

Reciprocity in Intergenerational Support: A Comparison of Chinese and German Adult Daughters

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Beate Schwarz,¹ Gisela Trommsdorff,²
Gang Zheng,³ and Shaohua Shi³

Abstract

This study investigates how Chinese and German adult daughters evaluate the norm of reciprocity and the unbalanced exchange of support in relation to their aging parents. Women from rural and urban China ($n = 292$) and from Germany ($n = 264$) have participated in this study. Results show that for the German daughters, differently from rural Chinese daughters, perception of imbalance is strongly related to their intention to support their elderly parents. The results for the urban Chinese daughters are closer to those of the German sample than those of the rural Chinese daughters. The results are discussed in light of theoretical approaches to intergenerational relations taking into account the Confucian concept of filial piety and influences of social change.

Keywords

intergenerational relationships, cross-cultural comparisons, reciprocity, social support

¹University of Basel, Switzerland

²University of Konstanz, Germany

³Chinese Academy of Sciences, Beijing, People's Republic of China

Corresponding Author:

Beate Schwarz, Department of Psychology, University of Basel, Missionsstr. 62a, 4055 Basel, Switzerland

E-mail: beate.schwarz@unibas.ch

Irrespective of the old-age security or formal supporting systems in a given society, there is intensive exchange of informal support between the generations of a family (Litwak, 1985). The giving and receiving of informal exchange of intergenerational support is not always balanced, even in cases where the general norm of reciprocity prevails. Whether this imbalance leads to psychological distress and a related need to reduce the distress is a question which may be answered differently depending on the cultural context and the predominant cultural value orientations. The present study aims to clarify this question by investigating the associations between the degree of actual reciprocity (in intergenerational support), the motive to establish reciprocity in intergenerational relationships, and adult daughters' representations of how they intend to support their elderly parents in the future. To investigate possible effects of the cultural context, we compared adult daughters from a Confucian culture, in the People's Republic of China, with adult daughters from a Western culture, Germany. We expect that the cultural context influences the way persons deal with the norm of reciprocity.

From the perspective of Western theories, reciprocity has considerable influence on interpersonal relationships. In his seminal work, Gouldner (1960) forwards his assumption that the stability of social relationships is based on the mutual expectation that the other person will reciprocate the help and support given to her or him in an adequate time period and in a contingent way. Within the concept of reciprocity, two constructs have to be distinguished: (a) reciprocity as a balanced exchange of support in a specific relationship and (b) the general moral norm of reciprocity (see Uehara, 1995). In accordance with the latter, aiming for reciprocity can be seen as an important motive for engaging in support behavior. The reaction to a lack of reciprocity depends on the direction of the imbalance: underbenefiting (receiving less support than one is providing) or overbenefiting (receiving more support than one gives back). Uehara (1995) posited that people whose behavior is guided by the reciprocity norm will avoid overbenefiting or will try to reduce the respective imbalance.

With regard to parent-child relationships, reciprocity does not determine the relationship stability to the same extent as in the case of more distal or voluntary relationships (Trommsdorff, 2006). Furthermore, reciprocity between parents and children need not be in kind and can be established over the course of the lifetime in the form of "support banks" (Antonucci, 1985). Thus, reciprocity in parent-child relationships is of a different quality as compared to other social relationships. Nevertheless, there is empirical support for the expectation that the norm of reciprocity applies to parent-child relationships as well (Antonucci & Jackson, 1990). Many studies in Western

countries such as the United States and Germany have shown high percentages of adult parent–child relationships characterized by actual and perceived balance in support and strong norms of reciprocity among adult children within the family (Kohli, Künemund, Motel, & Szydlik, 2000; Kulis, 1992; Rossi & Rossi, 1990; Schwarz, 2006; Schwarz, Trommsdorff, Albert, & Mayer, 2005). Furthermore, there is strong evidence for time-lagged reciprocity: High levels of support by parents to their children were related to higher provision of support by adult children to their parents in later years (Henretta, Hill, Li, Soldo, & Wolf, 1997; Silverstein, Conroy, Wang, Giarrusso, & Bengtson, 2002).

According to Gouldner (1960), the reciprocity norm is universally valid. He also acknowledged that the concrete manifestations of the norm vary according to the cultural and historical context. For instance, the exact nature of obligation for the recipient of support and the definition of what constitutes an equivalent return might be culture specific. However, the culture-specific meaning of reciprocity within the adult parent–child relationship is not yet clarified (see Trommsdorff & Kornadt, 2003). The present study therefore investigated the cultural meaning of reciprocity in the exchange of intergenerational support and the reciprocity motive in Chinese and German adult daughters.

Adult Parent–Child Relationships in Confucian Cultures

China is the country of origin of Confucianism (see Hwang, 1999; Zheng, Shi, & Tang, 2005). This ethical–moral system defines the roles and duties of every family member, particularly of the eldest son in the indigenous concept of filial piety. Here, we will only refer to aspects of Confucian values that are relevant for the main question of this study. According to Confucianism, family members are connected through mutual interdependence over the lifetime. This means that family members are embedded in a network of lifelong mutual obligations toward each other. Lifelong loyalty as well as the maintenance of harmony in the family is expected. Adult children, especially the eldest son and his wife, have the duty of caring for the elderly parents in a material, emotional, and spiritual way (Ho, 1996; Hsu, 1971; Hwang, 1999).

