*Empirical Paper*

# A longitudinal study of dispositional compassion in Syrian origin young adults resettling in the Netherlands

**Odilia M. Laceulle[1], Jennifer E. Stellar[2], Alajak Kinan[1], Alisic Eva[3], Al Sawaf Zeina[1] , Meijer Laurien[1], Neha Moopen[1], Mooren Trudy[1,4] , Ilayda Ozoruç[1], Rahim Haza[1], Duygu Taşfiliz[5] , Renée Zonneveld[6] and Joanne M. Chung[2,4]**

## Abstract

**Background:** Dispositional compassion is regarded as a facet of Agreeableness, an emotional driver of prosociality, and a primary marker of adjustment. We examined changes in dispositional compassion in Syrian young adults resettling in the Netherlands, as well as the role of migration-related and demographic variables in this change.

**Methods:** We analyzed data from a 4-wave (T1-T4), 13-month longitudinal study ($N = 168$; T1 $M_{age}$ = 28.1 years, 70% male) using Latent Growth Curve Modelling (LGCM) in Mplus.

**Results:** Bivariate correlations indicated moderate test-retest correlations across the four waves of dispositional compassion and several correlations with the migration-related and demographic variables. A LGCM indicated a high initial level and small linear decrease in compassion over the four waves. Except for a link between pre-migration adversity and the intercept, the migration-related and demographic variables were not related to either the intercept of the slope of dispositional compassion.

**Conclusion:** Results suggest that high levels of dispositional compassion may be common for Syrian young adults with refugee backgrounds, but on average, slowly decreases over time. The cross-sectional associations between migration-related and demographic variables and dispositional compassion in the absence of a prospective one emphasize the importance of longitudinal research for understanding trajectories of adjustment.

Around the world, over 30 million people have sought refugee status (United Nations High Commissioner for Refugees, 2021). Over the last decade, many of these have requested asylum in Europe, with a peak of more than 1.2 million in 2016 and around 416,000 individuals in 2020 (Statistics Netherlands, 2021). In 2019, the largest group of individuals searching for refuge in the Netherlands were of Syrian origin and a total of 31,000 Syrian individuals were registered in the Netherlands (Refugee Work Netherlands, August 2020; United Nations High Commissioner for Refugees, 2021).

The war in Syria has led to an extremely high number of civilian casualties (Devi, 2018), and the majority of Syrian people with refugee backgrounds have experienced major life-changing adversity (e.g., violence, separation from and/ or loss of friends and family, detention, resettlement stress; Ellis et al., 2015; Ibrahim & Hassan, 2017), affecting their mental health and well-being (Fazel et al., 2005). Although about 10% of the general Dutch population reported experiencing mild psychological problems (Bosman et al., 2019), a recent study of Syrian people with refugee

backgrounds in the Netherlands found that 41% reported experiencing psychological distress (Dagevos et al., 2018).

After arriving in the Netherlands, Syrian people may also face additional challenges during resettlement, such as worries about family left behind in Syria, unstable housing and immigration status, problems gaining employment or education, racism and discrimination, and difficulty building social connections within their host country (Laban et al., 2005). Moreover, Syrian individuals resettling in the Netherlands may have difficulties navigating between

[1]Utrecht University, The Netherlands
[2]University of Toronto, Mississauga, Canada
[3]University of Melbourne, Australia
[4]ARQ National Psychotrauma Centre, The Netherlands
[5]Altınbaş University, İstanbul, Turkey
[5]Tilburg University, The Netherlands

**Corresponding author:**
Odilia M Laceulle, Department of Developmental Psychology, Utrecht University, Heidelberglaan 1, Utrecht 3584 CS, The Netherlands.
Email: o.m.laceulle@uu.nl

the Syrian and Dutch cultural contexts. Specifically, these cultural contexts differ in the domains of social life, religion, gender roles, romantic relationships, and personal characteristics, which may contribute to Syrian people in the Netherlands perceiving a large cultural distance (Safak-Ayvazoglu et al., 2021). Despite seemingly large cultural differences, research indicates that Syrian people resettling in the Netherlands desire to engage with Dutch society, and this may be related to Syrian culture placing importance on collective community bonds (Safak-Ayvazoglu et al., 2021).

Pre-migration adverse experiences, as well as peri- and post-migration challenges may each negatively affect the mental health of people with refugee backgrounds, as well as their emotional, social, and economic integration (Bakker et al., 2014; Hobfoll, 2001; Lamkaddem et al., 2014; Schick et al., 2016). Conducting research in a sample of Syrian young adults with refugee backgrounds during resettlement in the Netherlands can provide insights into how adjustment may occur following migration, and may help describe experiences regarding the adjustment and prosperity of people from this understudied group (Fazel et al., 2005; Hou et al., 2020; Li et al., 2016; Sleijpen et al., 2016).

