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CASH TRANSFERS, HOUSEHOLD FOOD INSECURITY AND THE SUBJECTIVE WELLBEING OF YOUTH IN JORDAN[1]

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Abstract

Cash transfers have become an increasingly common feature of social protection systems in the Middle East and North Africa (MENA) region, including in humanitarian settings. Globally, there is strong evidence that cash transfers are effective in improving basic needs outcomes such as food insecurity. However, attention to the potential psychosocial effects of cash transfers, including improved mental health or subjective wellbeing, has been more recent and there is very little literature from the MENA region. In this paper we examine the associations between household receipt of cash transfers, food insecurity and the subjective wellbeing of youth in Jordan. Youth in Jordan, as elsewhere in the region, face numerous health and socioeconomic challenges during the transition to adulthood. The potential of cash transfers to improve psychosocial wellbeing during this period of life could therefore have long-term positive consequences. Our analysis relies on the 2020-21 Survey of Young People in Jordan, which is nationally representative of Jordanian and Syrian youth aged 16-30. We use ordinary least squares regression models to examine the predictors of household food insecurity and youth subjective wellbeing. Through step-wise model building we examine the potential role of food insecurity as a mediator in the relationship between receipt of cash transfers and youth subjective wellbeing. Twenty percent of Jordanian-headed households and 90% of Syrian-headed households with youth received at least one cash transfer. Nevertheless, household-level food insecurity was high, at 45% of Jordanian and 74% of Syrian households. There was also a substantial burden of poor subjective wellbeing among Jordanian (39%) and Syrian (52%) youth. Household receipt of social assistance was not predictive of subjective wellbeing among Jordanian youth. Only receipt of all three major United Nations agency cash transfers for refugees was a significant predictor of better subjective wellbeing among Syrian youth. While household food insecurity was a significant predictor of worse subjective wellbeing among youth of both nationalities, we do not find strong support for the hypothesis that food security is an important mediator of the association between cash transfers and subjective wellbeing for this population.

Keywords: Cash transfers, social protection, food insecurity, MENA region
JEL Classifications: H4, P4, J1

ملخص

أصبحت التحويلات النقدية على نحو متزايد سمة شائعة لنظم الحماية الاجتماعية في منطقة الشرق الأوسط وشمال أفريقيا، ويشمل ذلك الأوضاع الإنسانية. وعلى الصعيد العالمي، توجد أدلة قوية على فعالية التحويلات النقدية في تحسين نتائج الاحتياجات الأساسية، مثل انعدام الأمن الغذائي. ومع ذلك، ازداد الاهتمام بالآثار النفسية والاجتماعية المحتملة الناتجة عن التحويلات النقدية، بما يشمل تحسن الصحة العقلية أو الرفاه الذاتي، وذلك في الآونة الأخيرة فقط، ولا يوجد سوى القليل من الأدبيات من منطقة الشرق الأوسط وشمال إفريقيا. وتبحث هذه الدراسة العلاقة بين تلقي الأسر المعيشية للتحويلات النقدية، وانعدام الأمن الغذائي، والرفاه الذاتي للشباب في الأردن. يواجه الشباب في الأردن، تمامًا كأي مكان آخر في المنطقة، العديد من التحديات الصحية، والاجتماعية، والاقتصادية أثناء الانتقال إلى مرحلة البلوغ. وبالتالي، فإن احتمالية تحسين التحويلات النقدية للرفاه النفسية والاجتماعية خلال هذه الفترة من الحياة قد يكون لها تبعات إيجابية طويلة الأجل. ويعتمد هذا التحليل على مسح الشباب في الأردن 2020-2021، والذي يمثل وطنيًا الشباب الأردني والسوري الذين تتراوح أعمارهم بين 16 و30 عامًا. تستخدم هذه الدراسة نماذج عادية لانحدار المربعات الصغرى، وذلك من أجل فحص مؤشرات انعدام الأمن الغذائي للأسر المعيشية والرفاه الذاتي للشباب. ومن خلال بناء النموذج التدريجي، تبحث الدراسة الدور المحتمل لانعدام الأمن الغذائي باعتباره وسيط في العلاقة بين استلام التحويلات النقدية والرفاه الذاتي للشباب. فإن 20٪ من الأسر المعيشية التي يعولها أردنيون و90٪ من الأسر المعيشية التي يعولها سوريون والتي بها شباب تلقت تحويلًا نقديًا واحدًا على الأقل. ومع

ذلك، كان انعدام الأمن الغذائي على مستوى الأسر المعيشية مرتفعًا، حيث بلغ 45٪ من الأسر المعيشية الأردنية و74٪ من الأسر المعيشية السورية. كما كان هناك عبء هائل من ضعف الرفاه الذاتي بين الشباب الأردني (39٪) والشباب السوري (52٪). لم ينبئ تلقي الأسر المعيشية للمساعدة الاجتماعية بالرفاه الذاتي بين الشباب الأردني. كان تلقي اللاجئين للثلاثة تحويلات النقدية من وكالات الأمم المتحدة الرئيسية مؤشرًا مهمًا لرفاه ذاتي أفضل بين الشباب السوري. بينما كان انعدام الأمن الغذائي للأسر المعيشية مؤشرًا مهمًا لسوء الرفاه الذاتي بين الشباب من الجنسيتين كليهما، لم تصل الدراسة لأي دعم قوي لفرضية أن الأمن الغذائي يعتبر وسيطًا مهمًا للعلاقة بين التحويلات النقدية والرفاه الذاتي لهذا الشعب.

1. Introduction

Cash transfers have become an increasingly common form of social assistance in Low- and Middle-Income Countries (LMICs), with a growing literature on their multidimensional effects on individual and household welfare (Bastagli et al. 2016). This literature has demonstrated the efficacy of cash transfers in improving core poverty-reduction outcomes, such as increased expenditure on household needs, school attendance and use of health services (Bastagli et al. 2016). Cash transfers have also become a more common, although still relatively small, modality of assistance in humanitarian crises (ODI 2015). Although the evidence base on cash transfers in humanitarian contexts is more limited, it similarly supports the conclusion that transfers are effective in addressing basic needs outcomes, including food security and food and non-food household expenditure (Jeong and Trako 2022). Advocates for the use of cash transfers in humanitarian settings further argue that cash modalities are more respectful of beneficiaries' needs, more transparent and more cost-effective than traditional delivery of in-kind aid (ODI 2015).

In the Middle East and North Africa (MENA) region, there is an ongoing shift away from social assistance schemes based on universal subsidies towards the implementation of conditional or unconditional cash transfer programs (UN-ESCWA 2017). In addition to chronic poverty, the MENA region suffers from the prevalence of conflict and resultingly large populations of refugees and internally displaced persons. In this context, debate over the most effective mechanisms for delivery of humanitarian assistance is critical to the region. Yet despite the growth of cash transfer programs in humanitarian and non-humanitarian settings in MENA, the region is underrepresented in the global literature on this important form of social protection. A 2016 evidence review found that, out of 201 studies evaluating 56 cash transfer programs, only 8% covered programs in East Asia, Europe and Central Asia, or MENA (Bastagli et al. 2016).

Youth[3] are a population group that has been less studied in the literature on cash transfers. This may be in part because many cash transfers programs are targeted towards households with children – rather than adolescents or older youth – or include conditionalities related to child health and school attendance. However, the transition to adulthood is a key period of life during which investments in health, education and skills development may contribute to the establishment of long-term socioeconomic and health trajectories (Hogan and Astone 1986; Dhillon and Yousef 2009). In the MENA region, the size of the youth population also means that investments in this age group have implications for national development (UNDP 2016). In Jordan, the focus of this study, youth aged 16-30 comprise 28% of the total population or some 3 million people, including over 300,000 Syrian refugee youth (Assaad, Krafft, and Sieverding 2021). This young population faces substantial challenges in terms of education, school-to-work transition, poor health outcomes, and, particularly among refugees, chronic poverty that contributes to the adoption of

[3] We follow our paper's data source, the Survey of Young People in Jordan (Assaad, Krafft, and Sieverding 2021), in defining youth broadly as ages 16 – 30.

negative coping strategies (UNDP 2016; Assaad, Krafft, and Sieverding 2021; N. Jones et al. 2022).

