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The Consequences of Social Policy for Subjective Well-Being: A New Paradox?*

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September 13, 2022

Abstract

The present study uses benefit reciprocity data and three dimensions of welfare transfers, namely, transfer share, low-income targeting, and universalism, to clarify the more detailed effects of social policies on subjective well-being and well-being inequality. This analysis utilizes benefit reciprocity data from the Luxembourg Income Study Database, pooled data from the World Values Survey from 1981 to 2022, and a two-way fixed-effects model to explore the effects of these three dimensions of welfare transfers on life satisfaction and of the cross-level interactions of the welfare transfer variables and household income on life satisfaction. The results of this study indicate that (1) transfer share is positively associated with life satisfaction and (2) low-income targeting shortens the well-being inequality stemming from income but at the cost of life satisfaction among rich individuals.

KEYWORDS: welfare transfers, subjective well-being, well-being inequality, World Values Survey, cross-level interaction, two-way fixed-effects model

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INTRODUCTION

In recent decades, significant advances have been made in international comparative research regarding the impact of social policies on subjective well-being (SWB) (Pacek and Radcliff 2008a, 2008b; Radcliff 2013; Flavin, Pacek, and Radcliff 2014). SWB can be defined as “a person’s cognitive and affective evaluations of his or her life as a whole” (Diener, Lucas, and Oishi 2002, p. 187), and practically, SWB has been repeatedly measured by happiness and life satisfaction (Diener et al. 2002; Flavin et al. 2014; Helliwell et al. 2020). On this issue, by focusing mainly on public social expenditures and the decommodification index, a great deal of research has addressed the question of how government intervention affects SWB and well-being inequality because it is assumed that one of the main goals of social policy is to help improve human well-being and the equitable distribution of SWB (Veenhoven 2000; Rothstein 2010; Ono and Lee 2013; Radcliff 2013; Flavin et al. 2014). According to Esping-Andersen, welfare “institutions [are] predominantly preoccupied with the production and distribution of social well-being” (Esping-Andersen 1990, p. 1).

Although previous studies have contributed to an understanding of the consequences of social policy for SWB and well-being inequality, there are some limitations. First, the proxies for social policy adopted in earlier publications on SWB, such as public social expenditures and the decommodification index, may not clearly distinguish between the levels and the distribution of welfare provisions. However, social policy research has distinguished between the effects of the levels and the distributional aspect of welfare provisions on several outcomes and emphasized that both the question related to the levels of welfare effort and the question of whether social policy should be based on low-income

targeting or universalism are major concerns in this research field (Korpi and Palme 1998; Brady and Burroway 2012; Brady and Bostic 2015; Jacques and Noël 2018). Notably, Korpi and Palme (1998), which has been regarded as one of the major catalysts in the literature on the study of social policy, utilized measures concerning both aspects of social policy and discussed “the paradox of redistribution.” Hence, it is preferable to adopt several proxies for social policy capturing both the levels and distribution of welfare provisions to clarify their distinctive effects on SWB and well-being inequality.

Second, whereas a host of studies have mainly utilized social spending and the decommodification index, the impacts of other social policy indicators on SWB have been left largely untouched. On this point, the existing welfare state research has emphasized that there are three approaches to constructing proxies concerning welfare policies: those based on social expenditure, those based on social rights, and those based on benefit reciprocity data (Van Oorschot 2013; Otto 2018a; Otto and Van Oorschot 2019).¹ However, previous studies regarding SWB have revealed the effects of social policy measures that build on social expenditure and social rights (i.e., the decommodification index) on SWB and well-being inequality, while the impacts of social policy indicators based on benefit reciprocity data on SWB have been largely overlooked (Pacek and Radcliff 2008a; Ono and Lee 2013; Radcliff 2013; Flavin et al. 2014).

¹ On this issue, Otto noted that “the question of how to conceptually operationalize and measure the size of a welfare state or the extent to which it provides welfare to individuals and households has been key in welfare state research” (Otto 2018b, p. 851). Although previous studies have discussed these three approaches in the context of the “dependent variable problem,” this classification has also been adopted in the discussion of social policy as an independent variable (Van Oorschot 2013; Otto 2018a, 2018b; Otto and Van Oorschot 2019).

Against this backdrop, this study adopts the approach building on benefit reciprocity data, such as the Luxembourg Income Study (LIS) Database, to utilize three dimensions of welfare transfers as proxies for social policy: transfer share, low-income targeting, and universalism (Korpi and Palme 1998; Brady and Burroway 2012; Brady and Bostic 2015). By employing this approach, it is possible to distinguish between the levels of welfare effort, namely, welfare transfers, and the distribution of welfare provisions, such as low-income targeting and universalism, and to explore their distinctive effects on SWB and well-being inequality. Therefore, this approach enables us not only to tackle the question of whether national governments should carry out welfare retrenchment or welfare increase but also to address the question of whether national governments should adopt social policy based on low-income targeting or universalism from the perspective of well-being research. Through these analyses, the current study contributes to the identification of new determinants of SWB and well-being inequality. Moreover, this analysis attempts to reveal new consequences of social policy, especially in regard to SWB and well-being inequality, and to broaden the scope of well-being research. By employing pooled data from the World Values Survey (WVS) from 1981 to 2022 and a two-way fixed-effects model, the present study evaluates the within-country effects of welfare transfers on SWB and well-being inequality due to income.

PREVIOUS RESEARCH ON SOCIAL POLICIES AND SUBJECTIVE WELL-BEING

Over the last few decades, a great deal of research has been conducted on the question of how the welfare state and social policy affect SWB (Veenhoven 2000; Ono and Lee 2013; O'Connor 2017). Although this issue has been discussed along the lines of the classic

question of whether the state or the market plays a more important role in providing welfare for citizens and determining the quality of their lives (Esping-Andersen 1990, 1999; Pacek and Radcliff 2008b; Flavin et al. 2014), recent studies in the social sciences and on public policy have shown growing interest in the role of the state in determining SWB (Diener et al. 2002; Pacek and Radcliff 2008b; Ono and Lee 2013; Flavin et al. 2014). This is because after the Great Recession that began in 2008, discussions regarding the development and retrenchment of the welfare state have been recurrent, and therefore, the consequences of social policy have become a renewed major concern (Reeskens and Van Oorschot 2014; Otto and Van Oorschot 2019). To make better decisions on this issue, the impacts of government intervention on SWB need to be examined because “people’s quality of life is fundamental when assessing the progress of societies” (OECD 2013), and SWB has been regarded as an important measure of quality of life among citizens (Diener et al. 2002; Pacek and Radcliff 2008b).

In terms of the relationship between social policy and SWB, extensive research has contended that through welfare programs and redistribution policies, greater welfare provisions are positively associated with SWB and buffer well-being inequality among citizens for the following reasons. First, via several social welfare programs, government activities, and insurance policies, welfare provisions extend human capabilities among citizens (i.e., balancing work and child care, facilitating social life with family and friends, promoting civic participation, and supporting housing), which are important factors in improving the levels of living standards and SWB among citizens (Sen 1980; Esping-Andersen 1990, 1999; Rothstein 2010; Nussbaum 2011; Rostila 2013; Flavin et al. 2014).