The dependence of the old generation on their children is not only based on Confucian values but also on the structure of the old-age insurance system in China. According to Zhang (2004), only 17% of the over-60 population has access to pension. Thus, adult children are still the primary source of old-age support to their parents (Sheng, 2005). The differences between urban

and rural areas are large. The Office of the State Council of the People's Republic of China (2002) reported that the Chinese government established only in 1997 an old-age security system that solely covered employees in enterprises in urban areas whereas in rural areas only little subsidies can be paid by the state.

The traditional Confucian ideas have undergone some changes. Confucian ideas were rejected by the Communist Chinese government until the 1980s; however, presently, they are partly rehabilitated and even reinforced (see Zheng et al., 2005). Furthermore, over the past few decades, East-Asian countries have undergone rapid social change that is relevant to parent-child relationships (Trommsdorff, 1995; Trommsdorff & Kornadt, 2003). In general, in several East-Asian cultures, a decreasing acceptance of traditional Confucianism including filial piety and its integration into everyday life has been observed. The parent-child relationship has become less characterized by hierarchy and subordination (Chen & Silverstein, 2000; Wu, 1996), and the way in which adult children express or fulfill their obligations toward their parents has changed (Sung, 1998).

In addition, some studies point to a decrease of the central role of the eldest son and the value of the male child: A growing number of adult daughters in East-Asian countries give support to their own parents, and parents emphasize having a close emotional bond with their adult daughters (Levande, Herrick, & Sung, 2000; Sun, 2002; see also Sheng, 2005). Although the majority of caregivers for old and frail persons are the spouses (about 30% in urban and 60% in rural areas; Yuan, 2004), a survey in Beijing, China, showed an increasing number of adult daughters serving as the main caregivers of their elderly parents: from 13.2% of the caregivers in 1992 to 22.5% in 2000 in urban areas, and from 6.1% to 18.1%, respectively, in rural areas (Yao, 2005). In addition, urban Chinese adult daughters increasingly contribute monetary support, in addition to emotional support, to their parents (Sheng, 2005). In line with changes of the family structure, the traditionally submissive role of women has changed in the past decades in China (Zheng et al., 2005).

However, the modernization experienced by East-Asian countries has not entirely eliminated traditional values (Kagitcibasi, 2005; Trommsdorff, 1998). Many authors agree that filial piety is still of great importance in China (Ho, 1996; Zheng et al., 2005) and that family obligations are still prevalent in parent-child relationships (Fuligni & Pedersen, 2002; Fuligni, Yip, & Tseng, 2002). However, large differences have been observed between the urban and rural populations in China, not only in their degree of modernization and economic wealth but also in their belief in traditional values (see Sheng, 2005; Zheng et al., 2005).

Kagiticbasi (2007) provided a model on family relationships, which describes structures, values, and interactions within families under conditions of social change in non-Western societies and in modernized Western societies. The family model in these modernized Western societies is characterized by intergenerational independence. Self-reliance and autonomy of family members are highly valued. The family model in traditional nonmodernized societies, which often can be found in rural areas of the majority world, prefer strong material and emotional interdependence in the family. Children are strongly related to the family across the life span. However, people in urban areas of the majority world especially show signs of modernization and preservation of traditional values at the same time. Here, the family model of emotional interdependence should prevail. The generations within the family are emotionally connected, and at the same time the autonomy of the family members is valued.

Adult Parent–Child Relationships in Germany

Germany as a culture based on Christianity is also characterized by the norm of respect to parents and an obligation to mutually support family members. A recent study showed that German students scored higher on relational interdependence than Chinese students (Fernández, Páez, & González, 2005). At the same time, Germany can be characterized as an individualistic culture in which independent orientations prevail (Fernández et al., 2005; Oyserman, Coon, & Kimmelmeier, 2002). This concomitance is reflected in adult parent–child relationships. It is rare in Germany to have three generations living under one roof (Klaus, Nauck, & Klein, 2005). Nevertheless, strong emotional bonds between the generations of a family and feelings of filial obligation among adult children are often observed (Kohli et al., 2000). Frequent contact between the generations is the norm, and the exchange of support is continuous. The family is a major source of social support in Germany. More financial support flows from old parents to their adult children than vice versa. This is a result of the relatively high pensions Germans receive. The exchange of instrumental and emotional support is more balanced between the generations in adulthood (Kohli et al., 2000). In the majority of cases, care for old and frail persons in Germany, including medical care and household chores, is provided by family members. Among family members providing this care, 80% are female; about one third are marital partners and one third are daughters and daughters-in-law. Depending on the degree of need of care, the government provides some financial support (Bundesministerium für Familie, Senioren, Frauen und Jugend, 2003).