The potential role of cash transfers in ameliorating the challenges of the transition to adulthood in the MENA region has been largely unexplored. In this paper, we aim to address this gap by examining how receipt of cash transfers is associated with the subjective wellbeing of Jordanian and Syrian refugee youth, with particular focus on the pathway of improved food security. Both cash transfers and food security are theorized to impact subjective wellbeing through psychosocial factors such as self-esteem, reduced stress and family conflict, and ability to participate in social networks (Bastagli et al. 2016; Asfahani, Kadiyala, and Ghattas 2019; Zimmerman et al. 2021). The literature on development, and cash transfers more specifically, is increasingly coming to recognize the importance of subjective wellbeing as an outcome of development programs (Attah et al. 2016; Samuels and Stavropoulou 2016). In addition to its intrinsic value as what is arguably the end goal of development, i.e. improving individuals' feelings of happiness and satisfaction with the state of their lives, wellbeing has an instrumental value in fostering better outcomes in areas such as education, health and decision-making (Attah et al. 2016).

Supporting positive wellbeing during the transition to adulthood is particularly important because poor mental health during this period of life can affect long-term socioeconomic outcomes (Zimmerman et al. 2021). Youth in MENA suffer from a substantial burden of poor mental health and subjective wellbeing (Obermeyer, Bott, and Sassine 2015), and, in some countries of the region, considerable vulnerability to food insecurity (Asfahani, Kadiyala, and Ghattas 2019). Both of these burdens are likely to have been exacerbated by the COVID-19 pandemic (N. Jones et al. 2022). In Jordan, estimates from 2020 found that 53% of Jordanians were vulnerable to food insecurity and 3% of households were food insecure. Among the large Syrian refugee population in Jordan, 21% of households in host communities were food insecure, 67% were vulnerable to food insecurity and only 12% were food secure (World Bank et al. 2020).[4] Sixty-three percent of refugee households in camps were either food insecure or vulnerable to food insecurity (WFP 2020).

In this context, a better understanding of the potential role of cash transfers in improving youth wellbeing can provide important policy lessons for supporting more successful transitions to adulthood. Our specific objectives in this paper are to: (1) Examine the household-level correlates of receiving different types of cash transfers among households containing youth; (2) Quantify the prevalence of poor subjective wellbeing and household-level food insecurity among Jordanian and Syrian refugee youth; (3) Analyze the predictors of subjective wellbeing among youth in Jordan; and (4) Analyze the degree to which the relationship between cash transfers and subjective wellbeing is mediated by food insecurity. Our analysis is based on a new survey that is nationally

[4] As of April 2022, there were just under 675,000 Syrian refugees registered with UNHCR in Jordan, 80% of whom lived outside camps in Jordanian "host communities," primarily in urban areas (UNHCR 2022).

representative of Jordanian and Syrian refugee youth, the Survey of Young People in Jordan 2020-21. This rich dataset is the first in the country to include measures of food security and subjective wellbeing as well as an extensive set of cash transfers implemented by government and United Nations (UN) agencies.

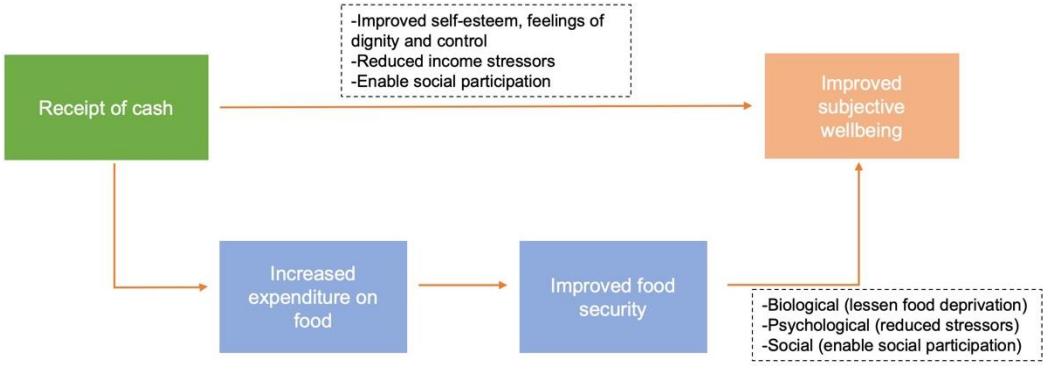
We find a substantial burden of food insecurity among both Jordanian and Syrian households with youth as well as a substantial burden of poor subjective wellbeing among youth. About half of Syrian youth and nearly 40% of Jordanian youth suffered from poor subjective wellbeing. The prevalence of food insecurity (74%) among the Syrian population was despite the fact that 90% of Syrian households with youth reported receiving at least one of the three major cash transfers implemented for refugees by United Nations agencies in Jordan. Twenty percent of Jordanian households with youth reported receiving a social assistance transfer. Only receipt of all three cash transfers was a significant predictor of better subjective wellbeing among Syrian youth. Receipt of social assistance was not predictive of subjective wellbeing among Jordanian youth. While household food insecurity was a significant predictor of worse subjective wellbeing among youth of both nationalities, we do not find strong support for the hypothesis that food security is an important mediator of the association between cash transfers and subjective wellbeing for this population.

In the following section of the paper we present our conceptual framework for the relationships between cash transfers, food insecurity and subjective wellbeing. In Section 3 of the paper we provide a brief overview of the cash transfer programs covered by our empirical data. Section 4 presents the study data and methods and Section 5 the results. In Section 6 we discuss our major findings and the implications for further research on cash transfers and youth in the MENA region.

2. Conceptual framework

We follow the conceptual framework developed by Bastagli et al. (2016) for assessing the multifaceted impacts of cash transfers. The framework is organized along multiple levels of outcomes. First order outcomes include the immediate changes in income and expenditure that result from the cash inflow, which include expenditure on food as well as other items such as health, education and general household needs. Second order outcomes are then the behavioral changes that result from the alleviation of income constraints and increased expenditure on first order outcomes. At this second level, increased household expenditure on food is hypothesized to lead to consumption of increased quantities and greater diversity of foods, and reductions in food insecurity (Figure 1). Importantly, intra-household allocation of increased food expenditure may determine who benefits from these hypothesized improvements in food-related outcomes.

Figure 1: Conceptual framework for the impact of cash transfers on food insecurity and subjective wellbeing



Source: Authors' elaboration based on Bastagli et al. (2016) and Asfahani, Kadiyala and Ghattas (2019).

The literature generally supports the hypothesis that cash transfers improve food security. The Bastagli et al. (2016) evidence review found that of 31 studies reporting impacts on food expenditure, 22 found a statistically significant increase whereas eight found no effect and two found a decrease in food expenditure. Impacts on dietary diversity were also largely positive. Since the review was conducted, an evaluation of Egypt's *Takaful* cash transfer program also found that beneficiary households increased their food consumption and quality of their diets (Breisinger et al. 2018). In humanitarian settings, cash transfers have improved food security and increased food expenditures; notably this review included both cash transfers and direct food transfers (Jeong and Trako 2022). Specifically for the case of Syrian refugees in Lebanon and Jordan, an influential evaluation of World Food Programme (WFP) assistance concluded that unrestricted cash was more effective in reducing food insecurity than vouchers that could only be used to purchase food goods from designated shops (The Boston Consulting Group 2017). Evaluations of multi-purpose cash assistance for Syrian refugees in Lebanon have also found positive impacts on food expenditure (Salti et al. 2022) and food insecurity (Jamaluddine et al. 2020).

