equivalent income was calculated. Further, we log-transformed the equivalent income before analysis, as it can greatly reduce the skewness of this variable and diminishes marginal benefits of increasing income in the high-income groups.

**Parenting behavior.** On the basis of the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development (SECCYD; NICHD Early Child Care Research Network, 1999), semi-structured parent-child interaction in a play situation between parent and their children were videotaped in the households of the families. Parents were asked to play with their children for 10 minutes with toys which is divided into three bags in a set order (details see Linberg et al., 2019). Trained coders (in a 50-hour rater training) rated each 10-minute videotaped parent-child interaction for each parent-child dyad on a 5-point Likert scale adapted to the rating instrument from NICHD-SECCYD Study (rating scales from 1 = not at all characterized to 5 = very characterized). The inter-rater reliability shows good interrater-agreement (weighted percentage: 92% – 94%; Spearman’s rho: 0.60 – 0.63). In the current study, the supportive
parenting behavior at age 26 months (wave 3) contained three coded dimensions of mother-child interaction – sensitivity to non-distress (sensitive reactions toward child signals), positive regard for the child (verbal and nonverbal expression of positive emotions toward the child), and emotionality (emotional presence), indicating an adequate internal consistency (Cronbach’s alpha = .72). The confirmatory factor analysis of this construct showed very good fit (CFI = 1.00, RMSEA = 0.00, range of factor loadings = 0.45 – 0.99).

**Language competence.** At the age of 26 months, parents rated children’s language competence with a Communicative Development Inventories (CDI)-like German parent checklist of children language – Elternfragebögen für die Früherkennung von Risikokindern 2 (ELFRA 2; Grimm & Doil, 2006). It consisted of three subscales – productive vocabulary (260 items), syntax (64 items), and morphology (11 items). These subscales correlated highly with each other ($r$: 0.81 – 0.84, $p < .001$). Cronbach’s alpha also suggested a very high internal consistency of this parent checklist ($\alpha = 0.92$). The confirmatory factor analysis indicated further the good fit of this measurement (CFI = 1.00, RMSEA = 0.00, range of factor loadings = 0.90 – 0.94).

**Social competence.** The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) was applied to measure children’s social competence at 38 months (wave 4). Parents reported on children’s behavior on two subscales of the SDQ (Prosocial Behavior and Peer Relationship Problems). Both subscales are measured with five items each that characterize specific behavior of the child. Parents had to rate children’s behavior in a 3-point Likert scale ($1 = not true$, $2 = somewhat true$, or $3 = certainly true$). The higher scores indicated more engagement in prosocial behavior or more problems between peers. The SDQ has been widely applied in many countries and proved a reliable instrument examining children’s social (emotional) competence. Although the Cronbach’s alpha shows marginal acceptable internal consistency of these two SDQ subscales ($\alpha = 0.50$ & 0.47, respectively), the
confirmatory factor analysis on the other hand demonstrated good fits of both subscales (Prosocial Behavior: CFI = 0.96, RMSEA = 0.06, range of factor loadings = 0.39 – 0.66; Peer Relationship Problems: CFI = 0.97, RMSEA = 0.04, range of factor loadings = 0.28 – 0.64).

**Covariates.** Parents reported children’s Negative Affectivity – dimension from the Infant Behavior Questionnaire – Revised (IBQ-R; Gartstein & Rothbart, 2003; Vonderlin, Ropeter, & Pauen, 2012) at seven, 25, and 38 months age. We utilized the mean value of this measurement across three time points, as temperament is relatively stable across infancy and early childhood (Pedlow, Sanson, Prior, & Oberklaid, 1993). With respect to migration background, we regarded at least one of target children’s parents or grandparents was born outside Germany and their household language was not only German as *with migration background*, else as *native German*.

