Intergenerational Transmission of Trust: A Dyadic Approach

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Abstract
Trustful parents often have trustful children. Yet it is unclear whether this intergenerational correlation of trust is due to genetic inheritance, shared experiences, or parental socialization. In this article, I suggest that a dyadic approach that differentiates same-sex (mother-daughter and father-son) and cross-sex (mother-son and father-daughter) dyads provides important insights into these potential mechanisms. My analysis of a unique parent-child paired data set created from the Chinese Family Panel Studies (2012–2016) reveals several transmission patterns. First, mothers are generally more influential than fathers in the trust transmission process. Second, there is greater transmission between same-sex generational dyads than between cross-sex pairs. Third, parental homogeneity moderates the transmission process. These patterns are hard to explain with genetic or environmental influences, but they are fully compatible with differential socialization theories. The overall evidence indicates that parental socialization is more likely the primary process underlying how trust is transmitted intergenerationally.

Keywords
trust, intergenerational transmission, dyadic approach, socialization

Many value orientations and social behaviors can be passed down from parents to children. Among them is the willingness to trust in unfamiliar others, or generalized social trust. This form of trust denotes a belief in the benevolence of other people (Uslaner 2002; Yamagishi 2013). There is enough evidence that parents’ trust is highly correlated to the trust of their children (e.g., Dinesen 2012b; Dohmen et al. 2012; Giulietti, Rettore, and Tonini 2016 Katz and Rotter 1969; Ljunge 2014; Moschion and Tabasso 2014; Rotenberg 1995; Stolle and Nishikawa 2011; Uslaner 2008). Less clear, however, are the social processes underpinning the intergenerational transmission of trust. Mutual trust that people have in each other is essential for economic and social development and the smooth functioning of society (Coleman 1988; Fukuyama 1995; Luhmann 1979; Putnam 1993; Zak and Knack 2001) and for individual health and well-being outcomes (Giordano et al. 2018; Helliwell et al. 2018; Kawachi and Berkman 2000). Hence, exploring the channels through which parents pass on their trust view to their offspring can shed light on how trust is distributed unequally and how trust inequality further exacerbates other inequalities within and across societies.

Current literature has provided three distinctive explanations for the strong and positive correlation between parents’ trust and the trust of their children. A socialization model suggests that trusting parents bear trusting children primarily due to parental socialization (Dohmen et al. 2012; Erikson [1950] 1993; Rotenberg 1995; Uslaner 2000). An experiential theory suggests that intergenerational transmission could come from the confounding experiences and shared contexts that influence the trust of both parents and their offspring (Dinesen 20010; Giulietti et al. 2016). A genetic inheritance perspective points to the genetic makeup shared by parents and children (Krueger et al. 2012; Sturgis et al. 2010). Currently, these three theories have yet to be compared against each other, and so there is no complete explanation for the intergenerational correlation between parent-child trust.

In this article, I argue that a dyadic approach that differentiates both same-sex (mother-daughter and father-son) and cross-sex (mother-son and father-daughter) dyads and compares the strength of intergenerational correlation may help disentangle between these mechanisms. Classic literature on the intergenerational transmission that highlights...
the essential role of parental socialization in the process has suggested that it is important to differentiate the four parent-child dyads: father-daughter, father-son, mother-daughter, and mother-son. These four dyadic relationships are distinctive, and they often produce differential impacts on child development, especially in the formation of values and behaviors (Acocq and Bengtson 1978; Chaplin et al. 2005; Collins and Russell 1991; Horstman et al. 2016; Russell and Saebel 1997). Accordingly, if parental socialization is one key mechanism underlying the transmission process, we expect that transmission success should vary according to the strength of cue giving and reinforcement on the part of the socializer across dyads. If the intergenerational transmission of trust is simply due to genetic makeup or environmental influences shared by both parents and children, we are less likely to see the parent-child associations of trust would differ depending on the gender of both the parent and the child (for similar arguments, please see also e.g., Dohmen et al. 2012; Donnelly and Marteleto 2018; Modin, Erikson, and Vägerö 2013; Sepahvand and Shabbazian 2017). Instead, we are more likely to see that mothers and fathers exert similar effects or at least that the influence from each parent is consistent across sexes of children (Oskarsson et al. 2012).

An empirical test of the dyadic approach requires parent-child paired data that include direct measures of trust for children (both sons and daughters) and for parents (both mothers and fathers). The Chinese Family Panel Studies (CFPS), a nationally representative and biennial survey of Chinese communities, families, and individuals (see Xie and Hu 2014), provides us with this rare opportunity. Drawing on data from the CFPS, I obtained a sample of 3,871 adolescent children including 2,097 sons and 1,774 daughters across 2,584 households. My analysis of the data confirms the strong intergenerational correlation of trust between parents and children. It also reveals several specific transmission patterns. First, mothers are generally more influential than fathers in transmitting trust to their offspring. Second, there is greater transmission between same-sex generational dyads than between cross-sex pairs. Third, parental homogeneity moderates the trust transmission process. These patterns are hard to explain with the genetic theory or the shared environmental influences, but they are fully compatible with the social learning and differential socialization theory. This suggests that parental socialization is more likely to be the key process underlying how trust is transmitted intergenerationally. This study also contributes to the long-standing debates in the formation of trust (see e.g., Paxton and Glanville 2015; Sturgis et al. 2010; Uslaner 2008). The findings of this study provide further evidence that trust is more a matter of cultural influences from socialization early in life rather than a product of genetic inheritance or adult life experiences (Van Lange 2015; Wu 2021).