Thus, we investigated samples that may represent the three family models according to Kagitcibasi (2007), with Germany as a relatively individualistic culture, rural China as a rather traditional area, and urban China combining modernization and traditionalism. We expected that the three groups differ in their reaction to lack of reciprocity.

Culture Specificities of Reciprocity

On the one hand, reciprocity plays a major role in Western concepts of social relationships and also in the Confucian concept of filial piety. On the other hand, cultural specificities in fulfilling the norm of reciprocity can be expected. Adult Chinese children have a strong obligation to repay what the parents have done for them (Sung, 1995). Confucian cultures are also characterized by an extended time perspective with a continuity of the family across generations, in line with the idea that the generations of a family are one body (Hwang, 1999). With respect to this long-term orientation, China ranked 1 and Germany 22 to 24 in a cross-cultural study (Hofstede, 2001). Adult children fulfill their obligations toward their parents by continuing the family line and investing in the success of their children (Hwang, 1999; Zheng et al., 2005). Thus, we expected that in a Confucian culture like China, the means of establishing reciprocity in the adult parent-child relationship differ from those in a Western culture like Germany's.

Particularly, we hypothesized a stronger association between the reciprocity and the intention to support parents in old age among German adult daughters than among Chinese adult daughters, owing to a higher normative pressure in Germany to establish a balance of the actual exchange of support within the given parent-child relationship. This expectation was supported by previous analyses showing a weaker association between adult daughters' perception of reciprocity and relationship quality with their mother for Korean as compared to German daughters (Schwarz, Trommsdorff, Kim, & Park, 2006). Given the differences between urban and rural China in family life and values, we expected the differences between German and rural Chinese daughters to be larger than that between German and urban Chinese daughters. An explanation of the postulated differences might be the function of different family models in the three cultural groups.

Reciprocity was studied here in two ways: first, as a pattern of the specific relationship, and second, as a motive for intergenerational support expressed by the adult daughter. Because reciprocity in family relationships is often established across a long period of time, the present study also took into account future-oriented reciprocity. Adult children may face an actual imbalance in the present exchange of intergenerational support. According to the

reciprocity norm, particularly when children overbenefit in the exchange, they may be more motivated to plan for compensation through providing care for their elderly parents later in life.

In sum, the aim of the study was to investigate the associations of (a) the actual reciprocity patterns in the exchange of intergenerational support and (b) of the adult daughters' endorsement of the reciprocity motive with their plans to support their parents in the future. Two hypotheses were tested. First, we hypothesized that overbenefiting (with respect to the amount of support and the subjective evaluation) and strong agreement with the motive of reciprocity would be positively associated with the intention to tolerate the burden of future care for elderly parents. Second, given the generally more valued extension of time perspective in Confucianism (see Hofstede, 2001) and the possibility to reciprocate parents' support in part by investing in one's own children, we hypothesized that the described association would be weaker for the Chinese compared to the German adult daughters. This should particularly be the case with respect to reciprocity in the actual exchange of support and in comparison to the adult daughters from rural areas of China.

Method

Procedures

This study is part of the cross-cultural study "Value of Children and Intergenerational Relations" (VOC study; Trommsdorff & Nauck, 2005). The procedures of recruitment were adapted to the specific circumstances of the respective country and pretested for comparability (e.g., bias, equivalence of measurements) in pilot studies by the local coinvestigators. To avoid biased samples, the recruitments aimed at samples representing a variety of socioeconomic backgrounds as suggested for cross-cultural research (e.g., Van de Vijver & Leung, 1997). However, owing to the sampling restriction to only a few locations within each country, the respective samples are not representative for the whole country.

Nevertheless, the educational attainment in the Chinese sample reflects well the distribution in China and also the differences between urban and rural areas. The number of children and the differences between the urban and rural sample as well as the maternal employment rate correspond with national statistics (Zheng et al., 2005). The educational attainment of the German adult daughters in the sample is slightly biased toward higher education. Therefore, all comparisons will be controlled for education. The maternal employment rate in the German sample corresponds with the national statistic (Schwarz et al., 2006).

The Chinese sample was recruited through the schools of the women's children and through inhabitant lists of neighborhood committees in four regions: Beijing Municipality, Henan Province, Yunnan Province, and Guangxi Zhuang Autonomous Region. The sample comprises persons from urban and rural areas (for more details see Zheng et al., 2005).

The German sample was recruited through residents' registration offices from three different cities in Germany (for more details, see Mayer, Albert, Trommsdorff, & Schwarz, 2005). We are aware of the regional diversity in family life and values in Germany. The three German locations for the study were chosen to represent three main regions of diverse family life and values (Bertram, 1999): The former GDR (Chemnitz), the highly urbanized and industrialized Ruhr area (Essen), and with respect to family values, the relatively traditional South-West (Konstanz) (see also Klaus et al., 2005). Nevertheless, we used the German sample as a whole because according to the model of Kagitcibasi (2007), the German participants can be assumed to represent individuals from a Western society with a relatively independent family model.¹

The participation was voluntary and confidentiality was ensured. In both countries, the data collection was comparable: Trained female interviewers carried out the standardized face-to-face interviews at the home of the families. At the end of the interviews, the respondents received a small gift.