Food insecurity is in turn strongly associated with improved subjective wellbeing (A. D. Jones 2017; Frongillo et al. 2017; 2019). An analysis of 149 countries using Gallup World Poll data found that food insecurity was negatively associated with subjective wellbeing in a dose-response manner, with more severe food insecurity associated with lower levels of wellbeing (A. D. Jones 2017). Using the same dataset, several studies have found that food insecurity is a stronger predictor of subjective wellbeing than other explanatory variables such as education, employment and living conditions (A. D. Jones 2017; Frongillo et al. 2017). The link between food insecurity and subjective wellbeing has also been established specifically for youth in the Arab region; a cross-national study by Asfahani et al. (2019) found that food insecurity is an independent risk factor for Arab youths' wellbeing across both high- and low-political stability settings.

The link between food insecurity and subjective wellbeing may operate through multiple pathways (Figure 1). On the biological level, food insecurity deteriorates nutritional status through food deprivation. Deteriorated nutritional status is in turn thought to be associated with irritability and depression. On the psychological level, food insecurity leads to both daily and chronic stress and anxiety about food supply. Finally, on the societal level, food insecurity leads to feelings of shame, adoption of negative coping strategies, and avoidance of communal activities (A. D. Jones 2017; Asfahani, Kadiyala, and Ghattas 2019).

The psychological and social mechanisms by which food insecurity affects subjective wellbeing are very similar to those hypothesized to link cash transfers and subjective wellbeing. In the Bastagli et al. (2016) framework, psychosocial wellbeing is considered a third-order or long-term impact of the receipt of cash transfers. Cash transfers may positively impact wellbeing by improving recipients' self-esteem, feelings of dignity, hopefulness, and control, reducing stress related to income constraints, and enabling greater participation in social events and networks (Bastagli et al. 2016; Attah et al. 2016). Increased ability to participate in social life may in turn improve recipients' relationships within their communities and reduce feelings of shame related to inability to participate in social events (Attah et al. 2016). Transfers may also reduce family conflict related to financial stressors, which can be important for children and youth (Zimmerman et al. 2021). In short, cash transfers may have both direct impacts on subjective wellbeing and impacts that are mediated through other first- and second-order outcomes, such as food insecurity (Figure 1).

Recent systematic reviews have concluded that cash transfers have positive effects on the mental health and subjective wellbeing of recipients (McGuire, Kaiser, and Bach-Mortensen 2022), as well as among children and youth (Zimmerman et al. 2021). However, literature on children and youth specifically is still limited and effects were heterogenous across contexts (Zimmerman et al. 2021). There is little literature on the effects of cash transfers on mental health or subjective wellbeing in MENA; no studies from the region were included in the systematic review. A cross-national qualitative study that included cash transfer programs in Palestine and Yemen found that receipt of cash transfers increased feelings of self-esteem, financial security and control over life, and improved both intra-household relationships and participation in social networks (Samuels and Stavropoulou 2016). At the same time, a minority of respondents said that receiving cash transfers increased intra-household tensions or led to stigma and a sense of shame due to accepting social assistance (Samuels and Stavropoulou 2016). In Syria, a non-experimental evaluation of a three-month cash transfer program found no change in depressive symptoms among recipient women despite improvements in food insecurity (Falb et al. 2020).

In Jordan, evaluations of UN cash assistance to Syrian refugees have found that the large majority of adults said that receiving cash improved their family's wellbeing (96%), their own stress levels (87%) and their sense of control (56%). Parents were less likely to report that cash had improved the wellbeing of adolescent children (60%) (UNICEF Office of Research -Innocenti 2021). A qualitative study of the impacts of UNHCR cash assistance similarly found that beneficiaries reported improved mental wellbeing and reduced stress, specifically linked to greater ability to pay rent (Hagen-Zanker, Ulrichs, and Holmes 2018). To the best of our knowledge, ours is the first study to quantitatively examine the psychosocial outcomes of cash transfers among youth in the MENA region.

3. Cash transfer programs in Jordan

Jordan is one of the countries in the MENA region that has shifted its social assistance mechanisms away from universal subsidies in favor of targeted cash transfers (Kawar, Nimeh, and Kool forthcoming). The country has a dual social protection system, with a formal social protection system, including contributory pensions and non-contributory social assistance, that applies to Jordanians and a parallel system delivered by the United Nations (UN) and other humanitarian actors for Syrian refugees (Roeth, Nimeh, and Hagen-Zanker 2017). We focus on three types of cash transfers provided by UN agencies to Syrian refugees in Jordan, namely multi-purpose cash assistance provided by the United Nations High Commissioner for Refugees (UNHCR), World Food Programme (WFP) food e-voucher cards, and United Nations Children's Fund (UNICEF) cash assistance for children. While many NGOs also provide cash or voucher-based assistance, we do not consider these in our analysis as they are often provided for relatively short amounts of time (Roeth, Nimeh, and Hagen-Zanker 2017) and were not common in our empirical data. For Jordanians, we focus on cash transfers provided through non-contributory social assistance programs, the largest of which is the National Aid Fund (NAF). In what follows we provide a brief description of each program.

3.1 Cash transfers for Syrian refugees

All three major cash transfer programs for Syrian refugees are provided by United Nations agencies through donor funding. Funding shortages or other program changes have at several points led to changes in targeting mechanisms, the number of beneficiaries served or benefit levels. When available, information on the programs' reach and structure is presented for late 2020/early 2021, the time when our survey data were collected.

World Food Programme (WFP) assistance

WFP assistance has the broadest reach of the three programs, providing food assistance to approximately 490,000 Syrian refugees as of September 2020. Of these, 120,000 lived in Zaatari and Azraq camps and the other 370,000 lived in host communities (WFP 2020). In 2015, WFP began a shift from a universal assistance value to one based on a proxy means test model that

assesses vulnerability to food insecurity. Refugee households categorized as food secure/not vulnerable do not receive assistance, and those categorized as food insecure/vulnerable receive a transfer value of less than those categorized as severely food insecure/extremely vulnerable (Majewski et al. 2018). As of September 2020, refugees in Zaatari camp received 23 JOD (USD 32) per person and those outside camps received either 23 JOD (USD 32) or 15 JOD (USD 21) (WFP 2020).

In 2017, WFP shifted to a "choice" modality of providing food assistance either as (unrestricted) cash or as restricted vouchers. Outside camps, beneficiaries can either withdraw the cash from ATMs or use the WFP card at one of 200 shops contracted by the program. Within Zaatari camp, there were 4 supermarkets and 8 bread shops where beneficiaries could use the benefits (Majewski et al. 2018; WFP 2020). In host communities, refugee households that choose to receive their benefits as cash may therefore not spend all of the amount on food. However, an initial comparative evaluation of the two modalities found similar spending patterns on food and non-food items (The Boston Consulting Group 2017).

UNHCR multi-purpose cash assistance

UNHCR multi-purpose cash assistance is provided to refugee households outside of camps that are registered with UNHCR (Samuel Hall 2021). As of August 2021, 29,456 households (containing 115,263 individuals) receiving the multi-purpose cash assistance were Syrian out of a total of 32,362 recipient households (UNHCR 2021). Eligibility for cash assistance is determined based on a combination of a vulnerability score and the Jordanian poverty line. Once determined eligible, family size, in combination with an assessment of the minimum needs of refugee households, is used to determine the value of assistance (ODI, UNICEF, and UNHCR 2017). As of 2017, monthly assistance amounts ranged from 80 JOD (112 USD) for a single person to 155 JOD (217 USD) for a household with seven or more members (UNHCR 2017). Once cash is distributed, families can withdraw it from ATMs using a iris scan system (Samuel Hall 2021).