**How Is Trust Transmitted Intergenerationally? Three Potential Mechanisms**

Current literature has highlighted three potential mechanisms that may mediate the strong correlation between trust of parents and trust of children. It could be cultural if children learn to trust early in life from their parents through a process of parental socialization. It could be experiential if trust of parents and trust of children are both influenced by the same environment they live in or their shared life experiences. It is also possible that the transmission could be simply a product of the genetic makeup shared by parents and children. In what follows, I first discuss each perspective in brief. Then, I point out that current literature largely leans toward the parental socialization theory.

**Parental Socialization**

Current studies on intergenerational transmission of trust largely assume that children adopt trust from their parents through a process of parental socialization. This perspective is in line with the cultural socialization theory of trust that views trust as one of the core values acquired early in life through socialization within families, schools, and communities when growing up, and they continue to be rather stable during the life cycle (Jenings, Stoker, and Bowers 2009; Quintelier 2015; Stolle and Hooghe 2004; Uslaner 2008; Van Deth, Abendschön, and Vollmar 2011; Wu 2020). Although they are not the only ones, parents are the primary agents for socializing children (Maccoby 1992:1006). Children who do not have trustful role models become distrustful adults, whereas children who have trusting parents become more trusting adults. As Stolle and Hooghe (2004:285) write, “trusting parents behave in a trusting way and distrusting parents take precautions,” and therefore parents with different levels of trust can create differential impacts in socializing trust to their children. Parents’ trust provides the comfort and reliability that children integrate into their mental representation of the world (King 2002). When parents are reliable and trusting, they also teach children to trust. In contrast, a child with inconsistent parents or parents with low trust learns to be mistrustful of others.

**Shared Experience/Context**

A strong correlation between trust of parents and trust of children could also mean that there are experiences or contexts shared by both children and parents that influence their trust in a homogeneous way. This view is built on the experiential theory of trust that suggests an individual’s trust responds to changing life experiences and therefore it can vary according to the time period and circumstance it is tested in (Dinesen and Hooghe 2010; Mewes et al. 2021;
Paxton and Glanville 2015). For example, parents and children from the same family who live in neighborhoods with high rates of crime poverty may learn to be mistrustful of other people, whereas those who live in secure neighborhoods may trust their neighbors and other people more willingly (Wilkes and Wu 2018). Giulietti et al. (2016) have used the sibling effect on trust to support the argument that environmental factors shared by both parents and children are relevant to the formation of trust. Focusing on immigrants, the strong correlation between trust of immigrant parents and trust of immigrant children has been attributed to the fact that they share similar social and institutional experiences in the host country (Dinesen 2012a).

Genetic Inheritance

It is well established that human traits and personalities could be genetically determined (Bouchard and Loehlin 2001). In terms of trust, many have suggested that parents and children share similar trust views because of the genetic makeup shared by parents and children (Alford et al. 2005; Hiraishi et al. 2008; Kosfeld et al. 2005; Reimann, Schilke, and Cook 2017; Sturgis et al. 2010; Weinschenk et al. 2019; Wootton et al. 2016; Zak et al. 2005). For example, using samples of monozygotic and dizygotic twins, Sturgis et al. (2010) find that the majority of trust variance is explained by an additive genetic factor, rejecting the view that trust occurs through a process of familial socialization early in life. Similarly, using a unique sample of Swedish twin pairs, Oskarsson et al. (2012) also reported significant genetic influences on trust.

Scholars continue to debate about what underlies the intergenerational correlation of trust. Still, the weight of evidence suggests that parental socialization is more likely to be the key process. Indeed, studies that follow the socialization theory yield more consistent findings (Dohmen et al. 2012; Katz and Rotter 1969; Ljunge 2014; Rotenberg 1995; Stolle and Hoogh 2004). In contrast, there is evidence that environmental influences experienced in common by sibling pairs have no discernible effect on trust (Sturgis et al. 2010). Longitudinal studies have also consistently shown that people’s trust is already in shape in preadulthood, and it remains rather stable in adulthood (Dawson 2017; Stolle and Hoogh 2004). The stability of trust in adulthood suggests that people’s willingness to trust in others may not come from environmental influences. In fact, it is important to establish that parents’ trust has already been established before suggesting that they can pass down their trust to their children. If parents are also updating their trust constantly, it will be flawed to argue that they can pass down their trust to the next generation. Furthermore, studies that consider the genetic influences report only a modest level of heritability estimate (less than 40 percent) for generalized trust (Hiraishi et al. 2008; Reimann et al. 2017; Weinschenk et al. 2019; Wootton et al. 2016). This means that the large part of variations in generalized trust cannot be attributed to genetic influence. There are also studies that show the genetic influence on generalized trust is “virtually absent” (Van Lange 2015; Van Lange, Vinkhuizen, and Posthuma 2014).

Next, I introduce a dyadic approach to the intergenerational transmission of trust. The goal is to provide further support that trust is more a matter of familial socialization than a product of genetic makeup or common experiences shared by both children and parents.

Patterns of Intergenerational Transmission Process: Toward a Dyadic Approach

Investigation of intergenerational transmission should not only test whether transmission occurs but also consider the pattern of transmission. Indeed, classic literature on parent-child relationships has long suggested that it is important to differentiate the four parent-child dyads: father-daughter, father-son, mother-daughter, and mother-son. These four dyadic relationships are distinctive, and they have been found to influence children in different ways, especially in socializing children to their values and behaviors (Acocq and Bengtson 1978; Chaplin et al. 2005; Collins and Russell 1991; Horstman et al. 2016; Russell and Saebel 1997). Parents are the major socializing agent for their children, but mothers and fathers play differential roles in socializing both their sons and daughters. Hence, if parental socialization is the mechanism underlying the transmission process, we expect that transmission success should vary according to the strength of cue giving and reinforcement on the part of the socializer (Jennings et al. 2009; Maccoby 1992; Rico and Jennings 2012).