## Young adulthood as a transitional period in the context of adversity

Although the potential negative effects of adversity may apply to individuals of all background and all ages, developmental researchers have emphasized the importance of young adulthood as a period in which effects may be particularly prominent, illustrating the challenges that young adults face and the adaptation that follows (Arnett, 2011; Erikson, 1964). The transition into adulthood requires a questioning of one's identity (Kroger et al., 2010), a reconsideration of conceptions and evaluations of oneself (Chung et al., 2014), and changes in personality traits (Bleidorn & Schwaba, 2017). These changes may be the result of young adults building new relationships and roles (Bleidorn, 2015), but also in response to major life events (Caspi & Roberts, 2001) including adversity (Laceulle et al., 2012; Laceulle, van Aken et al., 2015; Shiner et al., 2017). Given the transitional nature of these years, and the role the environment can play in these transitions (Lerner & Schmid Callina, 2014; Noftle, 2015), the impact of migration-related adversity may be particularly pronounced for young adults resettling in a new country.

## Focusing on individual differences in adjustment in the aftermath of adversity

So far, empirical research on people's experiences of adversity (i.e., extremely difficult life events such as forced migration, serious injury, sexual abuse, or terminal illness), has focused on the deleterious consequences of adversity (Bhugra, 2004; Norman et al., 2012). Clearly, many individuals may experience either direct or delayed negative effects. Negative effects may include decreases in psychological adjustment, reflected in mood disorders (Henkelmann et al., 2020), PTSD (Alisic et al., 2014;

Bonanno, 2004; Smid et al., 2011) and personality traits, most notably Emotional stability (Löckenhoff et al., 2009). However, not every person is affected by traumatic experiences in the same way and not all individuals experience negative effects (Bonanno, 2004). Specifically, some people may show no change in their functioning (Steel et al., 2002). Finally, despite the suffering that arises from facing adversity, some work suggests that adversity can also promote adjustment (Frazier et al., 2009; Tedeschi & Calhoun, 2004). The idea that people can grow and even experience positive consequences despite adversity is a compelling one that has received increasing attention in psychological research (Calhoun & Tedeschi, 2014; Galatzer-Levy et al., 2018).

## Dispositional compassion as a prosocial marker of growth after adversity

Although studies on the effects of adversity have predominantly focused on negative outcomes for mental health, growth after adversity and post-traumatic growth (PTG) have been studied in a range of different contexts and samples (Alisic et al., 2008; Helgeson et al., 2006; Kilmer, 2006; Laceulle, Kleber, & Alisic, 2015; Nolen-Hoeksema & Davis, 2004; Tedeschi & Calhoun, 2004). Recently, personality psychologists specifically interested in growth following adversity have refined the conceptualization of PTG as *positive personality change* (Blackie et al., 2017; Jayawickreme & Blackie, 2014). Personality refers to relatively enduring, individual differences in thoughts, feelings, and behaviors (e.g., Allport, 1961). From this perspective, personality can include a variety of characteristics, ranging from constructs like identity to Big Five personality traits such as Extraversion and Agreeableness.

In the context of adversity, aspects of personality including prosociality and social relationships, positive emotions, and individual differences in coping with interpersonal stress and conflict may be of particular relevance. Within the Big Five framework, the trait of Agreeableness and lower order facet of compassion are of particular importance. Agreeableness is an inherently interpersonal higher order dimension of personality, reflecting individual differences in cooperation and the motivation to maintain positive social relations (Crowe et al., 2018). Compassion is characterized by interpersonal warmth, sympathy, tenderness and a prosocial orientation towards others (Crowe et al., 2018; DeYoung et al., 2007). Although research on adversity and change in personality facets is scarce, results from a study of an American urban sample (Löckenhoff et al., 2009) indicated that individuals who reported more experiences of extremely adverse events showed longitudinal decreases in some facets of agreeableness (i.e., compliance, trust) but not in other (i.e., straightforwardness, altruism, modesty). While this study did not find support for adversity driven increases in Agreeableness, the findings emphasize the need to distinguish between facets of higher-order traits.