While UNHCR cash assistance is not restricted to specific types of spending, monitoring reports indicate that food is a common expenditure. In 2020, 85% of Syrian households receiving multi-purpose assistance reported spending some of the money on food, compared to 76% who reported spending it on rent, 62% on utilities or other bills and 65% on health costs. The percentage of households spending part of their cash assistance on food increased from 33% in 2018 (Samuel Hall 2021).

UNICEF cash transfers for children

Since 2017, UNICEF has implemented the *Hajati* cash transfer program targeted at vulnerable children aged 6 – 15; 86% of beneficiaries are Syrian (UNICEF Office of Research -Innocenti 2021). The program adopts a "cash plus approach" that that aims to support school retention among

vulnerable children attending double-shift schools (UNICEF 2018).[5] Targeting of *Hajati* considers a number of factors including household demographics and living conditions as well as children's school attendance, access to healthcare and disability or chronic illness status (UNICEF 2018). As of the 2017/18 school year, participating households received 10 monthly payments of 20 JOD for each child of basic education age (age 6-15), up to four children per household. *Hajati* beneficiaries who are registered with UNHCR receive cash through the iris scan system, whereas others receive cash through ATM cards (UNICEF Office of Research -Innocenti 2021). Between the 2017/18 and 2018/19 academic years the program was scaled down considerably – from about 55,000 to about 10,000 children – due to funding shortages (UNICEF Office of Research -Innocenti 2021).

Hajati transfers are unrestricted, but use of the cash is expected to be targeted towards children and therefore to improve their nutritional status along with other health and educational outcomes. An evaluation of *Hajati* conducted between 2017-19 found that children whose households received transfers were more likely to attend school, less likely to experience food insecurity and less likely to show symptoms of depression (UNICEF Office of Research -Innocenti 2021). It is important to note that our study population was not directly eligible for *Hajati* at the time of data collection because they were aged 16-30. If respondents' households reporting receiving support from UNICEF this was likely for a younger sibling(s). However, the cash may either be spent directly on food that is split between household members, or free up other resources to spend on food, and thereby indirectly affect the food security of older youth in the household.

3.2 Non-contributory public assistance for Jordanians

The main non-contributory social assistance scheme in Jordan is the National Aid Fund (NAF), which was originally established in 1986 and is administered by the Ministry of Social Development. The NAF currently consists of seven programs for Jordanian citizens. The two main NAF programs are a recurring aid program targeted to vulnerable population groups such as households with disabled members, vulnerable women and the elderly, and a temporary aid program targeted towards families with transient circumstances such as temporary disability or imprisonment (Kawar, Nimeh, and Kool forthcoming). Eligibility for both programs is based on means testing. Recipients must have an income below the absolute poverty line and a variety of vulnerability factors are also considered. The amount of assistance ranges from 40-200 JD (56 – 280 USD) monthly depending on the eligibility category and number of household members who receive aid (Kawar, Nimeh, and Kool forthcoming). As of 2018, nearly a quarter million individuals in over 73,000 households received the recurrent cash assistance and about 88,000 individuals in 26,000 households received temporary cash assistance (UNICEF 2019).

[5] In order to accommodate the large number of Syrian children in Jordanian public schools, the Ministry of Education established a second, afternoon shift in schools that lacked sufficient capacity in the main day shift (UNICEF Office of Research -Innocenti 2021).

The NAF also includes three emergency financial aid programs, one of which provides a monthly cash transfer and the other two of which are one-time sums (Kawar, Nimeh, and Kool forthcoming). Finally, since 2019, the NAF includes the Complementary Support Program or Takmeely that provides quarterly assistance to vulnerable households from among the working poor (Kawar, Nimeh, and Kool forthcoming). Monitoring surveys have shown that food is the most common expenditure category for NAF transfers, with 94% of recipient households reporting that they spend some of the money on food (UNICEF 2019).

4. Data and methods

4.1 The Survey of Young People in Jordan

Our analysis is based on the Survey of Young People in Jordan (SYPJ) 2020-21, which was conducted under the sponsorship of UNICEF Jordan. The SYPJ is nationally representative of Jordanian and Syrian youth aged 16-30. The survey followed a random, stratified, multi-stage cluster design in which households were sampled and all youth aged 16-30 in the household were invited to participate in the survey. The non-refugee camp sample was stratified by region, share of Syrian households in the cluster (neighborhoods, or *hayy* in Arabic) and urban/rural/camp location. Surveys of both Jordanian and Syrian youth living outside refugee camps were conducted in-person between August and October 2020. Due to safety concerns related to the COVID-19 pandemic, data collection with Syrian youth living in Jordan's three official refugee camps for Syrians (Azraq camp, Emirati-Jordanian camp, and Zaatari camp) was conducted by phone in February and March 2021. The camp sample was stratified by camp, randomly selecting among eligible households based on data provided by UNHCR.[6] Both household and individual-level sample weights were constructed to account for the sampling design and non-response.[7] For further details on the SYPJ design, see Assaad et al (2021).

The final SYPJ sample consists of 4,538 young people residing in 2,854 households. This includes 2,781 Jordanian youth in 1,791 households and 1,757 Syrian youth in 1,069 households. The Syrian youth sample consists of 939 young people in 581 households outside camps, and 818 young people in 486 households inside the refugee camps.

[6] The camp sample is therefore only representative of refugees who have phones, but rates of phone ownership are high, with 44% of households having a regular mobile and 77% a smart mobile in 2017-18 (Tiltnes, Zhang, and Pedersen 2019).

[7] Three attempts were made to survey individual youth and, only if the individual was still not available on the third attempt, data were collected by proxy respondent. Nevertheless, the individual youth response rate was 64.2% (Assaad, Krafft, and Sieverding 2021).

4.2 Key measures

4.2.1 Subjective wellbeing

Our key outcome is subjective wellbeing as measured by the World Health Organization WHO-5 wellbeing index. The measurement of subjective wellbeing is concerned with individuals' subjective evaluations of their life experiences and positive emotions (Kusier and Folker 2020). The WHO-5 is grounded in a positive approach to mental health; simply, it seeks to measure emotional states related to happiness (Kusier and Folker 2020). The scale consists of five, positively-phrased statements about the respondent's emotional state over the past two weeks such as "I have felt cheerful and in good spirits" and "I woke up feeling fresh and rested." The response items range from "all of the time" (5 points) to "at no time" (0 points) (see Appendix Table A1). The total score is then summed and typically multiplied by four to generate a more easily interpretable scale out of 100, in which 100 represents maximal wellbeing (Topp et al. 2015). The scale has been widely translated and used internationally. A systematic review demonstrated that the WHO-5 has high validity across sociocultural and healthcare contexts (Topp et al. 2015). Subjective wellbeing has also been shown to be a more responsive to cash transfers than mental health (McGuire, Kaiser, and Bach-Mortensen 2022).

Although subjective wellbeing and mental health are distinct, they are closely related. In a number of contexts, a specific cutoff score on the WHO-5 has been validated as a screening indicator for depression (Topp et al. 2015). This is unfortunately not the case in the Middle East and North Africa region,[8] so we follow both the international (Topp et al. 2015) and small regional (Harsha et al. 2016; Sieverding and Hassan 2022) literatures in categorizing WHO-5 scores below 50 as poor subjective wellbeing.

4.2.2 Food insecurity

Food insecurity was assessed using the eight-item Food Insecurity Experience Scale (FIES), an experiential measure which includes items related to running out of food, reducing food quality and/or decreasing food quantity due to lack of money or other resources (see Table A2 in the Appendix). FIES is the indicator used to monitor Sustainable Development Goal 2 (SDG-2- Zero Hunger) (Saint Ville et al. 2019). This tool has been previously validated in the MENA context. The internal validity of the scale in Arabic was confirmed using item response theory (Rasch model) measurement models[9] (Sheikomar et al. 2021). In the SYPJ, household level food insecurity in the past 12 months was measured. A score was generated by assigning 1 point to each "yes" response (scores ranged from 0 to 8). Household food insecurity was then categorized as follows: (0–3) food secure, (4-6) moderately food insecure, and (7–8) severely food insecure. It is

[8] In the region, the only validation study of the WHO-5 focused exclusively on the elderly population in Lebanon (Sibai et al. 2009)

[9] Rasch modeling is used to assess the psychometric characteristics of the items and the extent to which they measure the same underlying latent trait (in this case the severity of food insecurity) (Sheikomar et al. 2021).

important to note that because food insecurity was measured at the household and not at the individual level, youth may themselves have higher or lower food insecurity depending on intra-household dynamics of food allocation. However, we cannot assess this with our data.