More recently, several studies have considered the pattern of intergenerational transmission of value orientations and social behaviors such as place attachment and diet behavior. Based on their finding of varying transmission success across the opposite- and same-sex parent-child dyads, these studies all suggest parental socialization is the key process. For example, in their investigation on intergenerational transmission of place identity, Rico and Jennings (2012) show parent-child association varies according to the same-sex and cross-sex combinations of parents and their children and therefore suggest that social learning (socialization) within the family is the major force at work in the transmission process. Similarly, in their investigation of intergenerational continuity in school performance, Modin et al. (2013) find that intergenerational associations vary quite strongly according to the specific school-subject type and to the gender-specific line of intergenerational transmission, and therefore they suggest that the transmission cannot be simply reduced to a genetic model based on the varying transmission patterns. Sepahvand and Shabbazian (2017) find that mother’s transmission of risk attitudes is stronger on their daughters than sons, whereas the pattern is reversed for fathers; they also point to the gender-specific role model in
parental socialization in creating such a pattern. More recently, Donnelly and Marteleto (2018) have asked how parent-child associations of diet behavior differ by gender. They show that the strength of the parent-child associations of diet behavior differs depending on the gender of both the parent and the child, providing great insights into the processes and mechanisms influencing the transmission of diet behaviors from parent to child. Finally, Fox et al. (2019) find that intergenerational transmission in Euroscepticism-hostility toward European Union membership and/or integration differ between mothers and fathers and the differential effects are a result of the fact that familial socialization plays an essential role in the development of Euroscepticism.

Accordingly, researching the pattern of transmission will provide a way to test whether parental socialization is the underlying mechanism for the intergenerational transmission process. Building on this line of research, I outline a dyadic approach to provide further insights into the trust transmission process. Figure 1 visualizes this dyadic approach. $S_{\text{trust}}$ indicates trust of sons, and $D_{\text{trust}}$ indicates trust of daughters, and they could be equally or unequally correlated to trust of their mother and their father, $\phi(M_{\text{trust}}, F_{\text{trust}})$. Comparing the strength of transmission across each dyad among mother-son ($M-S$), mother-daughter ($M-D$), father-son ($F-S$), and father-daughter ($F-D$) and the final associated outcomes (e.g., trust among sons $S_{\text{trust}}$ and among daughters $D_{\text{trust}}$ when neither parent trusts, only father trusts, only mother trusts, or both trust) will help detect the potential mechanism underlying the transmission process.

$$S_{\text{trust}} = \phi(M_{\text{trust}}, F_{\text{trust}})$$
$$D_{\text{trust}} = \phi(M_{\text{trust}}, F_{\text{trust}})$$

In particular, if parental socialization is indeed the key mechanism underlying the transmission process, we should expect several specific patterns. If all these patterns emerge, we will have high confidence to conclude that parental socialization is the primary process.

First, mothers and fathers play unequal roles, and mothers are generally more influential than fathers in the process. Differential socialization theory suggests that mothers and fathers play unequal roles in socializing both their daughters and sons (Chaplin et al. 2005; Collins and Russell 1991; Horstman et al. 2016; Russell and Sæbel 1997). Children often receive differential “signals” from their mothers and fathers (Dohmen et al. 2012:647), and mothers and fathers also tend to respond differently to the needs of their children (Chaplin et al. 2005; Horstman et al. 2016). First, mothers and fathers are likely to teach their children different types of worldviews and behavior. Whereas mothers have a greater influence on political and religious socialization, fathers often spend more time with their children in physical play, and their involvement is associated with children’s better cognitive development and greater perceived competence (Acoc and Bengtson 1978; Craig 2006; Dabowitz et al. 2001; Roggman et al. 2007; Rotenberg 1995). Furthermore, mothers typically have a higher frequency of interaction with their offspring than fathers, which may result in a larger influence on the children’s learned behaviors and values (Pleck 2007). Indeed, a large body of research has shown that mothers are often more influential than fathers in socializing their children’s worldviews (Acoc and Bengtson 1978; Klimes-Dougan et al. 2007; Tenenbaum and Leaper 2003). Empirically, we expect:

Pattern A: Trust of mother and trust of father show differential effects on both trust of sons and trust of daughters, but overall, mother’s trust shows a stronger impact than father’s trust.

Second, there will be greater transmission between same-sex generational dyads than between cross-sex pairs. This is not only because fathers consistently favored their sons and mothers consistently favored their daughters (Nikiforidis et al. 2018) but also because boys identify more closely with their fathers than mothers and girls identify more closely with their mothers than fathers (Mitchell, Booth, and King 2009; Starrels 1994). Indeed, the gender of children has implications in the transmission process. Parents often treat, spend time with, and invest in their children differently based on their children’s gender or sex (Aznar and Tenenbaum 2015; Mascaro et al. 2017; Raley and Bianchi 2006). Fathers play a greater role in raising sons than daughters and have a greater interest and involvement with their sons (Brown et al. 2015; Morgan et al. 1988). Mothers and daughters, similarly, have shown stronger relationships growing up than fathers and daughters due to not only role modeling but also the tendency to communicate more openly and directly (Fingerman 1996; Hagan and Kuebli 2007; Hallers-Haalboom et al. 2014). Fathers have also shown different parenting styles toward sons compared to daughters, whereas mothers appear to be more consistent in their treatment of children (Hallers-Haalboom et al. 2014; Lytton and Romney 1991; Siegal