The whole questionnaire was prepared in English. In line with established procedures for cross-cultural research, to ensure comparability (Van de Vijver & Leung, 1997), the questionnaire was then translated into Chinese and German by the local research teams and subsequently back-translated. The translations were discussed intensively within the local teams and revised when necessary. Only indicators with comparably high reliability in the Chinese and German sample were included. To test the comparability of the construct validity, we analyzed the structural equivalence of the indicators for the three subsamples following the procedure for target rotations suggested by Van de Vijver and Leung (1997). The results pointed to the comparability of the data sets (coefficients are outlined in the measures section).

Participants

The present study is based on samples of women with at least one 14- to 17-year-old child (China: $N = 312$, Germany: $N = 313$; in this article we refer to these women as adult daughters). All daughters lived together with a partner. Because the study investigated the current relationship of the adult daughters with their

Table 1. Means, Standard Deviations, and Intercorrelations of all Indicators, Separately for Urban Chinese ($n = 136$), Rural Chinese ($n = 156$), and German ($n = 264$) Daughters

| Variable | Culture | M | SD | % | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------------------|---------|-------|------|----|-------|------|--------|--------|--------|--------|
| 1. Age | CU | 40.97 | 3.30 | | -.10 | .08 | -.08 | .14 | .03 | .06 |
| | CR | 37.97 | 3.72 | | .05 | .04 | -.06 | .10 | .06 | .03 |
| | G | 42.97 | 4.50 | | .20** | -.04 | -.16** | .04 | -.08 | .03 |
| 2. Education | CU | 2.11 | 0.32 | | — | .05 | .01 | -.06 | -.07 | -.25** |
| | CR | 1.53 | 0.65 | | | -.08 | -.05 | .15* | .02 | -.12 |
| | G | 2.18 | 0.55 | | | .12* | -.07 | -.05 | -.03 | .15** |
| 3. Tolerance of burden | CU | 3.39 | 0.86 | | | — | .05 | .05 | .25** | .17* |
| | CR | 3.59 | 0.92 | | | | -.08 | .01 | .01 | .30** |
| | G | 2.82 | 0.76 | | | | .16** | -.11* | .34** | .30** |
| 4. Daughter receives more | CU | | | 62 | | | — | -.53** | .10 | .11 |
| | CR | | | 58 | | | | -.44** | -.00 | .05 |
| | G | | | 16 | | | | -.16** | .28** | .08 |
| 5. Daughter gives more | CU | | | 15 | | | | — | -.05 | -.12 |
| | CR | | | 12 | | | | | .06 | .12 |
| | G | | | 12 | | | | | -.20** | -.25** |
| 6. Social support from parents | CU | 15.81 | 5.06 | | | | | | — | .30** |
| | CR | 15.94 | 5.63 | | | | | | | -.03 |
| | G | 11.89 | 3.63 | | | | | | | .43** |
| 7. Reciprocity motive | CU | 4.26 | 0.91 | | | | | | | — |
| | CR | 4.45 | 0.73 | | | | | | | |
| | G | 3.75 | 1.06 | | | | | | | |

Note: CU = urban Chinese; CR = rural Chinese; G = German.

* $p < .05$. ** $p < .01$.

parents, only daughters with at least one parent still alive were included in the following analyses. Both parents were still alive among 66% of the Chinese daughters; in 29% of the cases the father had died, and in 5% of the cases the mother had died. The respective percentages for the German daughters were 58%, 35%, and 7%. Thus, analyses are based on a total of 292 adult daughters from China (156 from rural, 136 from urban areas) and 264 from Germany. The two Chinese samples and the German sample are compared below with respect to some sociodemographic characteristics.

According to post hoc Tukey tests (5% level), the rural Chinese daughters were younger than the urban Chinese daughters, and both groups were younger than the German daughters, $F(2, 546) = 74.58$, $p < .001$ (for means and standard deviations see Table 1). The Chinese mothers of daughters from

rural areas ($M = 66.78$, $SD = 7.01$) were significantly younger than the German mothers ($M = 69.99$, $SD = 6.74$) but did not differ from the Chinese mothers of urban daughters ($M = 68.40$, $SD = 5.36$), $F(2, 509) = 11.12$, $p < .001$. The Chinese fathers of rural daughters ($M = 68.08$, $SD = 6.24$) were significantly younger than the Chinese fathers of urban daughters ($M = 70.70$, $SD = 5.38$) and the German fathers ($M = 70.63$, $SD = 6.56$), $F(2, 364) = 6.63$, $p = .001$.

The samples differed significantly in educational level, $\chi^2(6, N = 524) = 140.32$, $p < .001$. The rural Chinese sample showed lower education, with 9% daughters who had not finished school compared with none among German and urban Chinese daughters. The highest percentage of urban Chinese daughters was characterized by a middle education (urban Chinese: 89%, rural Chinese: 61%, German: 67%). The highest percentage of daughters with higher education was found among German daughters (25% compared to 11% urban Chinese and 0% rural Chinese daughters).