4.2.3 Receipt of cash assistance

Receipt of cash assistance was also captured at the household level in the SYPJ. For Syrian-headed households in particular, receipt of multiple forms of assistance was quite common. We therefore operationalize receipt of assistance for Syrians as a single categorical variable with the options of: (1) No assistance; (2) WFP assistance only; (3) UNHCR or UNICEF assistance only; (4) UNHCR and WFP assistance; (5) UNICEF and WFP assistance; and (6) all three forms of assistance.

For Jordanian-headed households, receipt of government social assistance was asked as a single question with multiple examples including transfers and subsidies.[10] The actual assistance households received may therefore have been quite heterogenous, but the NAF is the largest of the programs included in the list. For Jordanian households, receipt of social assistance is therefore a binary variable of assistance/no assistance.

4.3 Analysis

In addition to the key measures outlined above, we consider household- and youth-level covariates that may be predictors of receiving assistance, food insecurity or subjective wellbeing. At the household level we examine the sex, age, marital status and labor force status of the household head (out of labor force/employed/unemployed), as well as region of residence (Middle, North, South), location (urban/rural for Jordanians, urban/rural/camp for Syrians), and wealth quintile as derived from an asset index. Wealth quintiles are derived separately for Jordanian and Syrian households because Syrian households are overwhelmingly concentrated at the bottom of the overall wealth distribution. We also examine aspects of the household structure that may be related to eligibility for transfers, namely household size, presence of a child under age 5, presence of school aged children (age 6-18) and presence of an elderly member.[11]

For youth, we examine covariates that have previously been shown to be associated with subjective wellbeing or mental health in the region (Liu, Modrek, and Sieverding 2017; Sieverding and Hassan 2022). These include sex, age, marital status, education level (less than basic, basic (10th grade), secondary, higher education), current school status, labor force status (out of labor

[10] The wording of the item was: Money from the government (from non-contributory public assistance or subsidies, such as bread, electricity, transport subsidies, or the aid from the National Aid Fund, the Zakat Fund by the Ministry of Awqaf and Islamic Affairs, unemployment savings account, Ministry of Social Development, or other government programs)

[11] We do not examine UNHCR registration status for Syrian households because only 15 household heads in the SYPJ data were not registered.

force/employed/unemployed) and disability. For the latter, we use the broad and medium disability definitions derived from the UN-Washington Group measure (UN-Washington Group on Disability Statistics 2009). The descriptive characteristics of youth are presented in Appendix Table A3.

The analysis showcases the associations between food insecurity and wellbeing outcomes adjusting for different types of assistance and socio-demographic and socio-economic factors. Taking into account sampling weights, descriptive analysis was first conducted to explore the percentage distribution of categorical variables and mean for continuous variables segregated by nationality (Jordanian, Syrian). At the household level, we examine correlates of assistance and food insecurity. We then examine the correlates of youth subjective wellbeing. Differences in the distributions are analyzed using a chi-square test.

Ordinary least squares (OLS) regression models were then performed to identify independent variables associated with household-level food insecurity. We do not include cash transfers in these models, because the targeting of most transfers considers food insecurity and transfers are therefore endogenous. To examine the potential mediating role of food security in the association between cash transfers and subjective wellbeing, we also use OLS regression, clustering for household. We first examine the unadjusted (without controls) and adjusted (with controls) association between household receipt of cash transfers and youth subjective wellbeing. We then add food insecurity into both the unadjusted and adjusted models. Using Variance Inflation factor analysis we tested for multicollinearity. Analysis was conducted using Stata 15. It is important to emphasize that this analysis captures the associations between assistance, food security and wellbeing, not causation.

5. Results

5.1 Characteristics of households receiving assistance

Table 1 presents the characteristics of households receiving different combinations of assistance by the nationality of the household head. Among Jordanian households, 20% were receiving government social assistance. Female-headed households were more likely to receive social assistance, which is likely related to targeting criteria based on female household headship. Receipt of social assistance was consistent across head of household age, ranging from 15-22% across age groups. As expected given targeting criteria, households in which the head was unemployed and that were in the lowest three wealth quintiles were significantly more likely to receive social assistance. Households with divorced and widowed head of households, which may overlap with female headship, were also more likely to receive social assistance. Households receiving assistance were also significantly more likely to have children aged six to 18.

Receipt of assistance was considerably more prevalent among Syrian-headed households, only 10% of which did not receive any of the three forms of UN assistance. The most common form of assistance was WFP, which was the only assistance over half (56%) of households received. Another 14% of households received WFP and UNHCR assistance. UNICEF assistance was relatively uncommon. Three percent of Syrian households received WFP and UNICEF assistance, 5% received only UNICEF or only UNHCR assistance and 12% received all three forms.

There was no statistically significant difference in the distribution of assistance by the sex of the household head among Syrians, and the pattern by age of household head was not consistent. While differences by urban, rural or camp residence were also not significant, receipt of WFP assistance only was considerably higher (71%) in camps than outside (53%). Households receiving WFP assistance only were also more likely to have heads who were employed. As expected, receipt of assistance and particularly multiple forms of assistance was more common among refugee households in lower wealth quintiles. Households with no children aged 6-18 were overrepresented among those not receiving any cash transfers, which may be related to targeting criteria.

Finally, there were significant differences in the receipt of transfers by household food security status among Jordanian but not Syrian households. For Syrians, the lack of association may be related to the very high prevalence of poverty among this population and the fact that receiving at least one form of transfer was very common. Food secure Jordanian households were predominantly not receiving transfers (85%). Moderately and severely food insecure households were considerably more likely to be receiving social assistance (29% moderately and 24% severely) than food secure households (15%).

5.2 Prevalence of food insecurity

Overall, 55% of Jordanian-headed and 26% of Syrian-headed households were food secure. At the level of youth, this corresponded to 52% of Jordanians and 25% of Syrians. As shown in Table 2, none of the household sociodemographic characteristics were significantly associated with food insecurity among Syrian refugee households. Among Jordanian-headed households both region and location of residence were associated with food security; households in the South (73%) and in rural areas (72%) were considerably more likely to be food secure. Households in which the head was unemployed were less likely to be food secure and, as expected, food security was strongly correlated with wealth.

5.3 Predictors of food insecurity

Using multivariable models, we examined the predictors of food insecurity. For Jordanians, unemployed head of household was associated with a higher food insecurity score, while for Syrians, an employed head of household was associated with a lower food insecurity score compared to out of labour force head of households. As expected, for both Jordanian and Syrian

households, higher wealth was associated with lower food insecurity scores. Large household sizes were also associated with significantly higher food insecurity experience among both Jordanian and Syrian households. Rural residence was associated with lower food insecurity scores among households of both nationalities.

5.4 Prevalence of poor subjective wellbeing

Overall, 39% of Jordanian youth and 52% of Syrian youth experienced poor subjective wellbeing using the cutoff score of 50 (Table 4). There was no gender difference among youth of either nationality, but in both populations the prevalence of poor wellbeing increased with age. Other predictors of poor wellbeing differed by nationality. Among Jordanian youth, the prevalence of poor wellbeing decreased significantly with higher wealth. Poor wellbeing was also more common among youth with a disability either by the broad or medium definitions. Among Syrian youth, being out of school was significantly associated with poor subjective wellbeing as was employment status, with the unemployed being considerably more likely to experience poor subjective wellbeing. Among Jordanian and Syrian youth being married or divorced was significantly associated with poor subjective wellbeing compared to the never married or contractually married.