**Analytic Plan**

The comprehensive framework of structural equation modeling (SEM) were used to examine the associations between study variables. In the analyses, the supportive parenting behavior, children’s language competence, and children’s social competence were modeled as latent variables and all direct and indirect effects in the model were estimated. Due to the non-normal distribution of the supportive parenting behavior and children’s social competence, these indicators (items) were treated on an ordinal level (Brown, 2014; Rhemtulla, Brosseau-Liard, & Savalei, 2012). All models were estimated by using the robust weighted least-squares mean- and variance-adjusted (WLSMV), which is optimal approach dealing with non-normal and ordinal variables (Bandalos, 2002).

Prior to performing the analyses, we applied multiple imputation by chained equations (MICE; White, Royston, & Wood, 2011) to handle missing values (more than 10% per
independent variable on average). According to Enders (2010), any variables that appeared in the subsequent statistical analysis should be included in the imputation process. Incorporating a number of auxiliary variables that correlated to the missingness of variables under study will even fine-tune the missing data analysis. Hence, we included those 24 variables from the analysis model as well as two auxiliary variables (i.e. whether children from single parent family, depressive feeling of mother) in the imputation model. We created m = 20 imputed data sets by using Stata 15. Graphical diagnostics demonstrated that the imputed data matched the original data well. After generating the complete data sets, further analyses were conducted based on each imputed data set and combined the results automatically in Mplus 8.3 (Muthén & Muthén, 2015). Mplus conducted the analyses based on each imputed data set and combined the results automatically (Rubin, 1987).

Results

Preliminary analyses

Descriptive statistics of all study variables are reported in Table 1. Bivariate correlations between those variables across time are presented in Table 2. Toddlers’ peer relationship problems was negatively correlated to each socioeconomic status variable, to their early language, and to mothers’ supportive parenting behavior ($r$: -0.08 – -0.14, $p < .001$). Toddlers’ prosocial behavior was positively associated with their early language competence and mothers’ supportive parenting behavior ($r$: 0.07 & 0.09, $p < .001$). Furthermore, both socioeconomic status variables were positively correlated to toddlers’ early language competence and mothers’ supportive parenting behavior ($r$: 0.14 – 0.28, $p < .001$). Concerning covariates, toddlers’ gender and temperament were as expected significantly correlated to toddlers’ social competence. For instance, toddler girls tended to
behave more prosociality (r: 0.12, p < .001) and have less problems with peers (r: -0.08, p < .001).

**SES and social competence – unconditioned model**

Through the abovementioned bivariate correlation analyses, the presence of significant associations among SES, parenting behavior, language competence, and toddlers’ social competence could be primarily confirmed, which is the fundamental precondition prior to examine the mediated relations among them. The following structural equation modelling further expatiates the exact associations between those variables.

The unconditioned model demonstrated adequate fit to the data (CFI = 0.933; RMSEA = 0.046; SRMR = 0.050). Figure 2 shows the unconditioned model with standardized significant estimates. There were significant effects of both maternal education and family net equivalent income on toddlers’ language competence and mothers’ supportive parenting when children were 26 months old; toddlers with more highly educated mothers or from families with higher family net income, had better language competence and experienced more supportive parenting behavior from mothers. In turn, toddlers with better language competence or receiving more supportive parenting at 26 months behaved more prosocial behavior and had less peer relationship problems at 38 months. Moreover, maternal education also proved to be a direct predictor of toddlers’ peer relationship problems; higher maternal education predicted less peer problems at 38 months.

The indirect effects from maternal education and family net equivalent income on toddlers’ social competence via their language competence and mothers’ supportive parenting are presented in Table 3. The results suggested that maternal education had significant indirect effects on children’s prosocial behavior and peer relationship problems through the pathways of children’s language competence and mothers’ supportive parenting behavior at
26 months. By contrast, family net equivalent income revealed indirect effects on children’s social competence only through children’s language competence. The results indicated that the effects of family net equivalent income on toddlers’ social competence seemed to be only robust through their language competence, but not through supportive parenting behavior. In other words, toddlers with higher family net income background had better language competence at 26 months, and in turn showed better social competence at 38 months.