Second, welfare generosity and redistribution policies are also helpful for reducing poverty and inequality (Atkinson 1999; Kenworthy 1999; Scruggs and Allan 2006a, 2006b; Brady, Blome, and Kleider 2016). Previous studies have reported that poverty and inequality are crucial determinants of self-esteem, efficacy, depression, health, and other social issues (i.e., alcoholism, domestic violence, and other family problems) and that these issues are correlated with SWB (Simmons et al. 2008; Radcliff 2013). Hence, it is plausible that social policy improves quality of life and SWB among disadvantaged citizens by reducing poverty and inequality. Third, by decreasing poverty, income inequalities, and anomic pressure in the market, extensive involvement of the state through policy also reduces violent crimes (Messner and Rosenfeld 1997, 2006; Flavin et al. 2014). This mechanism is also meaningful for mitigating fear among citizens and enriching quality of life and SWB.²

On the basis of these discussions, many studies have conducted empirical international comparative analyses to reveal the impact of social policy on SWB and well-being inequality (Radcliff 2001; Ono and Lee 2013; Flavin et al. 2014). Although there is a crucial debate in terms of the proper indicators for social policy, earlier publications in the field of SWB have adopted two main approaches. The first is the approach based on social expenditure data. This approach assumes that higher social spending reflects higher welfare effort (Van Oorschot 2013; Otto 2018a). Building on this assumption, previous studies adopting this approach have utilized public social expenditures as a percentage of GDP or per capita measures of public social expenditures provided by the social expenditure (SOCX)

² On this topic, Veenhoven also suggested that the “level of well-being is alleged to be higher in welfare states and its distribution more equitable” (Veenhoven 2000, p. 91).

database of the Organisation for Economic Co-operation and Development (OECD) and the European System of Integrated Social Protection Statistics (ESSPROS) database in Eurostat with a focus on the budgetary effort and cost outcomes of the welfare state (Castles 2002; Van Oorschot 2013; Otto 2018b). Because of the data availability for a large number of countries and years, these are popular sources for social policy proxies, and social expenditures are widely employed in social policy research (Gilbert 2009; Van Oorschot 2013).

Based on this approach, a host of studies have clarified that the degree to which the government provides for the welfare of its citizens has a positive impact on SWB (Haller and Hadler 2006; Radcliff 2013; Flavin et al. 2014; O'Connor 2017). For example, Haller and Hadler (2006) and O'Connor (2017) utilized data from the WVS and Gallup World Poll and reported that public social expenditures are positively associated with SWB. Additionally, by adopting data from the WVS and a two-way fixed-effects model, Radcliff (2013) and Flavin et al. (2014) discovered that public social expenditures have a positive effect on SWB. In contrast, not all studies have found a positive association between social spending and SWB (Veenhoven 2000; Ouweneel 2002; Ono and Lee 2013; Knoll and Pitlik 2016). For instance, Knoll and Pitlik (2016) analyzed data from the European Social Survey and made clear that total spending for social protection has no significant effect on life satisfaction. Moreover, Veenhoven (2000), utilizing data from the WVS, and Ono and Lee (2013), adopting data from the International Social Survey Program (ISSP), reported that social security expenditures and total public social expenditures do not have significant direct effects on SWB. On this issue, Veenhoven (2000) has suggested that because public welfare provisions

may have unintended side effects, such as shrinking the services from private welfare providers, the total amount of welfare supplied to citizens is not increased by an increase in government welfare effort.

In addition to the main effects of social expenditures on SWB, previous studies conducting international comparisons have also addressed the question of how social expenditures affect well-being inequality among the citizens of each society (Veenhoven 2000; Ono and Lee 2013; Flavin et al. 2014; Knoll and Pitlik 2016). In particular, this strand of research has focused mainly on the well-being inequality stemming from income because income is often regarded as one of the major determinants of SWB and social policy is related to the redistribution of income (Ono and Lee 2013; Flavin et al. 2014; Knoll and Pitlik 2016). On this issue, research findings to date are inconsistent. On the one hand, based on the analysis of data from the ISSP, Ono and Lee (2013) reported that the interaction effect of public social expenditures and household income on happiness is negative. In other words, government intervention decreases well-being inequality due to income through redistribution policies. On the other hand, Radcliff (2013) and Flavin et al. (2014) analyzed data from the WVS and found that welfare spending does not have a significant moderation effect on the association between household income and life satisfaction.³

³ Following a similar approach, by adopting government expenditures and government consumption, several studies have attempted to examine the impact of the size of the government on SWB (Bjørnskov et al. 2007; Kacapyr 2008; Rode 2013). For example, by analyzing data from the Eurobarometer and the WVS, Hessami (2010) and Radcliff (2013) reported a positive effect of government spending and government consumption on life satisfaction, while Bjørnskov et al. (2008) and Ram (2009) analyzed data from the WVS and revealed that the relationship between government consumption and life satisfaction is not significant for the full sample.

Aside from the social expenditure approach, the social rights approach has also been employed in earlier publications to address the association between social policy and SWB. This approach is based on the notion of social rights and social citizenship from Marshall (1950) and is related to de jure conditions (Otto 2018a; Öktem 2020). The assumption underlying this approach is that a larger welfare state provides cash benefits with a higher replacement rate and over a longer period of time (Otto and Van Oorschot 2019). Prior literature from the social rights perspective has created several indicators for the welfare state, such as the indices collected in the Social Citizenship Indicator Programme (SCIP) and the Comparative Welfare Entitlements Dataset (CWED II) (Esping-Andersen 1990; Korpi and Palme 1998; Scruggs and Allan 2006a, 2006b; Scruggs, Detlef, and Kuitto 2017). In particular, international comparative research on SWB that has built on the social rights approach has mainly utilized the decommodification index (Pacek and Radcliff 2008a, 2008b; Davidson, Pacek, and Radcliff 2013). This index is based on the concept of decommodification discussed by Esping-Andersen, which was defined as “the degree to which individuals or families can uphold a socially acceptable standard of living independent of market participation” (Esping-Andersen 1990, p. 37). In light of this definition, Esping-Andersen (1990) focused on three important domains, namely, pensions, sickness benefits, and unemployment compensation, to compute the decommodification index as a continuum, meaning that societies with high scores are deemed generous and provide universal entitlement, while societies with low scores are characterized by low benefit levels and low-income targeting with means-testing (Messner and Rosenfeld 1997; Pacek and Radcliff

2008a, 2008b).⁴ Although Esping-Andersen (1990) calculated the values of this index at only one point in time, Scruggs et al. (2017) computed time-series data for this index by adopting the same methods as Esping-Andersen (1990).

To identify the impact of social policy on SWB, several international comparative studies have examined the association between the decommodification index and SWB (Radcliff 2001; Pacek and Radcliff 2008a, 2008b; Davidson et al. 2013; Radcliff 2013; Flavin et al. 2014). Specifically, Pacek and Radcliff (2008a, 2008b) and Davidson et al. (2013) analyzed data from the WVS and Eurobarometer and clarified the positive association between the decommodification index and life satisfaction. Moreover, Radcliff (2013) and Flavin et al. (2014) also employed pooled data from the WVS and elucidated that the decommodification index is positively correlated with life satisfaction, whereas the cross-level interaction effect of the decommodification index and household income on SWB is not significant.

Although convincing arguments have been made about the correlation between social policy and SWB based on the social expenditure and the social rights approaches, these approaches have some limitations. First, by adopting social expenditures and the decommodification index, it is difficult to distinguish between the impacts of the levels and of the distribution of welfare provisions on SWB (Otto 2018a, 2018b). On this point, in terms of social expenditures, previous research has noted that “[t]he amount of overall spending

⁴ In terms of this index, Messner and Rosenfeld noted that “[t]his scoring system reflects the ‘prohibitiveness’ of conditions for eligibility, the disincentives for and duration of entitlements, and the degree to which benefits replace normal levels of earnings” (Messner and Rosenfeld 1997, p. 1399).

simply does not specify whether the whole population benefits from the social security systems” (Öktem 2020, p. 105). Furthermore, because welfare generosity, low-income targeting, and universalism are combined to calculate the continuous decommodification index (Esping-Andersen 1990; Messner and Rosenfeld 1997; Pacek and Radcliff 2008a, 2008b), it is difficult to clarify their distinctive effects on SWB and well-being inequality. Second, because social expenditures reflect the budgetary effort of the welfare state and social rights data mirror the “paper reality” regarding social rights, social expenditures and the decommodification index do not necessarily demonstrate the reality of the welfare provisions that citizens actually receive (Van Oorschot 2013; Otto 2018a).⁵

THREE DIMENSIONS OF WELFARE TRANSFERS AS PROXIES FOR SOCIAL POLICY

Benefit Reciprocity Data Approach

To overcome these limitations, the present study employs an alternative approach—the approach based on benefit reciprocity data—to investigate the impact of social policy, which includes both the levels and the distribution of welfare provisions, on SWB and well-being inequality. In the field of social policy research, recent studies have emphasized the importance of this third approach based on benefit reciprocity data in addition to the social