\textbf{Figure 1.} A dyadic approach to intergenerational transmission of trust.
1987). Mothers therefore may influence both sons and daughters, but fathers are likely to focus efforts on sons alone. Furthermore, instead of being merely receptive to political stimulation, adolescent children can also reshape patterns of family communication (Filler and Jennings 2015; McDevitt and Chaffee 2002:281). Socialization involves bidirectional and interactive processes rather than just a simple process where “parents were seen primarily as trainers or transmitters of culture and children as empty vessels who were gradually filled up with the necessary social repertoires” (Maccoby 1992:1007). Recent literature even suggests that mother-daughter relationships are the strongest of all parent-child bonds (Yamagata et al. 2016). Accordingly, we expect:

Pattern B: Mother’s trust has a stronger impact on trust of daughters, whereas father’s trust has a stronger impact on trust of sons.

Third, parental homogeneity moderates the trust transmission process. Social learning theory suggests that parental homogeneity moderates the socialization process (Jennings et al. 2009; Rico and Jennings 2012). When parents share similar values, this indicates a high level of parental homogeneity that will create consistent socializing cues that enhance the rate of a successful transmission (Bandura 1969; Jennings et al. 2009; Jennings and Niemi 1978). Therefore, in Jennings et al.’s (2009:785) words, “transmission success should vary according to the strength of cue giving and reinforcement on the part of the socializer” (see also Rico and Jennings 2012). In their study, they find that agreeing parents are more successful than disagreeing ones in transmitting their place identity to their children because children are more likely to receive consistent cues in a homogeneous environment rather than in a heterogeneous one. Hence, in the transmission of trust, we also expect:

Pattern C: Regardless of the gender, children show the highest levels of trust when both parents are trustful, whereas they show the lowest levels of trust when neither is trustful.

In contrast, if the intergenerational transmission of trust is purely genetic, we are more likely to see that mothers and fathers will play a similar role in shaping the trust of their children, or at least that mothers exert a similar impact on both sons and daughters and fathers exert a similar impact on both sons and daughters. Unequal impacts of both mother’s trust and father’s trust on both trust of sons and trust of daughters are hard to explain with the genetic theory (Dohmen et al. 2012). This is because significant genetic influences are expected to be consistent across sexes of children (Oskarsson et al. 2012). Because environments are very likely experienced in gendered ways, it is difficult to rule out the possibility that gender could interact with the environmental factors and neighborhood contexts in shaping trust. Still, the experiential theory may not fit well if we find that parental homogeneity can moderate the transmission process, that fathers would be more influential than mothers, or that mother-daughter pairs may exhibit the highest dyadic correspondence.

Some of the transmission patterns have already been shown in previous studies. Using a small sample size (200 college students), Katz and Rotter (1969) show that whereas fathers have a strong and significant impact on trust of their sons but have little effect on their daughters, mothers have a weaker but equal effect on trust of their sons and their daughters. Using paired data from the German Socio-Economic Panel Study, Dohmen et al. (2012) find significant effects of both father’s trust and mother’s trust on trust of their children, but mothers are more influential based on the relatively greater effect size of mother’s trust than of father’s trust. In contrast to Katz and Rotter’s (1969) finding, they find little support for the gender-specific role-model hypothesis that the impacts of mother and father may differ according to the gender of the child. Furthermore, Dohmen et al. (2012) show that not only do mothers and fathers play unequal roles, but parents’ socioeconomic status and family structures also condition the strength of the transmission. Using data from the European Social Survey, Ljunge (2014) considered how the average trust of mother’s country of birth and the average trust of father’s country of birth affect immigrant children’s trust across 29 European countries. The author finds a significant effect of the trust of mother’s birth country but not the trust of father’s birth country and therefore suggests that mothers play a more important role than fathers in transmitting ancestral trust to their children. These studies have all suggested that parental socialization is most likely to be the key mechanism in the process. Building on these studies, this current study will provide a full picture of the intergenerational transmission patterns with direct measures of mother’s trust, father’s trust, trust of sons, and trust of daughters using parent-child paired data with a large sample size and in a different context (for more details, see the Discussion section).

To illustrate the dyadic approach and further test whether parental socialization is the major force at work, I examine a unique parent-child paired data created from the CFPS (2012–2016). Dinesen (2010:107) also points out that “Apart from twin studies, which offer some unique opportunities for analyzing the relative impact of genes and environment, child-parent dyads in survey research offer the best potential for separating the multiple mechanisms underlying the transmission of trust from parents to their children.” Specifically, I compare how trust of mother and trust of father might shape both the trust of their son and trust of their daughter differently. The goal is to identify the specific patterns of trust transmission that are compatible with social learning and differential socialization theories.

Based on the standard measure of generalized trust—"Generally speaking, would you say most people can be
trusted?”—Chinese are very trusting, with over half of the population having a positive response (see also Wu and Shi 2020). Relatively, in the United States, only about 33 percent would say most people can be trusted (Mewes et al. 2021; Wu 2020). Chinese society also has long traditions of valuing and cherishing family norms and family responsibilities, including caring for the younger generation. Indeed, Chinese parents place great emphasis on children’s development in general, which includes spending more time with their children, investing money in children’s education, striving for financial resources, and even sacrificing their own lifestyles and aspirations for their children (Dandy and Nettelbeck 2002; Leung and Shek 2011). Under China’s one-child policy, most Chinese families only have one single child (i.e., two biological parents with one child). With high trust, great emphasis on child development, and the unique Chinese family structure, China provides a unique opportunity to study the intergenerational transmission of trust.