5.5 Cash transfers and food insecurity as predictors of youth subjective wellbeing

In both unadjusted and adjusted bivariate analysis, cash transfers were not a significant predictor of subjective wellbeing for Jordanian youth (Table 5, columns 1 and 3, respectively). Among Syrian youth, receipt of UNHCR and WFP assistance was associated with an 11-point higher WHO-5 score as compared to youth in households receiving no transfers in the unadjusted, but the result was only marginally significant ($p<0.1$) (Table 5, column 3). Once controls were added into the model, the coefficient decreased and the result became insignificant (Table 5, column 7). Receipt of all three forms of UN assistance was associated with a 31-point higher WHO-5 score ($p<0.05$) in the unadjusted model (Table 5, column 6). The coefficient reduced to just under 19 points and became marginally significant ($p<0.1$) in the adjusted model (Table 5, column 7).

Adding food insecurity into the models did not substantively change the results for cash transfers for youth of either nationality (Table 5, columns 4 and 8). Increases in the model R-squared as a result of adding in food insecurity were minimal, particularly in the adjusted model.

Food insecurity itself was associated with worse WHO-5 scores for youth of both nationalities. Among Jordanians, moderate and severe food insecurity were associated with a nearly 4-point ($p<0.1$) and 8-point ($p<0.05$) lower WHO-5 score, respectively, in the adjusted models (Table 5, column 4). Among Syrians, the corresponding coefficients were around 6 points and 7 points, respectively, although only the coefficient on severe food insecurity was marginally significant ($p<0.1$) (Table 5, column 8).

The full OLS regression results also confirmed the association between some sociodemographic characteristics and youth subjective wellbeing (see Appendix Table A4). Among youth of both nationalities, older age was associated with significantly worse subjective wellbeing, as was having a disability. Among Jordanians, being unemployed was also associated with worse wellbeing.

6. Discussion

This paper is one of the first to examine the association between receiving cash transfers and psychosocial outcomes in the Middle East and North Africa region. It does so for the population of Jordanian and Syrian refugee youth in Jordan, who, like youth in much of the region, face numerous socioeconomic and health challenges as they transition to adulthood (Dhillon and Yousef 2009; Assaad, Krafft, and Sieverding 2021; N. Jones et al. 2022). Investments in this generation of young people are critical for both their individual outcomes and for national development, but youth continue to be a population that is understudied in the literature on cash transfers.

Our results reveal a substantial burden of both food insecurity and poor subjective wellbeing among the youth population in Jordan. While these burdens were higher among the Syrian refugee population, nearly half of Jordanian youth lived in households experiencing moderate or severe food insecurity and nearly 40% suffered from poor subjective wellbeing. Among Syrian youth, the large majority (74%) faced food insecurity and about half suffered from poor subjective wellbeing. These figures raise considerable concern over the health of this young generation and highlight the need for mental health interventions as well as further efforts to address food security.

The high prevalence of food insecurity among the Syrian refugee population in particular is observed despite the fact that 90% of households received at least one cash transfer from a United Nations agency, and the majority of Syrian households were receiving food assistance from WFP. These results are consistent with WFP's own monitoring as of fall 2020, which found substantial rates of continued food insecurity among refugees in camps (63%) and host communities (88%) despite WFP assistance. WFP attributed this finding to a combination of factors, including a continued gap between assistance amounts and the cost of household food baskets, lack of other income forcing households to spend some of the WFP benefit on competing needs, and price increases and loss of already limited informal employment opportunities during the COVID-19 pandemic (WFP 2020).

Our finding that only receipt of all three (WFP, UNHCR and UNICEF) cash transfers among refugee households was associated with improved youth subjective wellbeing is particularly interesting in this light. It suggests that receipt of sufficient amounts of assistance to meet

household needs and, potentially, reduce stress over financial resources may be important in the relationship between transfers and wellbeing for such a deprived population. An evaluation of UN cash assistance, which was conducted when WFP assistance was primarily being provided through restricted vouchers, did in fact find that households receiving all three types of assistance had higher incomes and expenditures that households receiving only two forms of assistance or only WFP vouchers (ODI, UNICEF, and UNHCR 2017), which would support this argument.

Among Jordanian youth, household receipt of social assistance was not associated with youth subjective wellbeing. This finding may similarly be related to assistance amounts relative to household budgets or may reflect other dynamics of the cash transfers for Jordanian households, including the fact that targeting is not related to youth specifically. Our measure of social assistance for Jordanians also captured heterogenous types of assistance.

We observe a consistent negative relationship between household food insecurity and youth subjective wellbeing, which is consistent with other literature from the region (Asfahani, Kadiyala, and Ghattas 2019). The relationship appears to be somewhat stronger among Jordanian youth, which could be related to the lower prevalence of food insecurity among the Jordanian as compared to Syrian population. Other studies have found that in countries with low prevalence of food insecurity, variation in food security affected subjective wellbeing more significantly than in lower-income countries where the prevalence of food insecurity is higher. This may be because in populations where food insecurity is more common, the reference to which people compare themselves is others who are experiencing food insecurity and not those who are food secure (Frongillo et al. 2019). Although we do find a negative relationship between food insecurity and subjective wellbeing, we do not find strong evidence that food insecurity is a major mediator between cash transfers and subjective wellbeing among this population.

Several important limitations to our analysis should be kept in mind when interpreting these results. First, because food insecurity is measured at the household level, individual youth may experience higher or lower levels of food insecurity depending on intra-household allocation of food. This is a common limitation of the literature on cash transfers in humanitarian settings (ODI 2015). Second, our analysis cannot be interpreted as causal. We are limited in particular by the lack of data on household food security prior to the start of receiving assistance, which means that we cannot address the endogeneity between food security status and receipt of cash transfers.

These limitations notwithstanding, our findings do point to some association between receipt of transfers and subjective wellbeing among Syrian refugee youth. Subjective wellbeing among youth is an important outcome for future evaluation studies of humanitarian cash transfers, including programs such as *Hajati* that target populations slightly younger than our study's but for whom the mechanisms between receipt of transfers and wellbeing may be similar. Longitudinal data will

be critical to be able to assess more rigorously the potential role of cash transfers in addressing some of the many challenges of the transition to adulthood in the region, and to design the corresponding age-sensitive social protection programs.

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Table 1: Characteristics of households receiving different types of transfers, by nationality of head (percentage, except where otherwise noted)

	Household head Jordanian				Household head Syrian							
	N	None	Government social assistance	P-value	N	None	UNHCR or UNICEF	WFP	UNHCR and WFP	WFP+ UNICEF	UNHCR + WFP +UNICEF	P-value
Overall	1,779	80	20	----	1,052	10	5	56	14	3	12	---
Sex of household head	1,779				1,052							0.098
Male		81	19	0.075		10	5	57	11	3	15	
Female		71	29			10	4	54	25	4	3	
Age of household head	1,779				1,052							0.044
20-29		85	15	0.909		36	8	46	6	0	4	
30-39		82	18			14	2	58	13	2	11	
40-49		78	22			2	3	57	23	5	10	
50-59		79	21			5	5	58	11	2	20	
60-69		81	19			4	5	54	10	10	18	
70 plus		78	22			1	5	87	7	0	0	
Region	1,779			0.638	1,052							
Middle		81	19			15	5	59	10	4	7	0.218
North		78	22			5	4	52	18	3	18	
South		77	23			0	11	63	24	2	0	
Location	1,779			0.737	1,052							
Urban		80	20			10	3	53	16	4	14	0.067
Rural		81	19			9	5	53	11	0	22	
Camp						12	11	71	5	1	0	
Employment of head	1,636				885							
Out of labour force		78	22	0.762		2	4	49	17	2	26	<0.001
Unemployed		75	25			5	5	67	17	5	2	
Employed		81	19			12	4	69	10	6	0	
Wealth quintile	1,769											