⁵ Studies have also noted the limitation that greater social expenditures do not necessarily mean higher welfare provisions because social spending may reflect the level of need, especially the number of people in the target population (Esping-Andersen 1990; Green-Pedersen 2007; Gilbert 2009). Additionally, the literature has pointed out that the measure of public social expenditures as a percentage of GDP is influenced by economic performance (Siegel 2007; Van Oorschot 2013).

expenditure and the social rights approaches to explore proxies for the welfare state in the context of the “dependent variable problem” (Otto 2018a, 2018b; Otto and Van Oorschot 2019). In the comparative research literature on the welfare state, although the approach building on benefit reciprocity data is not new (Flora 1986a, 1986b), it has received surprisingly less attention than the social expenditure and social rights approaches (Van Oorschot 2013; Otto and Van Oorschot 2019). However, the approach with benefit reciprocity data has “the potential to add to the picture and to deliver new insights” (Otto 2018b, p. 853) and especially to overcome the limitations of previous research on social policy and SWB because this approach has the following advantages. First, benefit reciprocity data provide information on the benefits that citizens receive. Hence, benefit reciprocity data can reflect the reality regarding welfare provisions more directly than social expenditure data, which reflects the budgetary aspect of the welfare state, or social rights data, which mirrors citizens’ eligibility and entitlements to receive social benefit (Van Oorschot 2013; Otto 2018a). Second, benefit reciprocity data include individual-level information on social benefits (Otto 2018b; Otto and Van Oorschot 2019). This enables us to compute macrolevel proxies for both the amount and the distribution of welfare provisions separately and to distinguish their effects in the analysis.

The literature has noted that there are two types of benefit reciprocity data. The first is record-based reciprocity data. Because record-based reciprocity data are built on benefit administration records and on information on beneficiary numbers and benefit amounts, these data directly and precisely reflect reality (Van Oorschot 2013). The second is social survey-based reciprocity data. This is benefit reciprocity data derived from social surveys, such as the

Luxembourg Income Study (LIS), European Community Household Panel (ECHP), and European Union Statistics on Income and Living Conditions (EU SILC) (Van Oorschot 2013; Otto 2018a). While both types of data have pros and cons,⁶ this study focuses on social survey-based reciprocity data for the following reasons. First, because record-based reciprocity data are not collected systematically, there is a great lack of information on benefit amounts, and these data cover only a small number of countries, mostly in Western Europe, while social survey-based reciprocity data cover a large number of countries (Van Oorschot 2013). Second, whereas record-based reciprocity data provide aggregated country-level data, social survey-based reciprocity data include information on the amount of benefits received at the individual level, which is helpful for enabling this study to flexibly compute proxies for both the levels and the distribution of welfare provisions (Van Oorschot 2013).

Three Dimensions of Welfare Transfers: Theory and Hypotheses

For the above reasons, by using social survey-based reciprocity data, such as LIS data, this study utilizes the three dimensions of welfare transfers, namely, transfer share, low-income targeting, and universalism, as proxies for social policy to distinguish between the effects of the levels and those of the distribution of welfare provisions on SWB and well-being inequality. Thus far, these dimensions of welfare transfers have been employed as key indicators in explorations of the determinants of poverty, inequality, and preferences for redistribution and to address one of the central issues in social policy research, the “paradox

⁶ Previous research has also noted other limitations of social survey-based reciprocity data, such as the possibility of over- and underreporting. In terms of both the pros and the cons of benefit reciprocity data, see Van Oorschot (2013).

of redistribution” (Korpi and Palme 1998; Brady and Burroway 2012; Brady and Bostic 2015; Gugushvili and Laenen 2021). Furthermore, in light of the discussions in previous studies, it is important to apply these dimensions of welfare transfers to the analysis of SWB and well-being inequality because they cover both the level of welfare effort (transfer share) and the distribution of welfare provisions (low-income targeting and universalism). This is desirable for overcoming the limitations in previous studies regarding the association between social policy and SWB. Additionally, by adopting two dimensions pertinent to the distributional aspects of welfare transfers, it is possible to address one of the central questions in social policy research: whether welfare provisions should selectively target poor families or should be universally distributed (Korpi and Palme 1998; Brady and Bostic 2015; Gugushvili and Van Oorschot 2020). On this issue, Laenen and Gugushvili highlighted that “the social legitimacy of universal vis-à-vis selective welfare provision remains very much an open question that needs to be investigated further in future empirical research” (Laenen and Gugushvili 2021, p. 1136). This analysis contributes to a better understanding of this issue because it is sensible to scrutinize the impacts of both low-income targeting and universalism on people’s lives in terms of SWB, which is a crucial indicator for quality of life and in assessing the progress of societies, to comprehend the wider meanings of these policies (Diener et al. 2002; OECD 2013). In what follows, this study provides a sketch of the state of the research in terms of the three dimensions of welfare transfers and establishes hypotheses regarding their effects on SWB and well-being inequality due to income.

According to Brady and Bostic, transfer share is “the share of household income that is socialized or publicly provided” (Brady and Bostic 2015, p. 271) and can be gauged as the

mean percent of household income provided through welfare transfers.⁷ The literature has suggested that transfer share pertains to the level of welfare provisions; it is a well-established measure of welfare effort when using benefit reciprocity data (Brady and Bostic 2015). Because transfer share reflects the extent of the welfare provided to households, this indicator is strongly correlated with other proxies in terms of the budgetary size of social spending, such as public social expenditures as a percent of GDP (Korpi and Palme 1998; Brady and Bostic 2015). In particular, benefit levels and transfer share have been utilized in the analysis of poverty and income inequality. Previous studies have clarified that because public transfers are likely to be more equally and stably distributed than market income (private transfers), the average public transfer share is negatively correlated with the poverty rate and income inequality (Korpi and Palme 1998; Brady and Bostic 2015; Ferrarini, Nelson, and Palme 2016). For example, Brady and Bostic (2015) employed data from the LIS and revealed that transfer share reduces the risk of poverty.

Although transfer share has mainly been adopted as a determinant of poverty and income inequality, this dimension of welfare transfers is also applicable to the analysis of SWB and well-being inequality. This study assumes that public transfers are helpful for improving human capabilities and standards of living among citizens and therefore may reduce anxiety about the future among a wide range of citizens (Sen 1980; Mau, Mewes, and Schöneck 2012; Rostila 2013; Chung and Mau 2014; Brady and Bostic 2015). Because these factors are vital components of SWB (Di Tella, MacCulloch, and Oswald 2001), it is plausible that transfer share enhances SWB among the whole population. Moreover, in terms

⁷ Specifically, Korpi and Palme (1998) called transfer share the redistributive budget size.

of well-being inequality, it is not surprising that transfer share dampens well-being inequality, especially stemming from income, because, as noted above, the public transfer share is supposed to be negatively associated with poverty and income inequality. As a result, transfer share may raise minimum capabilities, living standards, and thus SWB among low-income citizens (Korpi and Palme 1998; Brady and Bostic 2015). Given this discussion, the present study formulates the following hypotheses:

Hypothesis 1-a: Transfer share enriches SWB.

Hypothesis 1-b: Transfer share buffers well-being inequality due to income by increasing SWB among citizens with low income.