Data and Measures

Data

The data for this study come from the Chinese Family Panel Studies. The CFPS is a longitudinal household survey being conducted every 2 years since 2010 by the Institute of Social Science Survey of Peking University. The survey program collects extensive information on Chinese individuals, their families, and the communities they live in (Xie and Hu 2014). It also includes a child’s self-report that collects data on topics such as social interaction, health, values, and self-esteem among Chinese adolescents ages 10 to 15 from each surveyed household.

Thus far, four waves of data from 2010 to 2018 have been released. However, the trust question, which is the key variable of this study, was not asked in the baseline survey in 2010 or the most recent wave of 2018. In 2012, the trust question was asked only among respondents who were 11, 13, and 15 years old. In 2014, the question was repeated, but only among those who did not respond to the trust question. In 2016, the majority of adolescents who responded to the trust question did not have the data in previous waves because they were less than 10 years old in 2012 (the child’s self-report targets only those who are 10–15 years old). All in all, although this study will combine data from three waves of 2012, 2014, and 2016, the data are not in panel structure.

To predict the influence of father’s trust and mother’s trust on the trust of their adolescent sons and daughters, I create a parent-child paired data set. Specifically, I use the father’s personal ID (pid_father) and mother’s personal ID (pid_mother) in the child’s self-report section and match them according to the personal ID (pid) in the adult section of the survey. Using the personal ID information, I merged the 2012 child survey with the 2012 adult survey, the 2014 child survey with the 2014 adult survey, and the 2016 child survey with the 2016 adult survey. In the final step, I combined the three waves of the merged parent-child data set to create a global matched parent-child data set. In the end, I obtained a total sample of 3,871 adolescent children including 2,097 sons and 1,774 daughters across 2,584 households with matched data on both their parents.

Measures

Child’s trust is measured using the standard question asked in the CFPS, “In general, do you think that most people are trustworthy, or is it better to take greater caution when getting along with other people?” It is coded as a binary variable with 0 corresponding to “The greater caution, the better” and 1 to “Most people are trustworthy.” I use the gender of the child to distinguish between sons and daughters. Two major independent variables are father’s trust and mother’s trust. Both are measured using the same standard trust question with the binary coding (0 = the greater caution the better, 1 = most people can be trusted). This measure of trust has been widely used and validated as an effective measure of generalized social trust (see e.g., Delhey et al. 2011).

To control for potential confounding effects, I include major individual characteristics of adolescent children, including age (in years, 10–15) and urban (1 = urban, 0 = rural). Because age and education (grade level) share almost the same values because most Chinese children start their school at the same age, in the analysis, I control age only to avoid collinearity. Parental characteristics, including age (in years), level of education (the highest degree obtained, 1–7), and relative income (Level 1–5), for both mothers and fathers are also controlled. I use parents’ relative income instead of their total personal income to avoid a large number of missing values. Additional estimations indicate that the overall results are similar when using the total income measure.

Table 1 shows the coding and descriptive statistics, including the means (or percentages) and standard deviations (where applicable) for all variables, separately by sons and daughters. Overall, Chinese adolescents are generally very trustful, with 61 percent reporting that they can trust in most people. There is little difference in trust level between boys (62 percent) and girls (60 percent). Among their adult parents, fathers (56 percent) are relatively more trusting than mothers (52 percent). The focus of this study is on how mother’s trust and father’s trust might predict trust of both sons and daughters differently.

Plan of Analysis

Empirical analysis takes three general steps. First, I use tetrachoric correlation to describe the trust association for each of the four dyadic pairs: (1) trust of father and trust of son, (2) trust of father and trust of daughter, (3) trust of mother and trust of son, and (4) trust of mother and trust of daughter. The tetrachoric correlation assumes a latent bivariate normal
distribution between two continuous variables (in this case, trust) that have each been coded in a binary manner (see e.g., Bonett and Price 2005). The estimated tetrachoric correlation coefficient is used to capture the trust correlation between each of the dyads.

Second, mixed-effects logistic regression models are used to estimate how mother’s trust and father’s trust affect trust of their adolescent children. The adolescent children in this study are 10 to 15 years old, and their trust is coded as a yes/no binary outcome. Statistical analyses are based only on paired data with both parent-reported and child-reported information on trust and all other covariates. All models include controls such as age, education, urban, and relative income. Three-level models are used with individuals nested within households and nested within provinces. To examine if there will be greater transmission between same-sex generational dyads than between cross-sex pairs, I consider how mother’s trust and father’s trust would interact with the gender of the children to affect trust of sons and daughters.

Finally, to consider whether parental homogeneity moderates the trust transmission process, I create a new variable that captures whether a child has neither parent trusts, only father trusts, only mother trusts, or both parents trust. Then, I use mixed-effects logistic regressions to estimate the trust levels across these four groups overall and separately among sons and daughters.

**Empirical Findings**

Figure 2 provides a visualization of the estimated tetrachoric correlation coefficients of trust across four parent-child dyads. These coefficients vary in size, suggesting that fathers and mothers play unequal roles in transmitting trust to both their adolescent sons and adolescent daughters. There also appears a greater transmission between same-sex generational dyads than between cross-sex pairs. Indeed, the tetrachoric correlation coefficient between trust of father and trust of son (.252) is much greater than the coefficient between trust of father and trust of daughter (.158). The tetrachoric correlation coefficient between trust of mother and trust of daughter is also greater than the coefficient between trust of mother and trust of son, but the gap is relatively smaller.