**SES and social competence – conditioned model**

The second model examined the hypothesized associations in the presence of control variables (see Figure 3). The results indicated the conditioned model fit the data well (CFI = 0.909; RMSEA = 0.048; SRMR = 0.066). Not only the positive effects revealed from maternal education and family net equivalent income on toddlers’ language competence and mothers’ supportive parenting, as well as the subsequent impacts thereof on toddlers’ later social competence remained, but also the direct effect of maternal education on toddlers’ peer relationship problems still existed while involving the covariates. Although the results of the indirect effects in this conditioned model reduced, the indirect effects from maternal education and family net equivalent income on toddlers’ social competence via their language competence and mothers’ supportive parenting remained at same significant level (see Table 4). Maternal education significantly predicted toddlers’ better social competence through both advanced language competence and more supportive parenting behaviors, whereas family net income revealed significant effects on high level of toddlers’ social competence only through their advanced language competence.

Concerning covariates, gender proved to have crucial effects on toddlers’ language development and later social competence; as reported by parents, girls had not only better language competence at 26 months than boys, but also behaved significantly more prosocial,
had less problems while getting along with peers at 38 months than boys. Furthermore, toddlers’ negative affectivity was also a significant predictor of their social competence and mothers’ parenting behavior; toddlers with a difficult temperament impeded mothers to providing supportive parenting behavior, they also tended to have less prosocial behavior and more problems with peers at 38 months. Apart from these evidences, toddlers’ migration background was also a significant predictor of supportive parenting behavior, toddlers’ language competence and their later peer relationship problems; toddler with migration background had lower language competence, experienced less supportive parenting behavior, and had more peer relationship problems comparing native German children.

Discussion

The current study has attempted to identify mechanisms underlying effects of social disparity on 38-month-old toddlers’ social development. Basing on a bioecological mediational framework, we investigated the associations between maternal education and family net income (as indicators of SES) on toddlers’ social competence mediated by their early language competence and their mothers’ supportive parenting behavior at 26 months. Following three research questions, we stepwise accomplished the investigation.

Based on empirical evidences, we hypothesized that maternal education and family net income each were associated with toddlers’ social competence at 38 months (hypothesis 1). The results from bivariate correlation analyses partially supported hypothesis 1, demonstrated each maternal education and family net equivalent income in the first year of life was positively correlated to toddlers’ lower peer relationship problems at 38 months, but not to their prosocial behavior. Although previous studies rarely examined the unique associations between SES and children’s social competence, through this step we could simply get the first impression of the links between those key variables under study. In addition, the evidenced significant relations among SES, two mediators, and social
competence supported our further investigation exploring the underlying mechanisms among them.

Subsequently, we expected that toddlers’ language and experienced supportive parenting at 26 months would mediate the effects from SES on their social competence at 38 months (hypothesis 2). The results from the unconditioned structural equation model revealed not only the partial mediating effects of children’s early language as well as mothers’ parenting behavior between SES indicators and toddlers’ peer relationship problems, but also the complete mediating effects thereof between SES indicators and toddlers’ prosocial behavior. These results could firstly compensate for the nonsignificant association between SES and children’s prosocial behavior from hypothesis 1. Furthermore, the findings are consistent with previous findings, indicating that having a better family net income or with highly educated mothers, toddlers acquire better language competence (Walker et al., 1994), experience more supportive parenting (Newton et al., 2014), and in turn, behave more prosocially (Girard et al., 2017; Rose et al., 2018; Spinrad et al., 2007) and have less problems with peers (Lengua et al., 2007; Menting et al., 2011). In other words, within one model we can confirm the association between social disparities and toddlers’ social competence can be explained by supportive parenting (proximal process) and children’s early language (resource).