Low-income targeting can be defined as “the disproportionate concentration of welfare transfers in low-income households” (Brady and Bostic 2015, pp. 272-273). This dimension of welfare transfers is also referred to as selective welfare provision and is regarded as one of the pillars of the distributional aspect of welfare provisions in discourses about social policy (Gugushvili and Van Oorschot 2020). According to Ferrarini et al. (2016), in recent decades, targeting policy through means testing has increased among affluent countries because of the influence of neoliberal ideology, changes in demographic patterns, and the worldwide financial crisis that began in 2008. Previous studies have suggested that low-income targeting can be justified in terms of cost-effectiveness, which is to say that a low-income targeting policy with means testing focuses scarce resources on needy individuals and therefore is efficient for reducing poverty and inequality (Le Grand 1982;

Tullock 1983; Barry 1990; Van Lancker and Van Mechelen 2015).⁸ In contrast, other studies have also noted several side effects of low-income targeting that arise from dividing citizens into givers and receivers (Korpi and Palme 1998; Gugushvili and Van Oorschot 2020; Laenen and Gugushvili 2021). Givers, especially high-income citizens, tend to bear the burden of taxation and costs, although they are not eligible to receive the targeted benefit (Korpi and Palme 1998; Brady and Bostic 2015). Moreover, for receivers, low-income targeting policies may stigmatize disadvantaged citizens by splitting society into needy individuals and others (Katz 2001; Soss, Fording, and Schram 2011). As a result, low-income targeting may have unintentionally devastating effects on self-esteem among disadvantaged individuals or make needy individuals hesitate to apply for benefits (Gugushvili and Van Oorschot 2020; Laenen and Gugushvili 2021). Hence, a low-income targeting policy may actually increase poverty and diminish cooperation among citizens and public support for redistribution (Korpi and Palme 1998; Brady and Burroway 2012; Brady and Bostic 2015). Although earlier publications have often regarded universalism as the opposite of low-income targeting, according to Brady and Bostic, the opposite of low-income targeting along the continuum is not universalism but high-income targeting (Korpi and Palme 1998; Brady and Bostic 2015).

Bearing these points in mind, it can be stated that low-income targeting is positively associated with SWB, especially among low-income citizens because, as noted above,

⁸ Moreover, earlier publications have argued that low-income targeting policies with means testing may increase the incentives among citizens to work and earn more income than universal redistribution policies do because, after reaching a certain level of income, low-income targeting policies with means testing cut off state support and facilitate independence from the state (Gilbert 2002; Brady and Burroway 2012).

previous research has argued that low-income targeting policies with means testing focus resources on low-income households and may be efficient for reducing poverty and inequality (Le Grand 1982; Barry 1990). In light of these assumptions, it is natural that by improving SWB among low-income citizens, a low-income targeting policy attenuates the well-being inequality stemming from income. In contrast, for citizens with high income, a low-income targeting policy may be a source of discontent because such policies concentrate resources on citizens with low incomes who pay little in taxes, while high-income citizens tend to bear the burden of taxation and costs related to welfare policies (Korpi and Palme 1998; Brady and Bostic 2015; Laenen and Gugushvili 2021). In other words, for high-income citizens, the balance between the costs and benefits of low-income targeting policies seems to tilt negative. Given this point of view, it is not surprising that by deteriorating SWB among high-income citizens, a low-income targeting policy may alleviate well-being inequality as derived from income. Furthermore, given the arguments that low-income targeting may split citizens into a disadvantaged group and others and stigmatizes needy individuals, there is the possibility that a low-income targeting policy may unintentionally damage self-esteem and SWB among low-income citizens and therefore widen the well-being inequality stemming from income (Katz 2001; Soss et al. 2011; Brady and Bostic 2015). Based on these discussions, this study formulates the following hypotheses concerning low-income targeting:

Hypothesis 2-a: Low-income targeting buffers well-being inequality due to income by enhancing SWB among citizens with low income.

Hypothesis 2-b: Low-income targeting buffers well-being inequality due to income by damaging SWB among citizens with high income.

Hypothesis 2-c: Low-income targeting broadens well-being inequality due to income by damaging SWB among citizens with low income.

In addition to low-income targeting, previous studies have also treated universalism as another important pillar of the distributional aspects of social policy. Universalism can be defined as “homogeneity across the population in benefits, coverage, and eligibility” (Brady and Bostic 2015, p. 274), also called the nonselective provision of welfare (Gugushvili and Van Oorschot 2020; Laenen and Gugushvili 2021). Because the concept of universalism is germane to basic rights, universal welfare programs adopt equivalent rules, nonmeans-tested benefits, and provisions for all citizens and are less likely to be terminated (Rothstein 1998; Brady and Burroway 2012; Fernández and Jaime-Castillo 2018). As Brady and Bostic (2015) emphasized, universalism is not the opposite of low-income targeting but rather is the idea that both low- and high-income targeting are absent. The literature has insisted that a universal welfare policy may be more efficient in reducing poverty and inequality than low-income targeting policies for the following reasons. First, via universal benefits for all members of the population, universal programs reduce several insecurities and risks, such as those of illness, and guarantee quality of life and life chances for all. Hence, in contrast to low-income targeting policies, which support citizens after a descent into poverty, universal policies are helpful for preventing citizens from falling into poverty and thus are efficient in reducing poverty (Krishna 2007; Brady and Burroway 2012). Second, selective provisions

may stigmatize needy individuals, involve procedures with strict screening, and therefore discourage low-income citizens from becoming recipients, whereas nonselective programs can avoid these problems (Brady and Bostic 2015; Gugushvili and Van Oorschot 2020).

Third, low-income targeting may generate disincentives to exit poverty because selective programs cut off benefits after income rises above the means-tested line, while through their nonselective programs, universal welfare policies instead support all citizens in working and engaging in poverty-reducing behavior (Brady and Burroway 2012; Brady and Bostic 2015).

In contrast, some studies have suggested that disadvantaged individuals may benefit less even in a society with a universal welfare policy because poor individuals are less likely to be well acquainted with how to use nonselective programs than rich individuals (Le Grand 1982; Gugushvili and Van Oorschot 2020).

In terms of the impact of universalism on SWB and well-being inequality, it is reasonable to expect universal welfare policy to enhance SWB within the whole population because, as stated above, nonselective universal programs provide several benefits and services that reduce a variety of social risks, such as being ill, for all citizens. These policies help a wide variety of citizens decrease their anxiety about the future and therefore improve SWB within the whole population (Brady and Burroway 2012). Moreover, it is also plausible that universalism shrinks well-being inequality due to income for the following reasons. First, whereas low-income targeting policies support citizens after becoming disadvantaged, universal programs guarantee a minimum standard of living and prevent citizens from falling into poverty. This may be more efficient in reducing poverty and inequality (Brady and Burroway 2012). Second, nonselective programs without barriers to reciprocity, such as

screening, do not include the structures that produce disincentives to exit poverty (Brady and Bostic 2015; Gugushvili and Van Oorschot 2020). Third, universal welfare policy does not divide citizens into givers and receivers. Therefore, disadvantaged individuals are less likely to be stigmatized and excluded in societies with nonselective policies than in those with low-income targeting policies (Nelson 2007; Laenen and Gugushvili 2021). This mechanism may be effective in attenuating well-being inequality due to income by fostering SWB among poor individuals. Building on this discussion, the present study also formulates the following hypotheses:

Hypothesis 3-a: Universalism enriches SWB.

Hypothesis 3-b: Universalism reduces well-being inequality due to income by increasing SWB among citizens with low income.

DATA AND METHODS

Data

This analysis utilizes pooled data from the WVS from 1981 to 2022. The pooled data from the WVS cover a wide variety of countries across the globe and include several key variables related to SWB, such as life satisfaction and household income. For this reason, these data have frequently been adopted by various international comparative studies on SWB. After listwise exclusion, the data for the analysis included 78,777 individuals, 58 country-years, 19 years and 18 countries with two or more rounds: Australia, Canada, Chile, Colombia, Estonia, Finland, Germany, Japan, South Korea, Mexico, the Netherlands, Norway, Poland,

Slovenia, Spain, Sweden, Switzerland, and the United States. By combining the individual-level data from the WVS with country-level macro data, including data on welfare transfers, the analysis examines the hypotheses presented above.

Dependent Variable

This study utilizes the life satisfaction score to measure SWB as the dependent variable. This score was defined according to the answers to the question: “All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are “completely dissatisfied” and 10 means you are “completely satisfied,” where would you put your satisfaction with your life as a whole?” Hence, this score ranges from 1 to 10, and a higher score indicates greater life satisfaction. This score has been repeatedly adopted in international comparative analyses as an indicator for SWB (Helliwell 2003; Helliwell and Putnam 2004; Bjørnskov, Dreher, and Fischer 2007, 2008; Flavin et al. 2014).