Measures

Self-reports by the adult daughters were assessed for the variables described below. The outcome measure was an indicator of daughters' tolerance of the burden that will accompany future support of parents.

Tolerance of burden. Adult daughters' intention to support parents in the future was assessed by an adaptation of a procedure by Rossi and Rossi (1990) for the purpose of the VOC study. The following situation was described: "Now please consider the following situation: One of your parents has passed away and the other becomes old and frail and needs you to look after and care for him or her." The extent to which the daughter intended to tolerate burden to help her parent was assessed by seven items; these comprised financial (e.g., "In order to help your parent: To what extent would you tolerate financial strain?"), social (e.g., "In order to help your parent: To what extent would you tolerate hardship in your partnership?"), and personal burden (e.g., "In order to help your parent: To what extent would you tolerate a reduction in the time available for other obligations or duties?"). The adult daughters rated the items on a 5-point Likert-type scale (1 = *not at all* to 5 = *quite a lot*). The proportionality coefficients refer to structural equivalence of a one-factor solution for the three samples (Tucker's Phi = 1.00, respectively). Thus, the total score across all kinds of burden was used, by calculating the mean across these seven items. The internal consistencies were high (both Chinese groups: $\alpha = .91$, German daughters: $\alpha = .89$).

It should be noted that the intention to provide support in the future is not necessarily the same as the actual support. Actual help depends on a variety of factors, such as the need of the recipient, the resources and personality of the provider (Sun, 2002), the values and obligations of the adult children, as well as the affective ties between parent and child (Schwarz et al., 2005). However, the indicator of tolerance of future burdens and its association with indicators of actual reciprocity and support are expected to provide insight into how adult daughters from the two cultures deal with the demands of the norm of reciprocity, for instance, by planning a compensation of an actual overbenefit in the future.

To analyze the effects of reciprocity on the tolerance of burden, three different measures were used. Two measures refer to the actual pattern of intergenerational support. Following a critical discussion by Uehara (1995) on the focus on objective measures in most studies, we included not only the daughters' report on the *actual amount of support* parents provided to them but also their *subjective perception of reciprocity* in exchange of support. The third measure was daughters' agreement with the *reciprocity motive*.

Social support from parents. The instrument used to measure received social support is a modified instrument from the original VOC study (Arnold et al., 1975). This modified version was tested in a pilot study. Adult daughters reported on support received from parents in the past 12 months with respect to three kinds of support: financial support, measured with one item ("How often have your parents given you financial support in the last 12 months?"), and instrumental and emotional support, each consisting of three items (e.g., instrumental support: "How often have your parents done chores like shopping or housekeeping for you in the last 12 months?"; emotional support: "How often have your parents tried to comfort you in the last 12 months?"). All items were rated on a 5-point Likert-type scale (1 = *never* to 5 = *always*). Only an overall score summarizing all seven items of social support was calculated because the indicators of reciprocity also refer to the overall support received by the daughter. So the results of the two indicators were comparable. Internal consistencies were moderate (China: $\alpha = .83$, Germany: $\alpha = .75$) and the proportionality coefficients refer to structural equivalence of this one-factor solution for the three samples (Tucker's Phi was .99 for the German and 1.00 for the two Chinese samples).

Perceived imbalance. One question assessed the perception of lack of reciprocity between the help given and received on a 5-point scale from *I get much more than I give* (1) to *I give much more than I get* (5) (Schwarz, 2006); this was assessed as a judgment across all three subdimensions of social support. For further analyses, the scale values 1 (*get much more*) and 2 (*get a*

bit more) were pooled to form the category Daughter Receives More; values 4 (*give a bit more*) and 5 (*give much more*) were pooled to form the category Daughter Gives More, and the scale value of 3 (*equal*) formed the category Reciprocity as it represented the middle point of balanced support on the original 5-point scale.

The reciprocity motive. Following the questions concerning the tolerance of burden, the adult daughters were asked why they would help their parents in order to measure the underlying motive for help. Based on Staub (1986) and using items from the pilot study, an instrument was developed that comprised prosocial, rule-oriented, and reciprocity- or balance-oriented motives. For the purpose of this study, daughters' support of the reciprocity motive was assessed by a one-item indicator that was comparable to an item used in the German Aging Survey (Kohli et al., 2000): "I would help my parent because my parent has done so much for me that I would want to compensate" (1 = *strongly disagree* to 5 = *strongly agree*). Disagreement with this item can refer to low importance of the motive of reciprocity as well as to no need for compensation because the parent has not done much for the daughter. The interpretation as a measure of the reciprocity motive is on the one hand supported by the relatively low correlation of this item with the perception of actual over- or underbenefit of the daughters (see Table 1). On the other hand, moderate correlations with indicators of filial obligations point to the normative meaning of this item.²

Results

Preliminary Analyses

In the first step of the analyses, the differences between the three samples in all indicators were calculated. Differences in perceived imbalance were analyzed with a chi-square test, which showed significant differences, $\chi^2(4, N = 552) = 126.24, p < .001$. Differences in the Reciprocity and in the Overbenefit category were striking. Only 24% of the urban Chinese daughters and 30% of the rural Chinese daughters compared to 72% of the German adult daughters perceived the exchange of intergenerational support as balanced. An overbenefit was perceived by 62% of the urban and 58% of the rural Chinese daughters but only by 16% of the German daughters. The opposite pattern, an underbenefit, was perceived by 12% of the urban and 14% of the rural Chinese daughters and by 12% of the German daughters.