Examining our third research question, we finally expected to see the foregoing effects in hypothesis 2 remaining even considering control variables (hypothesis 3). The results demonstrated that those robust partial and complete mediating effects of early language and supportive parenting behavior between maternal education and toddlers’ social competence even when accounting for all covariates. Furthermore, the complete mediating effects of children’s language competence between family net equivalent income and children’s social competence remained, as well. Findings here reveals twofold information.
First, the remaining direct and indirect effects of maternal education shows its more robust predicting power in our model, this is also in accordance with previous evidence that education is one of the salient element of SES (Conger et al., 2010). The results concerning the indirect effects illustrate the mechanisms between maternal education and toddlers’ social competence through mothers’ supportive parenting and children’s early language. This phenomenon could be that mothers with higher educational qualification have more access to human, cultural, and social capital and that those capital in turn facilitate mothers to support their children’s development (Harding, Morris, & Hughes, 2015). For example, high-educated mothers communicate with children in daily life with more advanced language and more vocabularies that could certainly boost children’s language development. Second, the unique effect from family net equivalent income on toddlers’ social competence through children’s early language, indicates once again the crucial and robust role of language competence as developmental asset on promoting social competence. The results suggest on the other hand that high family income may not mean that mothers can subsequently provide more supportive parenting.

With respect to evidences basing on covariates, the conditioned model further indicated the different role of the children’s characteristics. First of all, gender difference in the current study are in line with previous studies examining its effects on children’s language development, or social competence (Bornstein, Hahn, & Haynes, 2004; Girard et al., 2017; Rhee et al., 2013; Rose et al., 2018). The results indicate that toddler-girls seem to acquire language better at 26 months than boys. Moreover, girls are apt to show more prosocial behavior and have less peer relationship problems at 38 months than boys. This could be explained by Eisenberg and Fabes (1998) that girls may be encouraged to be more empathetic than boys, resulting in more prosocial behaviour and less conflicts or problems with peers. Findings based on linear analysis from the current study add to the existing
evidences, suggesting the gender differences appear in a very early stage. Second, we can conclude in our study that toddlers with negative affectivity have poor social competence by showing less prosocial behavior and exhibiting higher rates of peer relationship problems. Although young children with difficult disposition seem to impede mothers to provide frequent supportive parenting to their 26-month-old children, mothers’ supportive parenting behavior still tend to promote developing children’s high social competence, in spite of children’s difficult temperament. This finding differs from previous evidence that while controlling for children’s temperament, the effects of parenting behavior on children’s later social functioning disappears (Baer et al., 2015). The supportive parenting in the current study were measured when children aged 26 months, whereas sample from study of Baer and colleagues (2015) aged from 5 to 18 years. This can be explained that parents may begin with a greater effort supporting child development even facing distress-prone children, but not be able to sustain this effort over time (Sanson & Rothbart, 1995).

Concerning children’s migration background, the results indicate children with migration background acquired lower level of German language competence, compared with native German children; unique (German) language stimulation in daily life promotes better (German) language development. Moreover, children with migration background also experience less supportive parenting, have more problems with peers. The evidence here suggest therefore, children with migration background in Germany might need to be specific addressed to reduce the social inequality between them and native German children.

Taken together, findings from the current study can clearly illustrate the mechanisms underlying SES and toddlers’ social competence. Apart from the main predictors, the supportive parenting behavior, children’s’ early language, and Person’s characteristics play salient roles during this process, respectively.
Strengths and limitations

This study makes theoretical, methodological, and applied contributions to the literature by exploring social disparities on toddlers’ social competence. Particularly, we involved children’s language competence as an additional developmental resource into our bioecological within-family model by drawing on theoretical as well as empirical fundaments. Under this circumstance, we could specially verify the previous separate findings within our complex model. Moreover, we demonstrated the essential meaning of involving characteristics of Person with the form of mediator and covariates to investigate the power of proximal processes. Regarding methodological strengths, this study used longitudinal large-scale data to understand the social disparities in early stage of children’s social development. Moreover, measurements were well-designed based on theory by using observed and parent-reported assessments. Given that missing data occurred inevitably in longitudinal data, we used the appropriate method to deal with the missingness.