Key Macrolevel Variables

For the key macrolevel variables, this analysis utilizes variables that measure the three dimensions of welfare transfers: transfer share, low-income targeting, and universalism. Following Brady and Bostic (2015), this study calculates the values of these variables by using row data from the LIS (2022) because the LIS Database includes nationally

representative and cross-nationally harmonized individual-level datasets with detailed information on disposable household income and several aspects of transfers.⁹

Transfer share is the mean of the share of transfers in disposable household income. Hence, by using datasets on household income, this proxy captures the level of welfare effort, namely, the detailed level of welfare provided to households (Korpi and Palme 1998; Ferrarini et al. 2016; Brady and Bostic 2015). Additionally, to capture a low-income targeting policy, the score was calculated by applying the Kakwani concentration coefficient in terms of the distribution of transfers (Besley 1990; Korpi and Palme 1998; Brady and Bostic 2015; Ferrarini et al. 2016). The calculated index ranges from -1 to 1. When all transfers are concentrated among citizens with the lowest household income levels, the value of this index is -1. In contrast, the value of this index is +1 when those with the highest levels of household income receive all transfers. Following Brady and Bostic (2015), this analysis used the reverse score of this index so that a higher score indicates a higher degree of low-income targeting. Furthermore, this study also calculates a universalism score to capture the homogeneity in the levels of transfers provided to members of the population (Brady and Bostic 2015; Fernández and Jaime-Castillo 2018). This score was computed as “1 over the coefficient of variation of the absolute amount of transfers” (Brady and Bostic 2015, p. 278). Therefore, a higher score indicates a higher degree of universalism.¹⁰

⁹ When the values of transfer share, low-income targeting, and universalism variables are calculated, disposable household income and transfers are equalized by dividing by the square root of the number of household members. To compute the values of the three dimensions of welfare transfers, this study referred to the Stata codes in the Online Supplement of Brady and Bostic (2015).

¹⁰ Following Fernández and Jaime-Castillo (2018), we use as many data points from the LIS Database as possible to extrapolate the missing values for transfer share, low-income

Individual-Level Independent Variable

This analysis uses household income as a key individual-level independent variable to examine the well-being inequality stemming from income. Household income has been regarded as an important determinant of SWB and is frequently adopted in well-being research (Diener et al. 2002; Haller and Hadler 2006; Ono and Lee 2013; Radcliff 2013; Flavin et al. 2014). For the analysis, following previous studies, household income is standardized (z-scored) for the country-year units because several studies have insisted that the relative household income in each country at a certain point in time has a stronger effect on SWB than absolute household income (Clark, Frijters, and Shields 2008; Stavrova, Schlösser, and Fetchenhauer 2011; Ono and Lee 2013). In accordance with prior studies, this analysis imputes the missing values for household income for 5,392 cases by using an imputation method and the variables included in this analysis (Ono and Lee 2013).

Control Variables

Following the literature on international comparative analyses of SWB (Helliwell and Putnam 2004; Ono and Lee 2013; Radcliff 2013; Flavin et al. 2014), this analysis controls for the following individual-level variables: gender (1=female, 0=male), age, age squared,¹¹ education (primary or less, secondary, and tertiary), employment status (employed,

targeting, and universalism. In the data for the analysis, the percentage of extrapolated values for the three dimensions of welfare transfers is 46.6 percent.

¹¹ To avoid multicollinearity, age was centered at the grand mean when age squared was calculated.

unemployed, retired, and other status), marital status (1=married), the number of children, church attendance (1=once a month or more), social trust (1=“Most people can be trusted,” 0=“Need to be very careful”), and poor health (1=poor or very poor).

In addition to the individual-level controls, following previous studies, this study also includes macrolevel control variables related to country characteristics, such as economic development and inequality (Bjørnskov et al. 2008; Rode 2013; Flavin et al. 2014). First, this analysis controls for the logarithm of GDP per capita adjusted for the purchasing power standard (PPS) as an indicator of economic development. The values for GDP per capita (PPS) in each country in each year were obtained from the OECD Stat (OECD 2022). Moreover, the present study uses the Gini coefficient as a proxy for inequality. The values for the Gini coefficient for each country in each year were obtained from the Standardized World Income Inequality Database (Solt 2009, 2020).¹² Descriptive statistics of the variables included in this analysis are shown in Table 1.

--TABLE 1 ABOUT HERE--

Analytical Strategy

This analysis employs multiple rounds of international comparative data and a two-way fixed-effects model to explore the impacts of the three dimensions of welfare transfers on SWB (Möhring 2012; Yu 2015). In the last few decades, many studies have utilized single-round international comparative survey data and two-level multilevel modeling to clarify the

¹² Following previous research (Álvarez-Gálvez and Jaime-Castillo 2018), the missing values for macrolevel country characteristics, such as the Gini coefficient, were linearly extrapolated.

effects of country characteristics on several outcomes, including SWB (Yu 2015). Although earlier publications have contributed to significant advances in international comparative research, several studies have suggested that this approach has the limitation of omitted variable bias because, due to the small number of country-level units, only a few country characteristics can be controlled for in the analysis. Hence, the results may be biased. To estimate the results more accurately, some recent studies have recommended employing international comparative survey data with multiple rounds and a two-way fixed-effects model with dummies for countries and years. By doing so, it is possible to control for unobserved time-invariant country characteristics to reduce the omitted-variable bias and, therefore, to more reliably evaluate the effects of time-variant country characteristics (Yu 2015).

For these reasons, this study adopts a two-way fixed-effects regression model. The regression of the life satisfaction (LS) of individual i in country c in year t in this analysis is as follows:

$$LS_{ict} = \alpha + \beta_1 TS_{ct} + \beta_2 LT_{ct} + \beta_3 U_{ct} + \Gamma C_{ct} + \Theta I_{ict} + \zeta_c + \eta_t + \varepsilon_{ict}$$

where α is the intercept and β_1 to β_3 are the coefficients of transfer share (TS), low-income targeting (LT), and universalism (U) in country c in year t . The variables C_{ct} contain the control variables regarding the time-variant country characteristics, including GDP per capita and the Gini coefficient for country c in year t . Moreover, the variables I_{ict} constitute the individual-level controls for individual i in country c in year t . To control for unobserved time-invariant country characteristics and common time trends that are constant across countries, this regression includes country fixed effects ζ_c for the 18 countries and year fixed

effects η_t . In other words, this analysis accounts for the nonindependence of observations within a country and year. Finally, ε_{ict} represents the error term. To clarify the impacts of time-variant country characteristics on several outcomes, recent international comparative studies have adopted two-way fixed-effects models (Brady and Finnigan 2014; Flavin et al. 2014; Helliwell et al. 2020). In accordance with previous research, the present study also employs cluster robust standard errors adjusted for clustering by country (Flavin et al. 2014; Helliwell et al. 2020).

In addition, following Giesselmann and Schmidt-Catran (2018), when this analysis examines the cross-level interactions of the three dimensions of welfare transfers and household income on SWB, the interaction terms of the country dummies and household income are included.¹³ This method is the country fixed-effects and slopes model (cFES) and enables us to evaluate the within-country effects of cross-level interactions by controlling for the effect heterogeneity in household income (Giesselmann and Schmidt-Catran 2018).

Giesselmann and Schmidt-Catran (2018) noted that cFES is helpful for estimating the coefficients on cross-level interactions accurately when the analysis employs multiple-round international comparative survey data.

RESULTS

¹³ Giesselmann and Schmidt-Catran noted that “[i]n our replication, it turned out that controlling for effect heterogeneity in the individual-level variable...had a huge effect on the estimated interaction effect, while controlling for effect heterogeneity in the country-year-level variable did not provide substantially different results compared with standard cFE. ...In such situations, controlling for country effect heterogeneity in the individual level variable may be sufficient” (Giesselmann and Schmidt-Catran 2018, p. 211).