Poorest		72	28	<0.001	1,045	8	10	65	8	2	8	0.001
2		63	37			15	7	53	19	7	5	
3		83	17			3	1	37	19	7	33	
4		86	14			6	2	54	15	1	16	
Richest		94	6			17	1	72	8	3	1	
Marital status of head	1,779			0.046	1,052							0.036
Married/contractually married		81	19			11	5	55	12	4	14	
Divorced/widowed		69	31			3	4	65	24	1	4	
HH size (mean)	1,779	5.600	5.539		1,052	4.553	6.858	5.908	6.338	7.292	6.865	
HH child under 5	1,779				1,052							
No		80	20	0.596		4	5	57	14	3	16	0.077
Yes		78	22			17	4	54	13	3	8	
HH children 6 to 18	1,779				1,052							
No		85	15	0.046		25	8	62	5	0	0	0.003
Yes		78	22			6	4	55	16	4	15	
HH adult 65 plus	1,779				1,052							
No		80	20	0.474		11	4	54	14	4	13	0.304
Yes		76	24			2	5	82	12	0	0	
Food insecurity	1,756				1,042							
Food secure		85	15	0.004		16	3	44	14	6	16	0.497
Moderately food insecure		71	29			10	7	61	13	2	7	
Severely food insecure		76	24			6	3	57	14	4	16	

Notes: P-values are based on a chi-square test

Table 2: Prevalence of household-level food insecurity by nationality of head and household characteristics (percentage)

	Household head Jordanian					Household head Syrian				
	n	Food Secure	Moderately food insecure	Severely food insecure	P-value	n	Food Secure	Moderately food insecurity	Severely food insecure	P-value
Overall	1,756	55	27	18		1,057	26	40	34	
Sex of household head	1,756				0.309	1,057				0.827
Male		55	28	17			27	41	32	
Female		52	23	25			25	37	38	
Age of household head	1,756				0.149	1,057				0.185
20-29		36	45	19			31	48	21	
30-39		63	23	15			23	47	30	
40-49		55	26	19			31	33	36	
50-59		53	30	17			24	29	46	
60-69		56	23	21			19	53	28	
70 plus		68	10	21			3	91	6	
Region	1,756				0.013	1,057				0.294
Middle		49	31	19			30	39	31	
North		57	23	19			23	40	37	
South		73	18	9			2	84	13	
Location	1,756					1,057				0.102
Urban		51	30	19	<0.001		24	38	38	
Rural		72	14	14			27	44	29	
Camp							36	48	16	
Employment of head	1,613				0.026	887				
Out of labour force		59	21	20			26	36	38	0.978
Unemployed		26	49	25			25	42	33	
Employed		57	28	15			26	41	33	
Wealth	1,746					1,050				
Poorest		23	34	43	<0.001		24	41	36	0.561
2		37	44	20			19	47	35	
3		60	24	16			23	32	45	
4		70	22	8			36	47	18	
Richest		84	13	3			30	34	36	
Marital status of head	1,756				0.091	1,057				0.011
Married/contractually married		56	27	17			28	42	30	
Divorced/widowed		44	27	28			10	30	60	

HH size (mean)	1,756	5.449	5.535	6.045		1,057	5.850		6.314	5.830	
HH child under 5	1,756				0.275	1,057					0.582
No		55	28	16			28		36	35	
Yes		54	24	22			24		45	31	
HH children 6 to 18	1,756				0.664	1,057					0.202
No		56	24	20			26		27	47	
Yes		54	28	17			26		43	31	
HH adult 65 plus	1,756				0.255	1,057					0.582
No		55	28	17			28		36	35	
Yes		56	20	24			24		45	31	

Notes: P-values are based on a chi-square test

Table 3: Predictors of household-level food insecurity among Jordanian and Syrian-headed households, OLS regression models

	Jordanian head of household				Syrian head of household			
	Coefficient	[95% conf.	interval]	P value	Coefficient	[95% conf.	interval]	P value
Sex of head of household								
Male	base				base			
Female	0.400	-0.320	1.121	0.276	-0.167	-0.638	0.303	0.486
Region								
Middle	base				base			
North	-0.156	-0.425	0.113	0.254	-0.197	-0.532	0.139	0.250
South	-0.478	-0.968	0.013	0.056	0.462	-1.179	2.103	0.581
Location								
Urban	base				base			
Rural	-0.549	-0.901	-0.196	0.002	-1.301	-2.451	-0.152	0.027
Employment of head								
Out of labour force	base				base			
Unemployed	1.029	0.415	1.642	0.001	0.243	-0.127	0.614	0.198
Employed	-0.190	-0.464	0.083	0.173	-0.569	-0.981	-0.158	0.007
Wealth								
Q1- Poorest	base				base			
Q2	-0.658	-1.091	-0.225	0.003	-0.530	-1.011	-0.049	0.031
Q3	-2.103	-2.519	-1.687	<0.001	-1.476	-2.067	-0.885	<0.001
Q4	-3.058	-3.482	-2.635	<0.001	-1.918	-2.510	-1.326	<0.001
Q5- Richest	-3.883	-4.300	-3.466	<0.001	-2.030	-2.669	-1.390	<0.001
HH size (continuous)	0.185	0.117	0.252	<0.001	0.060	-0.002	0.122	0.058
Marital status of head								
Married/contractually married	base				base			
Divorced/widowed	0.157	-0.591	0.906	0.680	0.331	-0.239	0.902	0.254
_cons	4.271	3.692	4.851	<0.001	6.485	5.805	7.164	<0.001
R square	0.2799				0.1472			
N	1,604				882			

Table 4: Percentage of youth experiencing poor subjective wellbeing by nationality and sociodemographic characteristics

	Youth Jordanian				Youth Syrian			
	n	**Not poor**	**Poor**	**P-value)**	**n**	**Not poor**	**Poor**	**P- value**
Overall		61	39			48	52	
Sex	2,781				1,757			
Male		62	38	0.650		48	52	0.929
Female		60	40			48	52	
Age group	2,781				1,757			
16-17		69	31	0.046		67	33	0.002
18-24		60	40			41	59	
25-30		56	44			34	66	
Region	2,781				1,757			
Middle		58	42	0.138		45	55	0.430
North		65	35			50	50	
South		61	39			72	28	
Location	2,781				1,757			
Urban		61	39	0.628		44	56	0.028
Rural		62	38			76	24	
Camp						48	52	
Education	2,774				1,736			
Less than basic		54	46	0.603		43	57	0.298
Basic		62	38			51	49	
Secondary		62	38			47	53	
Higher education		59	41			72	28	
Wealth	2,767				1,738			
Poorest		49	51	0.004		50	50	0.145
2		56	44			31	69	
3		61	39			61	39	
4		65	35			46	54	
Richest		72	28			52	48	
Currently in school	2,779			0.812	1,739			<0.001
Not in school		61	39			38	62	
In school		61	39			72	28	
Employment	2,758			0.057	1,700			0.009
Out of labour force		66	34			51	49	
Unemployed		53	47			27	73	
Employed		61	39			52	48	

Marital status	2,781			0.031	1,757			<0.001
Never married		62	38			56	44	
Contract		78	22			66	34	
Married		55	45			30	70	
Divorced		39	61			41	59	
Broad disability	2,781			<0.001	1,757			0.144
No		64	36			52	48	
Yes		46	54			38	62	
Med disability	2,781				1,757			0.274
no		62	38	0.014		47	53	
yes		32	68			67	33	

Notes: P-values are based on a chi-square test. Poor subjective wellbeing is categorized as a WHO-5 score of less than 50.