Despite the abovementioned strengths, the current study is not without limitations. First, the high attrition rate (29%) after four time points of data collection hinders the full generalization of the findings to German population. Second, concerning measurements, children’s language competence was based on a parent-reported language checklist, which might elicit the social desirability bias. Further investigation concerning children’s language competence could utilize a language test tailored to children which can directly assess their language development. Moreover, children’s social competence consists of only two components, which may not completely reflect children’s social competence. Therefore, involving more subscales measuring different aspects of social competence in future studies is expected. Third, as mentioned earlier, the current study only controlled the linear effects of gender on their language and social competence. Future studies could be further generative to combine examining the moderating effect of gender in this mediating model. Lastly, although
we studied the associations between social disparities and toddlers’ social competence in a within-family model – due to less socialization processes in toddlerhood, there were around 33% children below three receive external pre-kindergarten child care in Germany (Camehl & Peter, 2017). Hence, further studies could also address whether visiting any pre-kindergarten settings would influence those associations and how it would be occurred.

**Implication**

Findings from our complex model considering Proximal process (i.e. supportive parenting), Person (i.e. children’s characteristics; language), Context (i.e. SES), Time (i.e. toddlerhood) provide a number of implications for early prevention and intervention to promote toddler’s social competence. More specifically, the study suggests that early professional parenting programs, which could facilitate mothers to provide more warmth, sensitive, and supportive interactions toward children, could reduce the impact of social disparities caused by different maternal educational level or family income on children’s social development and could by that prevent problematic child behavior. Furthermore, those programs with reasonable fee should be easily and equally accessed, e.g. prior dissemination of importance of enhancing supportive parenting. In addition, enhancing toddlers’ language development could also in turn co-ordinately develop social competence. This could be operationalized by integrating language development within the parenting program or addressed directly toward children by respective language training programs. For example, kindergarten could provide additional language stimulation toward children with migration background. Noteworthy is that children’s and mothers’ characteristics should be taken into account while planning the aforementioned programs.
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TODDLER’S SOCIAL COMPETENCE: IMPACTS OF SOCIOECONOMIC STATUS AND PARENTING BEHAVIOR


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Rollins, B. C., & Thomas, D. L. (1979). Parental support, power, and control techniques in the socialization of children. *Contemporary Theories about the Family: Research-Based Theories/Edited by Wesley R. Burr…[et Al.].*


Tables and Figures

Table 1

Descriptive statistics of variables under study ($N = 2478$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEB (W1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal education (years)</td>
<td>14.93</td>
<td>2.54</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Equivalent income (€)</td>
<td>1729.63</td>
<td>886.99</td>
<td>120.00</td>
<td>14285.71</td>
</tr>
<tr>
<td>Log equivalent income</td>
<td>7.35</td>
<td>0.46</td>
<td>4.79</td>
<td>9.57</td>
</tr>
<tr>
<td><strong>Language competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ELFRA 2, W3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productive vocabulary</td>
<td>140.74</td>
<td>65.90</td>
<td>0</td>
<td>260</td>
</tr>
<tr>
<td>Syntax</td>
<td>25.16</td>
<td>11.39</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Morphology</td>
<td>7.66</td>
<td>4.87</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperament (negative affectivity)</td>
<td>3.88</td>
<td>0.91</td>
<td>0.50</td>
<td>6.00</td>
</tr>
<tr>
<td>Gender</td>
<td>1272 (51.33%) boys</td>
<td>1206 (48.67%) girls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migration background</td>
<td>1387 (55.96 %) German</td>
<td>1091 (44.04 %) Migrants</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. ELFRA 2 = Elternfragebögen für die Früherkennung von Risikokindern 2 (parent-report questionnaire for early identifying children in risk); Temperament = average value of children’s negative affectivity from wave 1 to wave 3.*
### Table 2