Table 2 presents the results obtained from the two-way fixed-effects regressions.¹⁴ Model 1 examines the effects of the individual-level variables on life satisfaction by controlling for the country and year dummies. The results of Model 1 suggest that respondents who are female, who are married, who are trustful, and who have higher income and higher religious attendance show a significantly stronger inclination toward greater life satisfaction, while those who are unemployed and have poor health status tend to report lower life satisfaction.

--TABLE 2 ABOUT HERE--

In addition to the individual-level variables, the key macrolevel variables related to welfare transfers and other macrolevel controls are included in Models 2 to 4. The results of Models 2 to 4 show that transfer share is positively associated with life satisfaction (.031, $p < .01$), while the main effects of low-income targeting and universalism are not significant. These results support Hypothesis 1-a in particular, meaning that transfer share enhances life satisfaction. In terms of the other variables related to country characteristics, although the coefficient of GDP per capita on life satisfaction is significant and positive, the Gini coefficient does not have a significant effect on life satisfaction.

Model 5 includes the three variables related to welfare transfers simultaneously. The results in Model 5 demonstrate that the coefficient of transfer share is significant and positive even after controlling for the other two welfare transfer variables (.051, $p < .05$), whereas the coefficients of low-income targeting and universalism are not significant. Therefore, the results of Model 5 are similar to those of Models 2 to 4. Additionally, we calculated the

¹⁴ The analyses in this study were estimated using Stata 16.0. Control variables at the individual level and country-year level are omitted in Tables 2 and 3. The results for all variables in Tables 2 and 3 are shown in Tables A1 and A2 in the Online Appendix.

coefficients for the standard deviations of transfer share, low-income targeting, and universalism on the standard deviation of life satisfaction in Model 5 in Table 1 (.321, -.116, -.176, respectively). These results may suggest that the coefficient of transfer share is larger than those of low-income targeting and universalism.

Moreover, Models 6 to 8 in Table 3 are based on the cFES model and explore the cross-level interactions of the variables related to welfare transfers and household income on life satisfaction by controlling for the interaction terms of the country dummies and household income as well as for the dummies for countries and years. Models 6 to 8 show that although the cross-level interaction of transfer share and household income and that of universalism and household income are not significant, the cross-level interaction effect of low-income targeting and household income on life satisfaction is significant and negative even after controlling for the interactions of country dummies and household income (-1.524 , $p < .05$). Figure 1 illustrates the results in terms of the cross-level interaction of low-income targeting and household income on life satisfaction in Model 7. It reports that for citizens with low income, low-income targeting is not associated with life satisfaction, whereas for high-income citizens, low-income targeting diminishes life satisfaction. This means that low-income targeting buffers the well-being inequality stemming from income at the cost of life satisfaction among the rich. This result supports Hypothesis 2-b.

--TABLE 3 ABOUT HERE--

--FIGURE 1 ABOUT HERE--

Moreover, because the cFES model proposed by Giesselmann and Schmidt-Catran “[controls] for effect heterogeneity [between countries] of one or both interacted variables’

(Giesselmann and Schmidt-Catran 2018, p. 211), to check robustness, this study also conducts an additional analysis that includes the interaction terms of the country dummies and each welfare transfer variable in addition to the variables contained in Table 3. The results in Table A3 in the Online Appendix present the results, which are similar to those of Models 6 to 8 in Table 3.

Overall, this analysis clarifies the distinctive effects of the three dimensions of welfare transfers on SWB and well-being inequality. In particular, transfer share is positively correlated with life satisfaction, and low-income targeting has a significant moderation effect on the association between household income and life satisfaction.

DISCUSSION

In international comparative research, social policy has been regarded as one of the crucial determinants of SWB and well-being inequality. However, the literature has suggested that two major approaches, the social expenditure approach and the social rights approach, which is based on the decommodification index, have some limitations in capturing the effects of social policy on SWB. Specifically, by adopting these approaches, it is difficult to differentiate between the levels and the distribution of welfare provisions. For this reason, this study employs a third approach, which is based on benefit reciprocity data, to examine the impacts of three dimensions of welfare transfers, namely, transfer share, low-income targeting, and universalism, on SWB and well-being inequality. By utilizing pooled data from the WVS and the cFES model, this analysis evaluates the main effects of three dimensions of

welfare transfers on life satisfaction and their moderation effects on the association between household income and life satisfaction.

Through international comparative analysis, the present study obtains two main findings. First, in regard to the main effects, although transfer share is positively associated with life satisfaction, low-income targeting and universalism are not. Hence, Hypothesis 1-a is supported. Second, the moderation effect of low-income targeting on the association between household income and life satisfaction is significant and negative, whereas those of transfer share and universalism on the association between household and life satisfaction are not significant. These results support Hypothesis 2-b.

These results have some implications. First, this analysis reveals that the level of welfare effort plays a more important role in enhancing SWB within the whole population than do the distributional aspects of welfare provisions. On this issue, it has been noted that although previous studies have reported the positive impacts of social expenditures and the decommodification index on SWB, these proxies may jumble up the effects of the levels and of the distribution of welfare provisions (Otto 2018a, 2018b). Against this background, by analyzing the distinctive effects of the three dimensions of welfare transfers, this study suggests that it is not the distribution of welfare provisions, as measured by low-income targeting and universalism, but rather the transfer share, which is related to the level of welfare effort, that bolsters SWB. One interpretation is that high levels of welfare transfers are crucial for enriching human capability, reinforcing the stability of standards of living, and reducing fear of the future among citizens (Esping-Andersen 1990; Rothstein 1998; Esping-

Andersen 1999; Flavin et al. 2014). These mechanisms are helpful for increasing the levels of SWB.

Second, this analysis also uncovers an unintended consequence of social policy: low-income targeting shrinks the well-being inequality stemming from income not by improving SWB among low-income citizens but by damaging SWB among rich citizens. This can be interpreted as follows. In a society adopting low-income targeting policies, a heavy burden of taxation and costs is imposed on citizens with a high income, while they cannot receive benefits proportionate to the costs that they pay. As a result, for rich individuals, the balance between costs and benefits seems to tilt negative. In contrast, for citizens with a low income, the effect of selective social policies on securing a minimum standard of living as suggested by Hypothesis 2-a may be offset by the negative effect of stigmatization noted in Hypothesis 2-c. On this point, in the discussion of the paradox of redistribution, Korpi and Palme argued that “the targeted model creates a zero-sum conflict of interests between the poor and the better-off workers...who must pay for the benefits of the poor without receiving any benefits” (Korpi and Palme 1998, p. 672). In addition to the mechanism suggested by Korpi and Palme, this study assumes that in terms of SWB among disadvantaged individuals, the positive impact of selective benefits and the negative effect of stigmatization balance out. Consequently, low-income targeting may sacrifice the SWB of rich individuals without increasing SWB among poor individuals. Although the seminal work of Korpi and Palme (1998) discussed the paradox of redistribution in the association between low-income targeting and poverty reduction, the analysis in this study may suggest another paradox of redistribution in terms of the association between low-income targeting and SWB.

Although the present study contributes to our understanding of these issues, it has limitations. First, this analysis does not cover all aspects of social policy. In particular, the LIS database enables us to construct various measures in terms of redistribution and social policy. Hence, we recommend that future studies establish alternative country-level proxies to capture other aspects of social policy. Widening the scope of social policy research is fruitful. Second, whereas this study sheds light on the well-being inequality stemming from income, which has been regarded as one of the most important aspects of well-being inequality, it is also meaningful to analyze the well-being inequality stemming from other variables. This is also helpful for understanding the mechanisms shaping well-being inequality. Third, this study also recommends that future studies reexamine the results in this study by employing data from additional rounds of the WVS because it is important to check robustness with international survey data, including through the addition of more time points. Fourth, although this study utilized a two-way fixed-effects model and cFES to reduce omitted variable bias, this analysis does not take reverse causality into account. Therefore, we also recommend that future studies adopt methods pertinent to causality, such as the instrumental variable method.