One-way analyses of variance were conducted with culture (Chinese urban, Chinese rural, German) as the factor, social support from parents,

motive of reciprocity, and tolerance of burden as dependent variables with post hoc Tukey tests (5% level). The means and standard deviations are depicted in Table 1. Both groups of Chinese adult daughters received significantly more support from their parents than the German adult daughters, $F(2, 549) = 51.27, p < .001$. Again, agreement with the reciprocity motive did not differ between the two Chinese groups and was in both groups higher as compared to the German daughters, $F(2, 547) = 30.73, p < .001$. With respect to their tolerance of burden, both groups of Chinese daughters intended to tolerate significantly more burden than the German daughters, $F(2, 549) = 47.04, p < .001$.

The Relation Between Reciprocity and Support With Tolerance of Burden

Hierarchical regression analyses were run to predict the tolerance of burden separately for each of the three indicators of reciprocity. Separate analyses avoid the problem of multicollinearity between the interaction terms of the different reciprocity indicators. The bivariate correlations of the indicators in the study are documented in Table 1. Most of the significant bivariate correlations were concentrated in the German sample. Two culture dummy variables were created with German adult daughters as the reference group, one for comparison with the urban Chinese daughters and the other for comparison with the rural Chinese daughters (Cohen & Cohen, 1983). In a first step, culture dummy variables and the respective indicator of reciprocity were introduced. In a second step, the interactions between culture and the respective indicator of reciprocity were included. The analyses were run while controlling for daughter's age and education, aspects in which the three cultural groups differed. Parent's age was not included because of the high correlation with daughter's age (mother's age: $r = .57$, father's age: $r = .53$).

If an interaction effect became significant, we further probed the interaction by evaluating the simple slopes of the indicator of reciprocity within each level of the culture variable. Therefore, we conducted three separate regression analyses in which each group in turn served as the reference group, as suggested by Aiken and West (1991). Then the regression coefficients for the main effect of the reciprocity controlled for the interactions refer to the respective reference group.

Perceived imbalance and tolerance of burden. The categorical indicator of perceived imbalance was dummy coded with the Reciprocity group as the reference group. The dummies indicated the comparison of the Daughter

Table 2. Hierarchical Regression Analysis Predicting Tolerance of Burden With Perceived Imbalance and the Interaction Between Culture and Perceived Imbalance

| Variable | Step 1 | | | Step 2 | | |
|---|--------|------|---------|--------|------|---------|
| | B | SE B | β | B | SE B | β |
| Daughter's age | .00 | .01 | .02 | .00 | .01 | .03 |
| Daughter's education | .04 | .07 | .03 | .04 | .07 | .03 |
| Urban Chinese daughters (CU) ^a | .57 | .10 | .27** | .48 | .17 | .23** |
| Rural Chinese daughters (CR) ^a | .82 | .11 | .40** | .97 | .16 | .47** |
| Daughter receives more (R) ^b | .08 | .09 | .04 | .29 | .15 | .16* |
| Daughter gives more (G) ^b | -.02 | .12 | -.01 | -.19 | .16 | -.07 |
| CU \times R | | | | -.11 | .23 | -.04 |
| CU \times G | | | | .52 | .31 | .10 |
| CR \times R | | | | -.44 | .22 | -.17* |
| CR \times G | | | | .18 | .31 | .03 |
| ΔR^2 | | | .16** | | | .01† |

a. Reference group Germany.

b. Reference group "Reciprocity in Support."

† $p < .10$. * $p < .05$. ** $p < .01$.

Receives More group and the Daughter Gives More group with the Reciprocity group, respectively. To investigate the interaction between culture and perceived imbalance, four interaction terms were computed by multiplication of the two culture dummy variables with the two perceived imbalance dummy variables (Cohen & Cohen, 1983).

As shown in Table 2, the results in Step 1 for the culture dummy variables repeated those of the analysis of variance: Urban and rural Chinese daughters tolerated more burdens compared to the German daughters. In addition, perceived imbalance showed no overall associations with tolerance of burden. In Step 2, the interaction effect of Daughter Receives More by rural China–Germany comparison was significant, although the increase in explained variance was significant only at a trend level. Post hoc tests of the interaction, following the techniques prescribed by Aiken and West (1991), indicated a moderately high positive association between perceived overbenefit and tolerance of burden in the German sample ($b = .28$, $\beta = .16$, $p < .05$). German daughters who perceived an overbenefit intended to tolerate more burdens in

the future in supporting their old and frail parent than did daughters who perceived a balanced support. The significantly different association among rural Chinese daughters was not significant ($b = -.15$, $\beta = -.08$, ns). The association for the urban Chinese daughters ($b = .18$, $\beta = .10$, ns) was not significantly different from the German sample.