**Bivariate Correlations (Pearson and Spearman) between study variables**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SDQ – Prosocial behavior (w4)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. SDQ – Peer relationship problems (w4)</td>
<td>-0.14***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Years of education (mother, w1)</td>
<td>0.02</td>
<td>-0.12***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Family net equivalent income (logarithm, w1)</td>
<td>-0.01</td>
<td>-0.08***</td>
<td>0.44***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Gender (girl = 1, w1)</td>
<td>0.12***</td>
<td>-0.08***</td>
<td>0.02</td>
<td>-0.01</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Migration background</td>
<td>0.03</td>
<td>0.05**</td>
<td>-0.22***</td>
<td>-0.19***</td>
<td>0.01</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Supportive parenting (w3)</td>
<td>0.07***</td>
<td>-0.08**</td>
<td>0.17***</td>
<td>0.14***</td>
<td>0.02</td>
<td>0.01</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Language competence (ELFRA 2, w3)</td>
<td>0.09***</td>
<td>-0.14***</td>
<td>0.28***</td>
<td>0.21***</td>
<td>0.15***</td>
<td>-0.15***</td>
<td>0.12***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9. Temperament (negative affectivity)</td>
<td>-0.14***</td>
<td>0.09***</td>
<td>-0.09***</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.05*</td>
<td>-0.06*</td>
<td>-0.05*</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note.* † *p*<.05, ‡ *p*<.01, *** *p*<.001

SDQ = the Strengths and Difficulties Questionnaire; ELFRA 2 = Elternfragebögen für die Früherkennung von Risikokindern 2 (parent-report questionnaire for early identifying children in risk); Temperament = Mean of Children’s Negative Affectivity from w1 to w3.
Table 3

*Standardized estimates for indirect effects by social competence (unconditioned model)*

<table>
<thead>
<tr>
<th></th>
<th>SDQ_Prosocial behavior</th>
<th></th>
<th>SDQ_Peer relationship problems</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>β</strong></td>
<td>S.E.</td>
<td><em>p</em></td>
<td><strong>β</strong></td>
</tr>
<tr>
<td>Maternal education (via language competence)</td>
<td>0.032</td>
<td>0.009</td>
<td><strong>0.000</strong></td>
<td>-0.050</td>
</tr>
<tr>
<td>Maternal education (via supportive parenting)</td>
<td>0.022</td>
<td>0.010</td>
<td><strong>0.029</strong></td>
<td>-0.023</td>
</tr>
<tr>
<td>Family net equivalent income (via language competence)</td>
<td>0.011</td>
<td>0.004</td>
<td><strong>0.010</strong></td>
<td>-0.017</td>
</tr>
<tr>
<td>Family net equivalent income (via supportive parenting)</td>
<td>0.006</td>
<td>0.004</td>
<td>0.108</td>
<td>-0.007</td>
</tr>
</tbody>
</table>

*Note.* SDQ = the Strengths and Difficulties Questionnaire.
### Standardized estimates for indirect effects by social competence (conditioned model)

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<tr>
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<th>SDQ_Peer relationship problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>S.E.</td>
</tr>
<tr>
<td>Maternal education</td>
<td>0.005</td>
<td>0.002</td>
</tr>
<tr>
<td>(via language competence)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal education</td>
<td>0.005</td>
<td>0.002</td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

*Note.* SDQ = the Strengths and Difficulties Questionnaire.
Figure 1. Working model for examining the associations in the current study.
Figure 2. Results of unconditioned structural equation model. Only the significant standardized coefficients were presented.

Note. Log-income = log-transformation of family net equivalent income; SDQ = the Strengths and Difficulties Questionnaire; PS_a – PS_i = items of prosocial behavior; PR_c – PR_f = items of peer relationship problems.
Figure 3. Results of conditioned structural equation model. Only the significant standardized coefficients were presented.

Note. Log-income = log-transformation of family net equivalent income; Migration = migration background of children; SDQ = the Strengths and Difficulties Questionnaire; PS_a – PS_i = items of prosocial behavior; PR_c – PR_f = items of peer relationship problems.