Despite these limitations, this study emphasizes that it is important to examine both the levels and the distribution of welfare provisions because several aspects of social policy have distinctive effects on SWB and well-being inequality. Whereas in international comparative analysis, the association between social policy and SWB has been a much-debated topic, there is much room for development in this research field because of the

growing availability of several databases concerning social policy. Hence, this issue warrants further attention.

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TABLES

Table 1. Descriptive statistics of variables included in this analysis

Variable	N	Mean	SD	Minimum	Maximum
Individual-level characteristics					
Life satisfaction	78,777	7.422	1.967	1.000	10.000
Female	78,777	.521	.500	.000	1.000
Age	78,777	45.287	16.995	18.000	89.000
Primary degree or less	78,777	.299	.458	.000	1.000
Secondary education	78,777	.475	.499	.000	1.000
Tertiary education	78,777	.226	.418	.000	1.000
Employed	78,777	.494	.500	.000	1.000
Unemployed	78,777	.062	.242	.000	1.000
Retired	78,777	.169	.375	.000	1.000
Other	78,777	.274	.446	.000	1.000
Household income (z-score)	78,777	-.003	1.000	-3.498	3.506
Married	78,777	.639	.480	.000	1.000
Number of children	78,777	1.667	1.416	.000	5.000
Religious attendance	78,777	.334	.471	.000	1.000
Social trust	78,777	.353	.478	.000	1.000
Poor health	78,777	.051	.221	.000	1.000
Country characteristics					
Transfer share	58	24.798	13.047	3.390	58.870
Low-income targeting	58	.340	.147	-.020	.520
Universalism	58	.649	.261	.130	1.160
GDP per capita	58	29513.312	13648.995	6841.300	59896.760
Gini coefficient	58	34.180	8.344	22.900	52.500

Table 2. Results of two-way fixed-effects regression on life satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	7.125*** (.264)	-6.178 (4.402)	-1.278 (4.199)	-2.539 (4.001)	-7.023 (4.839)
Individual characteristics					
household income (z-score)	.308*** (.023)	.307*** (.023)	.308*** (.023)	.308*** (.023)	.307*** (.023)
Country characteristics					
Transfer share		.031** (.010)			.051* (.018)
Low-income targeting			-1.370 (1.552)		-1.488 (1.316)
Universalism				.741 (.601)	-1.296 (1.011)
Individual level controls	Yes	Yes	Yes	Yes	Yes
Country-year level controls	No	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	.193	.195	.194	.194	.195
N _{Country}	18	18	18	18	18
N _{Year}	19	19	19	19	19
N _{Country-year}	58	58	58	58	58
N _{Individual}	78,777	78,777	78,777	78,777	78,777

Note: Cluster-robust standard errors in parentheses.

*p < .05; **p < .01; ***p < .001 (two-tailed tests)

Table 3. Results of two-way fixed-effects regressions on life satisfaction with cross-level interactions

	Model 6	Model 7	Model 8
Intercept	-7.007 (4.846)	-6.993 (4.860)	-7.003 (4.863)
Individual characteristics			
household income (z-score)	.318 (.159)	1.050** (.337)	.128 (.314)
Country characteristics			
Transfer share	.051* (.018)	.051* (.018)	.051* (.018)
Low-income targeting	-1.496 (1.319)	-1.503 (1.319)	-1.495 (1.319)
Universalism	-1.300 (1.010)	-1.300 (1.010)	-1.300 (1.010)
Cross-level interaction			
Transfer share x Household income	-.002 (.006)		
Low-income targeting x Household income		-1.524* (.664)	
Universalism x Household income			.185 (.424)
Individual level controls	Yes	Yes	Yes
Country-year level controls	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Interactions of countries and household income	Yes	Yes	Yes
R-squared	.198	.199	.198
N _{Country}	18	18	18
N _{Year}	19	19	19
N _{Country-year}	58	58	58
N _{Individual}	78,777	78,777	78,777

Note: Cluster-robust standard errors in parentheses.

*p < .05; **p < .01; ***p < .001 (two-tailed tests)

FIGURE

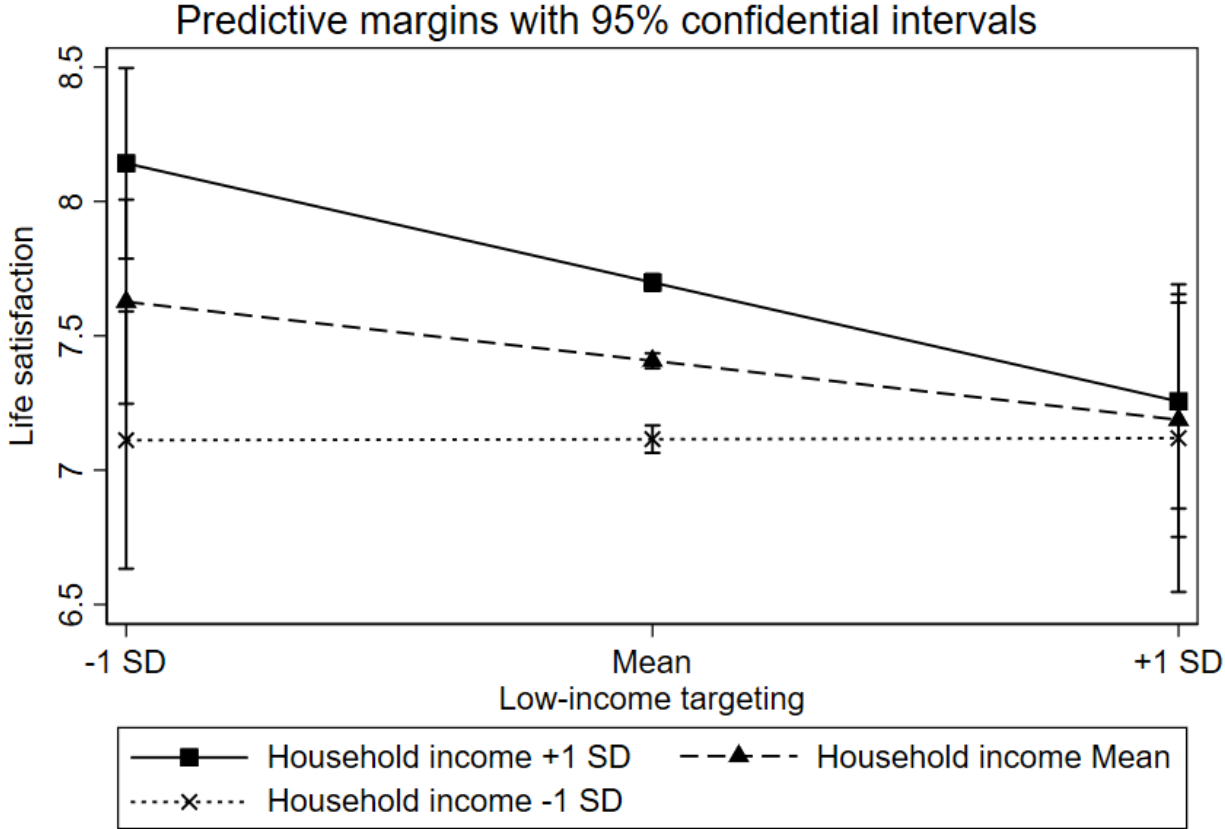


Figure 1. Linear predictions of the cross-level interaction of low-income targeting and household income on life satisfaction.