Social support and tolerance of burden. Because the indicator of social support was a continuous variable, we followed the suggestion of Aiken and West (1991). We centered the indicator for the overall sample and then computed multiplications of social support and the two culture dummy variables. In Step 1 of the regression analysis, social support showed a significant association with tolerance of burden (see Table 3). The more support adult daughters received from their parents, the higher their tolerance of future burdens. In Step 2 the interaction effects were included, and the explained variance increased significantly. One of the interaction effects was significant: Rural Chinese and German adult daughters differed in the association between support and tolerance of burden. Probing of the interaction effect showed that the positive relation between social support from parents and tolerance of burden was strongest in the German sample ($b = .08$, $\beta = .46$, $p < .001$) but close to zero in the sample of rural Chinese daughters ($b = .01$, $\beta = .05$, ns). The positive relation in the urban Chinese group was of comparable size as in the German sample ($b = .05$, $\beta = .29$, $p < .01$).

The reciprocity motive and tolerance of burden. The continuous indicator of the reciprocity motive was again centered for the overall sample, and multiplication terms were calculated with the culture dummy variables. As shown in Table 4, Step 1 of the regression analysis revealed that the higher the reciprocity motive, the more the daughters were willing to tolerate burdens that would accompany future care for an old and frail parent. In Step 2, the Culture by Reciprocity Motive interactions were not significant. Thus, with respect to the association between the reciprocity motive and the tolerance of future burden, Chinese and German adult daughters did not differ. The positive association was valid for all adult daughters.

Discussion

The results show that in comparison with the Chinese daughters, the relation between reciprocity and tolerance of burden was stronger for the German daughters only with respect to the actual patterns of support, not for the reciprocity motive. Thus, the results support our hypothesis of a culture-specific evaluation of an imbalance with respect to actual support exchange. We found a higher amount of social support, a stronger agreement with the reciprocity

Table 3. Hierarchical Regression Analysis Predicting Tolerance of Burden With Social Support Received From Parents and the Interaction Between Culture and Social Support

| Variable | Step 1 | | | Step 2 | | |
|---|--------|-------|---------|--------|-------|---------|
| | B | SE B | β | B | SE B | β |
| Daughter's age | .00 | .01 | .02 | .01 | .01 | .03 |
| Daughter's education | .04 | .07 | .03 | .05 | .07 | .04 |
| Urban Chinese daughters (CU) ^a | .43 | .10 | .20** | .34 | .10 | .16** |
| Rural Chinese daughters (CR) ^a | .65 | .11 | .32** | .66 | .11 | .32** |
| Social support received (S) | .04 | .01 | .25** | .08 | .01 | .46** |
| CU \times S | | | | -.03 | .02 | -.09 |
| CR \times S | | | | -.07 | .02 | -.24** |
| ΔR^2 | | .20** | | | .03** | |

a. Reference group Germany.

** $p < .01$.

Table 4. Hierarchical Regression Analysis Predicting Tolerance of Burden With the Reciprocity Motive and the Interaction Between Culture and Reciprocity Motive

| Variable | Step 1 | | | Step 2 | | |
|---|--------|-------|---------|--------|------|---------|
| | B | SE B | β | B | SE B | β |
| Daughter's age | -.00 | .01 | -.01 | -.00 | .01 | -.00 |
| Daughter's education | .04 | .07 | .03 | .04 | .07 | .03 |
| Urban Chinese daughters (CU) ^a | .46 | .09 | .22** | .48 | .09 | .23** |
| Rural Chinese daughters (CR) ^a | .64 | .11 | .32** | .60 | .11 | .29** |
| Reciprocity motive (M) | .25 | .04 | .27** | .24 | .05 | .27** |
| CU \times M | | | | -.09 | .09 | -.05 |
| CR \times M | | | | .15 | .10 | .07 |
| ΔR^2 | | .22** | | | .01 | |

a. Reference group Germany.

** $p < .01$.

motive, and a higher intention to tolerate future burden for the Chinese compared to the German daughters. These results underline that intergenerational support and reciprocity are more important for the Chinese daughters. However, particularly in the German sample, the adult daughters' intention to support is affected by perceived imbalance in exchange of support, particularly when they perceive that they receive more support from their parents

than they give back and when they receive a high amount of support from parents. In line with other studies investigating conditions of support to elderly parents (Henretta et al., 1997; Silverstein et al., 2002), the German daughters more likely intended to care for their elderly parents and accept considerable burden in the future to balance their overbenefit in the present. As previously noted, the question here is not whether the adult daughters will in fact offer more support to their parents and tolerate more burden in the future. The results shed light only on the present situation.