Table 2 reports the main results from a series of three-level logistic regressions estimating the unequal effects of trust of father and trust of mother on trust of son and trust of daughter. All models include controls of adolescent characteristics, such as age and urban or rural residency, and parental characteristics, including age, level of education, and relative income status.

Model 1 considers how mother’s trust and father’s trust might affect trust of their adolescent children overall. The results show that both trust of father and trust of mother have significant impacts on trust of their children regardless of their gender (sons or daughters). Overall, adolescent children show 59.6 percent more odds of trusting when they have a trustful father, and when having a trustful mother, they show 84 more percent odds of trusting. Furthermore, there is no significant difference in trust between sons and daughters, as indicated by the insignificant effect of the gender (1 = son, 0 = daughter) variable.

To examine whether the influence of father’s trust is larger for sons than for daughters, Model 2 includes an interaction term between trust of father and the gender of the adolescent child. The significant effect of the interaction term suggests that trust of father yields a stronger impact on trust of son than trust of daughter. This can also be seen from the changes in the effect size of mother’s trust and father’s trust.

### Table 1. Coding Scheme and Descriptive Statistics of Key Variables in Analysis.

| Variable                  | Coding Scheme | Son (n = 2,097) | Daughter (n = 1,774) |
|---------------------------|---------------|-----------------|----------------------|
| **Generalized trust**     |               |                 |                      |
| Trust                     | 0 = no, 1 = yes | 62% NA         | 60% NA               |
| Trust: father             | 0 = no, 1 = yes | 57% NA         | 56% NA               |
| Trust: mother             | 0 = no, 1 = yes | 52% NA         | 51% NA               |
| **Child characteristics** |               |                 |                      |
| Age                       | In years, 10–15 | 12.47 1.71     | 12.41 1.67           |
| Urban                     | 0 = no, 1 = yes | 42% NA         | 41% NA               |
| **Father characteristics**|               |                 |                      |
| Age                       | In years, 29–76 | 40.84 5.16     | 41.21 5.22           |
| Education                 | Level, 1–7     | 2.53 1.62       | 2.52 1.74            |
| Relative income           | Level, 0–5     | 2.47 .94        | 2.45 .93             |
| **Mother characteristics**|               |                 |                      |
| Age                       | In years, 29–76 | 38.99 5.13     | 39.36 4.87           |
| Education                 | Level, 1–7     | 2.27 1.52       | 2.21 1.73            |
| Relative income           | Level, 0–5     | 2.28 1.07       | 2.36 1.04            |
Although the effect of both mother’s trust and father’s trust remains highly significant, the size of the effect only decreases substantially for father’s trust, not for mother’s trust. This also indicates that fathers play a stronger role in shaping trust of sons. The significant and negative effect of gender (son) indicates that trust would be significantly lower among sons if they do not have a trusting father. Similarly, Model 3 includes an interaction term between trust of mother and the gender of the child. However, the effect of the interaction term is not significant, suggesting that mothers are as important as fathers in shaping trust of their sons.

Model 4 includes both interaction terms together. The general patterns hold. Fathers play a significantly bigger role in shaping trust of sons than trust of daughters. Mothers play a comparable important role to fathers in shaping trust of sons. Finally, to compare whether the effect of trust of father and the effect of trust of mother are significantly different, in Model 4, I did a Wald test, which yielded a significant result ($p = .018$). This suggests that mothers are more influential than fathers in shaping trust of their children and particularly trust of daughters. In fact, across all models, the effect size of mother’s trust is greater than that of father’s trust.

To facilitate the interpretation of the results, Figure 3 visualizes the predicted probabilities of trust with 95 percent confidence intervals (in parentheses) after Model 4. Pathway A compares the predicted probabilities of trusting between daughters with and without a trusting father, Pathway B between sons with and without a trusting father, Pathway C between daughters with and without a trusting mother, and Pathway D between sons with and without a trusting mother. It shows that both sons and daughters hold significantly higher levels of trust when they have a trusting mother or a trusting father. In particular, daughters with a trusting mother have the highest levels of trust, whereas sons with a mistrusting father have the lowest levels of trust. The differential slopes indicate that the intergenerational association between trust of parents and trust of children varies across father-daughter, father-son, mother-daughter, and mother-son dyads. The relative steeper slopes among sons with and without a trusting father and among daughters with and without a trusting mother demonstrate again that there is greater transmission between same-sex generational dyads than between cross-sex pairs.
Table 2. Mixed-Effect Logistic Regressions Estimating Effects of Trust of Father and Trust of Mother on Trust of Son and Trust of Daughter (Odds Ratios).