The notion that compassion is a part of a broader prosocial orientation towards others also touches upon the

conceptualization of compassion as a morally valued character trait (Aquino & Reed, 2002; Fleeson et al., 2014; Miller, 2021) and a key underpinning of character strengths (Starkey, 2015). In general, moral character refers to a global disposition to engage in moral behavior, or behavior that prioritizes the welfare of others. From this perspective, compassion can be viewed as a moral character traits, extending the Big Five definition of compassion, to specifically include prosocial actions of compassion with morally correct motivations, beliefs, and emotions (Fleeson et al., 2014). Yet, to the best of our knowledge, empirical work has not yet examined the notion of adversity-driven growth in compassion from this perspective.

Moreover, compassion is considered to be key emotion disposition. Emotions are multifaceted, consisting of cognitive appraisals, physiological arousal, phenomenology, expressive behaviors, and action tendencies (Izard, 2010), which guide our attention (Starkey, 2015), helping individuals reach personally important goals (Keltner & Haidt, 1999). They also integral to the self (Kristjánsson, 2010). *Emotion dispositions* represent the tendency and frequency with which individuals typically experience a particular emotional state (e.g., Schriber et al., 2017). Emotion dispositions are likely to be more stable than emotion states, and may show stability that is similar to those of other personality traits and facets. Emotion dispositions may be of particular importance when aiming to study change in people who have experienced adversity.

Building on this distinction between emotion states and dispositions, compassion is a key emotion that motivates prosocial behavior (Goetz et al., 2010) and dispositional compassion represents an orientation in which one feels an enduring concern for other people coupled with the desire to help them when they are in need (Shiota et al., 2006). Compassion reflects a shift in focus from the self towards the needs, concerns, or value of others (Stellar et al., 2017). As a result, compassion binds individuals together in long-lasting relationships based in mutual care, which make dispositions toward them an important marker of positive adjustment. Importantly, past research indicated that individuals who have experienced growth after adversity may also be likely to be high in dispositional compassion (Lim & DeSteno, 2016).

In sum, compassion has been of interest across various areas of psychology as a key facet of the Big Five, a moral character trait, and an emotional disposition. A shared theme across these various conceptualizations is that compassion is linked to prosociality, making compassion of particular relevance when aiming to understand adjustment after adversity. Compassion's importance also aligns with the idea that the link between adversity and prosociality is rooted in the notion that altruism can be born out of suffering (Vollhardt, 2009). As such, identifying how young adults with refugee backgrounds change in dispositional compassion, and which factors may be correlated with such changes, can contribute to a more comprehensive picture regarding individual differences in adjustment during the process of resettlement.

## Migration-related and demographic correlates of dispositional compassion levels and change during resettlement

To better understand individual differences in adjustment in young adults with refugee backgrounds, it is important to examine factors related to individual differences in change in dispositional compassion. Notable factors may include those related to migration, including pre-and peri migration adverse experiences, post-migration challenges (Bakker et al., 2014; Hobfoll, 2001; Lamkaddem et al., 2014; Schick et al., 2016), post-traumatic stress symptoms related to those adverse experiences, and time since arrival in the host country, but also demographic factors such as age or gender.

In particular, pre-migration adversity and traumatic experiences more generally, have been studied most extensively (Sigvardsdotter et al., 2016). For example, individuals who reported more exposure to traumatic events experienced more post-traumatic stress related mental health problems (Knipscheer et al., 2015; Nickerson et al., 2014; Steel et al., 2002) and long-term psychiatric morbidity (Steel et al., 2002). In samples of people who have refugee backgrounds specifically, more trauma exposure has been found to be related to lower life satisfaction (Choi et al., 2017; Sleijpen et al., 2016). From these findings, it appears that adversity places individuals at risk for psychological problems, and possibly for maladjustment more generally.

In addition to having to deal with adverse experiences from the past, young adults with refugee backgrounds resettling in a new country may also have to Experience post-migration living problems on a regular basis (Miller & Rasmussen, 2010). Post-migration living problems such as unstable housing and immigration status may increase the burden for individuals who have already experienced traumatic events. Indeed, and similar to pre-migration adversity, post-migration living problems have been related to increased psychological problems (Li et al., 2016; Miller & Rasmussen, 2010) and lower quality of life (Correa-Velez et al., 2020). Yet, studies examining the link between adversity and dispositional compassion are scarce. To our knowledge, longitudinal studies investigating the link between adversity and the trajectory of dispositional compassion over multiple waves do not exist. However, research focused on psychological problems and life satisfaction imply that adversity and post-migration living problems are related to lower levels of compassion and decreases in dispositional compassion over time.