Patterns of perceived support and imbalance of it in the two Chinese samples differed from those found in Germany. As expected, the patterns of the urban group are closer to the German patterns than those of the rural sample. Significant differences in associations between reciprocity and tolerance of burden only occur between the rural Chinese and the German adult daughters. This may point to the influences of modernization on the Chinese urban population, which also affects the parent-child relationship (Kagitcibasi, 2005, 2007; Sung, 1998; Trommsdorff & Kornadt, 2003; Wu, 1996).

Even though these findings are in line with our hypothesis, they need further explanation. With respect to the subjective measure of perceived imbalance, it was found that higher percentages of the Chinese daughters as compared to the German adult daughters reported a lack of reciprocity (particularly an overbenefit). However, this seemingly did not affect the association between perceived imbalance and tolerance of burden.

This might be related to a high acceptance of mutual interdependence in Confucianism and the value of benevolence in close relationships. According to Confucian philosophy, it is the parents who have given the life to children and brought them up. Children should remember this as the never-paid-up overbenefit from their parents. Many of the Chinese adult daughters could have responded to the question of reciprocity on the basis of these culturally rooted ideas, whether explicitly or implicitly. There are also other indigenous explanations. For instance, within the family, help must be given to those who need it in accordance with one's own resources (Hwang, 1999). Therefore, the perception of neither underbenefit nor overbenefit needs to be compensated to (re)establish reciprocity. Furthermore, because the Confucian moral system allows adult children to repay their debts to parents by investing in their own children (Hwang, 1999), the association between their perceived present overbenefit and future plans to care for the elderly parents may be further weakened.

Our hypothesis of a positive association between reciprocity and tolerance of future burden was supported across the cultures for the reciprocity motive to support parents in old age. The more the daughters agreed with the reciprocity motive, the more they intended to tolerate future burden of support.

Thus, the Chinese daughters are also influenced by the reciprocity motive. However, it seems that they have more options to cope with an actual imbalance in the relationship with their parents. Nevertheless, the similarity in results need not be based on similar underlying motives. In a modernized, affluent, and individualistic society like Germany, the more general motive underlying the reciprocity motive might be based on the value of independence, including the value not to be indebted to others. This would differ from motives for support in cultures that are based on values of interdependence. However, the social or formal supporting systems and informal filial supports differ remarkably in the two countries as well as in the Chinese urban and rural areas. These differences should also have an influence on the real obligations and the motives of adult daughters in supporting their elderly parents (Yao, 2005; Zheng et al., 2005).

In sum, the results are in line with the idea of different family models among the German, urban Chinese, and rural Chinese adult daughters (Kagitcibasi, 2007). We do not conceive the German daughters as an extreme example of the independent family model; still, relative to the Chinese daughters, they receive less support from parents, intend to tolerate less burden, and their agreement to the reciprocity motive is lower. The way they deal with lack of reciprocity reflects an individualistic perspective based on the need not to be indebted to others. On the contrary, the family model of rural Chinese daughters seems to be based on the Confucian tradition, as described above. The urban Chinese daughters show signs of traditionalism comparable to the rural Chinese daughters, for example, in their tolerance of burden and agreement with the reciprocity motive. However, in some respect they are in between rural Chinese and German daughters, as is documented in the associations between reciprocity and tolerance of burden. So they integrate modern and traditional values and attitudes in their family model.

Some limitations of the present study should be mentioned. Most important, the present data are cross-sectional in nature, thus precluding definitive conclusions with regard to causality. Longitudinal data would allow for more substantial inferences as to whether a lack of reciprocity, particularly overbenefit, will induce greater support of parents in the future. Moreover, here we have included only the reports of the adult daughters. The data of the VOC study include the mothers' perspectives as well, but only for a smaller sample of 100 mother–daughter dyads per culture, which limits the applicability of multifactor analysis with interactions. Of course, we also cannot generalize our results for China or Germany as a whole. Especially for China, intracultural comparisons are definitely necessary. Here, we have compared a rural and an urban sample and thereby could trace some interesting indicators for changing value orientations.

Nevertheless, the present study highlights the necessity of cross-cultural research for the understanding of family relationships. Even though a universal norm of reciprocity might prevail, the way this norm is related to the relationship of adult children and parents differs according to the cultural background. This study adds to our knowledge in the theoretical discussion on similarities and specific characteristics of adult parent-child relationships in different cultures. It also draws attention to the importance of understanding the ways in which intergenerational support is provided, a question of increasing importance in times of changing value orientations and changing social welfare systems. Future research should also include measures of personality characteristics and a broader range of individual value orientations and motives in order to better predict the likelihood of adult daughters' intended support for their parents.

Notes

1. In fact, with respect to the indicators in the analyses, the three German samples did not differ, except for expectations of filial obligations. Here, the East German sample showed significantly higher expectations, which in turn were significantly lower than in both Chinese samples.
2. The reciprocity motive item correlated with a scale measuring filial obligations ($r = .28$) and with the item "Children have an obligation to care for their parents when they are old" ($r = .30$).

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