|                      | Model 1       | Model 2       | Model 3       | Model 4       |
|----------------------|---------------|---------------|---------------|---------------|
| **Parental trust**   |               |               |               |               |
| Trust: father        | 1.596***      | 1.352**       | 1.598***      | 1.327*        |
|                      | (.131)        | (.158)        | (.131)        | (.157)        |
| Trust: mother        | 1.840***      | 1.833***      | 1.968***      | 2.032***      |
|                      | (.151)        | (.151)        | (.232)        | (.241)        |
| **Gender**           |               |               |               |               |
| Son                  | .920          | .779*         | .977          | .838          |
|                      | (.0723)       | (.0899)       | (.106)        | (.109)        |
| **Interaction effect** |             |               |               |               |
| Father’s trust ## son | 1.360*     | 1.412*       |               |               |
|                      | (.212)        | (.224)        |               |               |
| Mother’s trust ## son | .883        | .825          |               |               |
|                      | (.137)        | (.131)        |               |               |
| **Controls**         | Yes           | Yes           | Yes           | Yes           |
| **Random effects**   |               |               |               |               |
| var(province)        | 1.031         | 1.031         | 1.031         | 1.031         |
|                      | (.0243)       | (.0243)       | (.0244)       | (.0244)       |
| var(household)       | 1.905***      | 1.917***      | 1.901***      | 1.913***      |
|                      | (.352)        | (.356)        | (.351)        | (.355)        |
| N_Individual         | 3,871         | 3,871         | 3,871         | 3,871         |
| N_Family             | 2,584         | 2,584         | 2,584         | 2,584         |
| N_Province           | 26            | 26            | 26            | 26            |

Note: Exponentiated coefficients are presented. Standard errors are in parentheses.

* p < .05. ** p < .01. *** p < .001.

Figure 3. Predicted probabilities (with 95 percent confidence intervals) of trust among sons and daughters with and without trusting father and trusting mother.
Finally, to test whether parental homogeneity moderates the trust transmission process, I create a new variable that categorizes adolescent children into four groups: neither of the parents trust, only father trusts, only mother trusts, and both trust. Table 3 reports the main results from a series of three-level logistic regressions estimating levels of trust across these four groups of adolescents. Model 1 includes both sons and daughters. The results show that compared to adolescents whose parents are both mistrustful of others, those with a trustful father show 69 percent more odds of trusting, those with a trustful mother show 97 percent more odds of trusting, and those whose parents are both trustful show 190 percent more odds of trusting. When separating between sons and daughters in Model 2 and Model 3, the general patterns are consistent.

Figure 4 plots the predicted probabilities of trust with 95 percent confidence intervals (in parentheses) after Model 2 for sons and Model 3 for daughters. Clearly, both sons and daughters show the highest levels of trust when their mother and father both trust. In contrast, they show the lowest levels of trust when neither of the parents trust. When only father trusts, trust is higher among sons than among daughters. When only mother trusts, trust is higher among daughters than among sons. The findings not only demonstrate that parental homogeneity can significantly moderate the trust transmission process from fathers and mothers and among both sons and daughters, but it also lends more evidence to how transmission success differs depending on the gender-specific line.

### Table 3. Multilevel Logistic Regressions Estimating Trust of Child When Neither Parents Trust, Only Father Trusts, Only Mother Trusts, or Both Trust.

|                      | Model 1       | Model 2       | Model 3       |
|----------------------|---------------|---------------|---------------|
| Homogeneity (reference = neither trust) |               |               |               |
| Trust: only father   | 1.691***      | 2.132***      | 1.329         |
|                      | (4.73)        | (4.86)        | (1.68)        |
| Trust: only mother   | 1.970***      | 1.973***      | 2.056***      |
|                      | (5.59)        | (4.08)        | (3.81)        |
| Trust: both          | 2.943***      | 3.226***      | 2.864***      |
|                      | (10.06)       | (7.85)        | (6.21)        |
| Gender               |               |               |               |
| Son (0 = daughter, 1 = son) | .921        | NA            | NA            |
|                      | (–1.05)       |               |               |
| Controls             | Yes           | Yes           | Yes           |
| Random effects       |               |               |               |
| var(province)        | 1.030         | 1.057         | 1             |
|                      | (1.28)        | (1.29)        | (.00)         |
| var(household)       | 1.904***      | 1.982*        | 2.705***      |
|                      | (3.49)        | (2.27)        | (2.61)        |
| N_individual         | 3.871         | 2.097         | 1.774         |
| N_household          | 2.584         | 1.551         | 1.297         |
| N_province           | 26            | 26            | 25            |

Note: Exponentiated coefficients are presented with t statistics in parentheses.

*p < .05. **p < .01. ***p < .001.

### Discussion

Empirical results confirm all three main patterns that point to parental socialization as the primary mechanism underlying the intergenerational transmission of trust. First, mothers and fathers play unequal roles, and overall, mothers are more influential than fathers in shaping the trust of their children. This is indicated by the finding that the effect varies in size across four dyads and that the effect size is found to be stronger among mother’s trust than among father’s trust. Second, there is greater transmission between same-sex generational dyads than between cross-sex pairs. This is supported by the finding that the mother’s trust has a stronger impact on daughter’s trust and that father’s trust has a stronger impact on son’s trust. Finally, parental homogeneity moderates the trust transmission process. This is supported by the finding that both sons and daughters show the highest levels of trust when their mother and father both trust, whereas they show the lowest levels of trust when neither parents trust.

Going beyond what has already been shown, that mothers are more influential than fathers (Dohmen et al. 2012; Ljunge 2014), this study provides a full picture of the intergenerational transmission patterns with direct measures of mother’s trust, father’s trust, trust of son, and trust of daughter using parent-child paired data with a large sample size. It is the first study that considers how parental homogeneity (e.g., neither parents trust, only father trusts, only mother trusts, and both parents trust) affects trust of sons and trust of daughters. The specific patterns I have shown
here are fully compatible with social learning and differential socialization theories, implying that parental socialization is more likely to be the key process underlying how trust is transmitted intergenerationally.