APPENDIX

Table A1. Results of two-way fixed-effects regressions on life satisfaction including all variables in Table 2

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5
Intercept	7.125 *** (.264)	-6.178 (4.402)	-1.278 (4.199)	-2.539 (4.001)	-7.023 (4.839)
Individual characteristics					
Gender (1=female)	.084 ** (.027)	.087 ** (.027)	.085 ** (.027)	.086 ** (.027)	.087 ** (.027)
Age	-.002 (.002)	-.001 (.002)	-.001 (.002)	-.002 (.002)	-.001 (.002)
Age squared	.001 *** (.000)	.001 *** (.000)	.001 *** (.000)	.001 *** (.000)	.001 *** (.000)
Education (Primary degree or less as ref.)					
Secondary education	-.012 (.031)	-.011 (.031)	-.015 (.031)	-.013 (.030)	-.012 (.031)
Tertiary education	.012 (.045)	.026 (.046)	.013 (.044)	.019 (.044)	.023 (.046)
Employment status (Employed as ref.)					
Unemployed	-.464 *** (.083)	-.455 *** (.080)	-.460 *** (.080)	-.456 *** (.081)	-.459 *** (.080)
Retired	.024 (.059)	.031 (.059)	.026 (.059)	.029 (.059)	.029 (.059)
Other	.018 (.027)	.023 (.027)	.019 (.028)	.022 (.028)	.020 (.028)
Household income (Z-score)	.308 ***	.307 ***	.308 ***	.308 ***	.307 ***

	(.023)	(.023)	(.023)	(.023)	(.023)
Married	.448 ***	.450 ***	.449 ***	.449 ***	.448 ***
	(.033)	(.033)	(.033)	(.033)	(.033)
Number of Children	.010	.010	.010	.010	.011
	(.008)	(.007)	(.007)	(.007)	(.008)
Religious attendance	.216 ***	.218 ***	.215 ***	.216 ***	.218 ***
	(.037)	(.037)	(.037)	(.037)	(.037)
Social trust	.306 ***	.308 ***	.305 ***	.305 ***	.311 ***
	(.049)	(.046)	(.046)	(.047)	(.045)
Poor health	-1.532 ***	-1.530 ***	-1.529 ***	-1.529 ***	-1.529 ***
	(.067)	(.066)	(.067)	(.066)	(.067)
Country characteristics					
Transfer share		.031 **			.051 *
		(.010)			(.018)
Low-income targeting			-1.370		-1.488
			(1.552)		(1.316)
Universalism				.741	-1.296
				(.601)	(1.011)
GDP per capita		1.297 **	1.013 *	.978 *	1.530 **
		(.434)	(.395)	(.392)	(.488)
Gini coefficient		-.001	-.023	-.011	-.007
		(.019)	(.029)	(.020)	(.022)
Country fixed effects	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes
R-squared	.193	.195	.194	.194	.195

N_{country}	18	18	18	18	18
N_{year}	19	19	19	19	19
$N_{\text{country-year}}$	58	58	58	58	58
$N_{\text{individual}}$	78,777	78,777	78,777	78,777	78,777

NOTE: Cluster-robust standard errors in parentheses.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test)

Table A2. Results of two-way fixed-effects regressions on life satisfaction including all variables in Table 3

	MODEL 6	MODEL 7	MODEL 8
Intercept	-7.007 (4.846)	-6.993 (4.860)	-7.003 (4.863)
Individual characteristics			
Gender (1=female)	.088 ** (.027)	.088 ** (.027)	.088 ** (.027)
Age	-.001 (.002)	-.001 (.002)	-.001 (.002)
Age squared	.001 *** (.000)	.001 *** (.000)	.001 *** (.000)
Education (Primary degree or less as ref.)			
Secondary education	.002 (.029)	.001 (.028)	.004 (.028)
Tertiary education	.034 (.043)	.030 (.043)	.036 (.042)
Employment status (Employed as ref.)			
Unemployed	-.460 *** (.080)	-.459 *** (.079)	-.460 *** (.080)
Retired	.032 (.057)	.033 (.057)	.031 (.056)
Other	.010 (.028)	.012 (.028)	.010 (.028)
Household income (Z-score)	.318 (.159)	1.050 ** (.337)	.128 (.314)
Married	.447 *** (.038)	.448 *** (.038)	.447 *** (.038)
Number of Children	.008 (.008)	.008 (.007)	.008 (.007)
Religious attendance	.213 *** (.036)	.212 *** (.036)	.211 *** (.037)
Social trust	.307 *** (.047)	.306 *** (.047)	.306 *** (.047)
Poor health	-1.511 *** (.069)	-1.509 *** (.069)	-1.510 *** (.068)

Country characteristics			
Transfer share	.051 *	.051 *	.051 *
	(.018)	(.018)	(.018)
Low-income targeting	-1.496	-1.503	-1.495
	(1.319)	(1.319)	(1.319)
Universalism	-1.300	-1.300	-1.300
	(1.010)	(1.010)	(1.010)
GDP per capita	1.529 **	1.529 **	1.529 **
	(.490)	(.490)	(.490)
Gini coefficient	-.007	-.007	-.007
	(.022)	(.022)	(.022)
Cross-level interaction			
Transfer share x Household income	-.002		
	(.006)		
Low-income targeting x Household income		-1.524 *	
		(.664)	
Universalism x Household income			.185
			(.424)
Country fixed effects	yes	yes	yes
Year fixed effects	yes	yes	yes
Interactions of Countries and Household income	yes	yes	yes
R-squared	.198	.199	.198
N_{country}	18	18	18
N_{year}	19	19	19
$N_{\text{country-year}}$	58	58	58
$N_{\text{individual}}$	78,777	78,777	78,777

NOTE: Cluster-robust standard errors in parentheses.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test)

Table A3. Results of two-way fixed-effects regressions on life satisfaction adding interaction terms of country dummies and variables related to welfare transfers to Table 3

	MODEL 9		MODEL 10		MODEL 11	
Intercept	-43.679	***	-51.254	***	-314.600	***
	(1.089)		(.961)		(7.598)	
Individual characteristics						
Gender (1=female)	.089	**	.090	**	.090	**
	(.026)		(.026)		(.026)	
Age	-.001		-.001		-.001	
	(.002)		(.002)		(.002)	
Age squared	.001	***	.001	***	.001	***
	(.000)		(.000)		(.000)	
Education (Primary degree or less as ref.)						
Secondary education	.010		.009		.011	
	(.030)		(.029)		(.029)	
Tertiary education	.046		.042		.048	
	(.043)		(.044)		(.042)	
Employment status (Employed as ref.)						
Unemployed	-.458	***	-.457	***	-.458	***
	(.080)		(.079)		(.080)	
Retired	.039		.040		.038	
	(.056)		(.056)		(.055)	
Other	.006		.007		.006	
	(.027)		(.027)		(.027)	
Household income (Z-score)						
	.316		1.048	**	.112	
	(.159)		(.339)		(.309)	
Married	.445	***	.446	***	.445	***
	(.039)		(.039)		(.039)	
Number of Children						
	.007		.007		.007	
	(.008)		(.008)		(.008)	
Religious attendance						
	.212	***	.211	***	.212	***
	(.036)		(.036)		(.037)	
Social trust						
	.309	***	.308	***	.309	***
	(.046)		(.047)		(.046)	
Poor health						
	-1.509	***	-1.507	***	-1.508	***
	(.070)		(.070)		(.069)	

Country characteristics

Transfer share	.804 ***	.099 ***	.538 ***
	(.009)	(.002)	(.011)
Low-income targeting	7.258 ***	-14.806 ***	4.387 ***
	(.100)	(2.250)	(.092)
Universalism	-24.657 ***	2.840 ***	60.872 ***
	(.272)	(.236)	(1.563)
GDP per capita	3.300 ***	4.921 ***	21.971 ***
	(.076)	(.065)	(.519)
Gini coefficient	.426 ***	.356 ***	1.188 ***
	(.006)	(.006)	(.028)

Cross-level interaction

Transfer share x Household income	-.002		
	(.006)		
Low-income targeting x Household income		-1.522 *	
		(.669)	
Universalism x Household income			.186
			(.424)

Country fixed effects	yes	yes	yes
Year fixed effects	yes	yes	yes
Interactions of Countries and Household income	yes	yes	yes
Interactions of Countries and Transfer share	yes	no	no
Interactions of Countries and Low-income targeting	no	yes	no
Interactions of Countries and Universalism	no	no	yes
R-squared	.202	.202	.202

N_{country}	18	18	18
N_{year}	19	19	19
$N_{\text{country-year}}$	58	58	58
$N_{\text{individual}}$	78,777	78,777	78,777

NOTE: Cluster-robust standard errors in parentheses.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test)