Table 5: Cash transfers and food insecurity as predictors of subjective wellbeing, OLS regression models

	(1) Unadjusted Jordanians	(2) Unadjusted	(3) Adjusted	(4) Adjusted	(5) Unadjusted Syrians	(6) Unadjusted	(7) Adjusted	(8) Adjusted
Transfers Jordanians (ref:none)								
Social assistance	-3.77	-2.12	-2.02	-1.73				
	(-10.84 , 3.28)	(-8.93 , 4.68)	(-8.07 , 4.01)	(-7.73 , 4.26)				
Transfers Syrians (ref:none)								
UNHCR					12.91	13.48	8.12	8.96
					(-4.60 , 30.42)	(-4.18 , 31.15)	(-5.04 , 21.27)	(-4.79 , 22.72)
WFP					9.552	10.28	1.14	2.22
					(-3.14 , 22.24)	(-2.13 , 22.70)	(-9.73 , 12.01)	(-9.14 , 13.59)
UNHCR & WFP					11.35*	11.31*	3.61	3.79
					(-1.11 , 23.80)	(-0.80 , 23.43)	(-9.38 , 16.60)	(-9.18 , 16.76)
WFP & UNICEF					10.64	11.01	2.95	3.62
					(-3.15 , 24.43)	(-2.94 , 24.97)	(-9.00 , 14.89)	(-8.96 , 16.19)
UNHCR, WFP & UNICEF					31.41**	31.54**	18.95*	18.55*
					(6.27 , 56.54)	(5.46 , 57.60)	(-0.56 , 38.47)	(-1.39 , 38.51)
FIES (ref: food secure)								
Moderately food insecure		-5.12*		-3.92*		-6.53		-6.00
		(-11.29 , 1.03)		(-9.67 , 1.82)		(-15.64 , 2.57)		(-13.42 , 1.42)
Severely food insecure		-11.41***		-7.78**		-9.88*		-7.27*
		(-16.45 , -6.37)		(-13.02 , -2.54)		(-20.11 , 0.33)		(-14.84 , 0.30)
Constant	56.39***	59.62***	52.91***	56.96***	38.02***	43.82***	54.17***	57.73***
	(53.98 , 58.79)	(55.40 , 62.64)	(41.21 , 64.62)	(44.51 , 69.41)	(26.73 , 49.31)	(31.65 - 55.98)	(39.54 , 68.80)	(41.94 , 73.53)
Observations	2,781	2,737	2,732	2,689	1,735	1,724	1,656	1,646
R-squared	0.0032	0.028	0.082	0.093	0.071	0.086	0.232	0.240

Robust CI in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Control variables: age, sex, education level, wealth, employment, household size, disability

Appendix

Table A1: WHO-5 Wellbeing Scale

Over the past two weeks….						
..I have felt cheerful and in good spirits	All of the time (5)	Most of the time (4)	More than half the time (3)	Less than half the time (2)	Some of the time (1)	None of the time (0)
..I have felt calm and relaxed						
..I have felt active and vigorous						
..I woke up feeling fresh and rested						
..my daily life has been filled with things that interest me						

Table A2: FIES Scale (Household-referenced, SYPJ question phrasing)

Now I would like to ask you some questions about food. During the last 12 months, was there a time when:	
You or others in your household worried about not having enough to eat because of a lack of money or other resources?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Still thinking about the last 12 months, was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Still thinking about the last 12 months, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Was there a time when your household ran out of food because of a lack of money or other resources?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)
Was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources?	1. Yes 2. No 98. Don't Know 96. Refused (don't read)

Table A3: Characteristics of the youth sample by nationality (percentage)

	Jordanian			Syrian		
	Total	**Men**	**Women**	**Total**	**Men**	**Women**
Sex						
Male	53			48		
Female	47			52		
Age group						
16-17	18	19	16	32	36	28
18-24	55	55	54	48	47	49
25-30	28	26	29	20	17	23
Marital status						
Never married	80	89	72	67	82	53
Contract	3	3	3	1	1	1
Married	15	8	23	31	18	44
Divorced	2	1	3	1	0	2
Education						
Less than basic	8	9	6	36	41	31
Basic	23	27	19	35	37	34
Secondary	45	48	41	25	19	30
Higher education	24	16	34	4	3	5
Current school status						
Not in school	61	65	57	71	67	75
In school	39	35	43	29	33	25
Wealth						
Poorest	20			28		
2	20			19		
3	19			19		
4	19			17		
Richest	21			15		
Employment						
Out of labour force	28	45	10	18	29	8

Unemployed	19	18	21	16	22	10
Employed	52	37	69	66	49	82
Broad disability						
No	82	85	78	70	67	73
Yes	18	15	22	30	33	27
Medium disability						
No	98	98	97	94	91	97
Yes	2	2	3	6	9	3

Table A4: Full results for adjusted OLS regression models of cash transfers and food insecurity as predictors of subjective wellbeing (Table 5, columns 4 and 8)

	Jordanian youth					Syrian youth				
	Coefficient	[95% conf.	interval]	P-value		Coefficient	[95% conf.	interval]	P-value
Food insecurity					**Food insecurity**				
Food secure	base				Food secure	base			
Moderately food insecure	-3.924	-9.678	1.830	0.181	Moderately food insecure	-6.002	-13.427	1.423	0.113
Severely food insecure	-7.782	-13.020	-2.543	0.004	Severely food insecure	-7.270	-14.846	0.305	0.060
Cash transfers					**Cash transfers**				
No assistance	base				No assistance	base			
Social assistance	-1.735	-7.738	4.269	0.571	UNHCR	8.966	-4.797	22.729	0.201
					WFP	2.225	-9.146	13.597	0.701
					UNHCR + WFP	3.789	-9.190	16.768	0.567
					WFP + UNICEF	3.617	-8.962	16.196	0.573
					UNHCR + WFP + UNICEF	18.559	-1.398	38.516	0.068
Age group					**Age group**				
16-17	base				16-17	base			
18-24	-5.526	-10.072	-0.980	0.017	18-24	-13.233	-21.926	-4.541	0.003
25-30	-6.648	-12.902	-0.394	0.037	25-30	-16.904	-28.035	-5.774	0.003
Education					**Education**				
Less than basic	base				Less than basic	base			
Basic	2.836	-5.014	10.687	0.479	Basic	4.486	-3.933	12.906	0.296
Secondary	0.263	-6.216	6.742	0.937	Secondary	1.692	-5.403	8.786	0.640
Higher ed.	-0.323	-7.878	7.232	0.933	Higher ed.	18.717	4.616	32.818	0.009
Sex					**Sex**				
Male	base				Male	base			
Female	0.162	-4.292	4.615	0.943	Female	-1.617	-9.697	6.464	0.695
Wealth					**Wealth**				
Q1	base				Q1	base			
Q2	4.762	-2.295	11.819	0.186	Q2	-11.046	-20.637	-1.455	0.024
Q3	6.299	0.278	12.320	0.040	Q3	5.482	-5.573	16.537	0.331
Q4	5.308	-1.519	12.135	0.127	Q4	-6.742	-16.873	3.389	0.192

Q5	11.041	4.250	17.832	0.001	Q5	-0.015	-7.404	7.373	0.997
Employment status					**Employment status**				
Out of labour force	base				Out of labour force	base			
Unemployed	-5.805	-12.079	0.469	0.070	Unemployed	-2.554	-10.882	5.774	0.547
Employed	-3.689	-8.668	1.291	0.146	Employed	2.451	-5.053	9.955	0.522
HH size	0.804	-0.133	1.742	0.092	**HH size**	0.573	-0.287	1.433	0.191
Disability					**Disability**				
No	base				No	base			
Yes	-10.195	-15.319	-5.071	<0.001	Yes	-9.294	-17.856	-0.732	0.033
_cons	56.963	44.511	69.415	<0.001	_cons	57.736	41.942	73.530	<0.001
R square	0.092				R square	0.239			
N=	2689				N=	1646			