This research has focused specifically on young adolescents aged 10 to 15. This is different from previous studies that have a dominant focus on college students and adult children (e.g., Dohmen et al. 2012; Giulietti et al. 2016; Katz and Rotter 1969). For example, in Dohmen et al.’s (2012) research, they focus on children that are at least 17 years old (mean age = 25.3 years, SD = 6.96). Because the basic patterns of trust are established early in life, to research the formation of trust, many have suggested that it will be more fruitful to focus on young people rather than adults (Stolle and Hooghe 2004: 39). Focusing on young children also helps minimize the confounding environmental influences. As Niemi and Junn (1998:157) reminded us long ago: “If we want to understand what adult citizens know and do not know about political life, and how they got that way, the late adolescent years and schools are good places to begin” (see also Stolle and Hooghe 2004).

This research also highlights the importance to establish trust as one stable parental trait in the first place before suggesting trust can be intergenerationally transmitted. In doing so, I have cited panel data evidence that indicates people’s trust is established early in life and that established trust tends to be stable through the life course (Abdelzadeh and Lundberg 2017; Dawson 2017). Indeed, if parents update their trust constantly, how can we suggest that they can pass their trust down to their children? Previous research, however, has largely failed to establish this point beforehand. Establishing this yields a more confident conclusion that the effect of parents’ trust on children’s trust could be causal. Previously, Katz and Rotter (1969) have been cautious and argued that the presence of a relationship between trust of parents and trust of their children does not suggest a causal relationship. More recent research using different methods (e.g., independent variable approach; using trust of parents’ country of birth) has suggested that the effect of parents’ trust of trust of children is casual (Dohmen et al. 2012; Ljunge 2014). My argument here is that if people’s trust is stabilized early in life and parents’ trust preceded those of their children, the effect of parents’ trust on trust of their children should be interpreted as causal.

Finally, this study also provides a way to test how the intergenerational trust transmission process may vary across social contexts. Indeed, scholars have argued that the genome’s influence on status attainment is moderated by the social structure in terms of resource inequality and social mobility: The influence is greater in conditions of high inequality and low social mobility (Adkins and Vaisey 2009). Accordingly, the transmission of trust and the associated mechanisms may also vary between high-trust and low-trust societies. Focusing on the high-trust Chinese society, I find that socialization plays an important role in creating various transmission patterns and that many of these patterns are largely in line with patterns found in other social contexts (Dohmen et al. 2012; Katz and Rotter 1969; Ljunge 2014). This suggests that familial socialization may work more consistently in generating trust or mistrust across cultures.

Conclusion

In his widely cited book, *Childhood and Society*, Erikson ([1950] 1993) put forward the view that the first stage of psychosocial development for human beings is learning to trust. Infants will learn to trust if their parents are responsive and sensitive to their needs. Otherwise, they will grow up with a sense of mistrust in people and the world. Empirical research has largely demonstrated that parents serve as role models in many domains, including interpersonal relationships and trust (Bowlby 1982, 2012; King 2002; Weisner 2014). Children learn to trust when there is a positive role model in a healthy parental relationship (Amato 2000; Berlin, Belsky and Cassidy 1995; Hardin 1993; King 2002; Rotenberg 1995). More direct evidence for the intergenerational transmission of trust is that when parents are trusting, their children tend to show much higher levels of trust as well (e.g., Dohmen et al. 2012; Katz and Rotter 1969). The intergenerational rigidity of trust could come from parental socialization as suggested by Erikson and his followers, but it could also come from the genetic makeup or environmental influences shared by both parents and children. In this article, I have introduced a dyadic approach to compare patterns of intergenerational transmission of trust across mother-son, mother-daughter, father-son, and father-daughter dyads to disentangle between these mechanisms. Based on several specific transmission patterns that are more compatible with social learning and differential socialization theories, rather than the genetic model or the experiential theory, I have
concluded that parental socialization is more likely to be the primary process underlying how trust is transmitted intergenerationally. The dyadic approach can be easily adopted to study intergenerational transmission of other social outcomes and the mechanisms underlying the process.

Caution is certainly warranted about the role of genes in shaping trust. Because I do not have access to genetic information, it is difficult to rule out that genetic makeup shared by both parents and children may also play a role. Still, even if there are genetic influences, parental socialization should play a relatively bigger role. Current studies that have good genetic measures conclude that the genetic influence on trust is virtually absent or moderate at most (Hiraishi et al. 2008; Reimann et al. 2017; Weinschenk and Dawes 2019; Wootton et al. 2016). Indeed, a recent review of current literature on the relative roles of genetics and culture in shaping generalized trust also suggests that culture plays a bigger role than genetics (Van Lange 2015). Hence, rather than genetic variation, greater attention should be directed to socialization in studying the formation of trust.

Other well-documented trust patterns also suggest early socialization is key to trust formation. For example, if trust comes from genes, it should be more stable and less related to age. However, research using unique longitudinal data from five different cohorts of young people ranging in age from 13 to 28 years shows that although there is a greater degree of instability in trust between 13 and 15 years of age, trust appears to stabilize after age 15 (Abdelzadeh and Lundberg 2017). The generational changes in trust across different societies, such as the decline of trust in the United States since the 1960s (see e.g., Mewes et al. 2021) and the “Danish exceptionalism” of the increase in trust (Sønderskov 1990; Dinesen 2001a; Christiansen and Sørensen 2007; Christiansen 2008; Dinesen 2012a), also suggest that trust is less likely to be genetically determined. Indeed, there is no good reason that people may have picked up less trusting or more trusting genes in just recent decades. Instead, political changes, cultural shifts, and societal transformations have made profound impacts on the family dynamics, which is more likely the main cause for the significant variations in trust within and across populations and also over time.

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