Compared to past adversity and post migration difficulties, associations between post-traumatic stress symptoms and dispositional compassion may be complex. For example, trauma related symptoms have been associated with other psychological problems, such as depression (O'Donnell et al., 2004). The literature focused on post-traumatic growth, however, has consistently indicated that higher levels of trauma symptoms are related to more self-reported increases in adjustment, or growth, across people from various samples and age groups (Helgeson et al., 2006; Laceulle, Kleber, & Alisic, 2015; Meyerson et al., 2011). Therefore, it may not be the adverse event itself, but rather the individual's subjective

experience of it, followed by subsequent stress, that determines whether and how much adjustment they experience. Specifically, "objective" trauma severity has previously been found to be only moderately related to growth (Alisic et al., 2008; Tedeschi & Calhoun, 2004). Therefore, it may be that post-traumatic stress symptoms may be associated with an increase in dispositional compassion over time.

Finally, when aiming to understand change in dispositional compassion during resettlement, the length of time since the person has arrived in the host country should be taken into account. The process of stabilization and building a new life has been suggested to take at least five to 7 years (Gonsalves, 1992). During those years, however, the challenges young adults face may change, with instability in housing, finances and immigration being most urgent in the first months and years after arrival. Work and education related challenges, in contrast, may be experienced as chronic and daily stressors. Thus, the nature of the challenges may change quickly in the first few years after arrival, and it may be likely that changes in adjustment partly reflect by characteristics of the resettlement process.

### The present study

In the present study, we used data from *Karakter* (Chung et al., 2021), a longitudinal study focused on emotions and positive personality change in a sample of Syrian young adults with refugee backgrounds who have recently resettled in the Netherlands. *Karakter* used a strengths-based approach (e.g., Sleijpen et al., 2016) to examine positive characteristics, events, and outcomes for people with refugee backgrounds. *Karakter*'s longitudinal design allows for the charting of growth, allowing for the empirical examination of the idea that in each loss, there is a gain. Specifically, in the present study, we use data from *Karakter* to extend cross-sectional findings on post-traumatic growth to the longitudinal context and a unique sample of people by examining: (1) the assumed positive association between post-traumatic stress symptoms and post-traumatic growth, and (2) the assumed negative association between post-migration difficulties and post-traumatic growth.

Building on earlier work that highlights dispositional compassion as an emotional driver of prosociality, a morally valued character trait, and a key facet of the Big five personality domain of Agreeableness, we focus on change in dispositional compassion. First, following previous cross-sectional literature, bivariate correlations were computed to examine the concurrent associations between the migration-related variables (i.e., pre-migration adversity, post-traumatic stress symptoms, post-migration living problems and time since arrival in the host country), the demographic variables of age and gender, and dispositional compassion at T1, respectively. We expected that pre-migration adversity and post-migration living problems would be related to lower levels of dispositional compassion, while post-traumatic stress symptoms would be related to higher levels of disposition compassion. The associations between time since arrival, age and gender, and compassion were also examined.

We used a latent growth curve model (LGCM) to examine the extent to which the migration-related and demographic variables might be associated with the intercept and slope of dispositional compassion. We did not have an expectation regarding the direction of normative change in dispositional compassion for the sample, but we expected that participants who showed more pre-migration adversity and post-migration living problems would show decreases in dispositional compassion over time, and also show a lower intercept, relative to participants who scored lower in pre-migration adversity and post-migration living problems. Additionally, we expected that participants exhibiting a greater amount of post-traumatic stress symptoms would also show increases in dispositional compassion over time, and also show a higher intercept, relative to those who exhibited a lesser amount of post-traumatic stress symptoms. Similar to our cross-sectional analysis, we also examined the associations between time since arrival, age and gender, with the slope and intercept of dispositional compassion.

## Methods

### Participants

The current study used data from *Karakter*, a 13-month longitudinal study of a sample of Syrian origin young adults ($N = 168$) living in the Netherlands. At the first assessment, participants' age ranged from 18 to 36 years with a mean age of 28.02 years (SD = 4.75); 69.6% were male and 30.4% were female. Participants had been living in the Netherlands with a mean length of stay of 36.50 months (SD = 15.73). With regard to ethnicity, 79.2% of participants were Arab, 5.4% were Kurdish, 4.8% were Assyrian, 1.2% were Turkish, and 1.2% were Armenian; 4.2% of participants chose the "other" option, and 3.6% chose "I would rather not say"). With regard to religious affiliation, 57.1% of participants affiliated with the Islamic religion, 22% with no religion, and 7.7% with Christianity; 9.5% chose "I would rather not say", and 3% chose the "other" option. With regard to education level, 51.8% reported having completed university, 19% reported that they had completed high school, 11.3% reported completing vocational school, 6% reported that their highest level of education was primary and secondary school, 4.8% reported completing a degree at a university of applied sciences, 0.6% reported holding a doctoral degree; 5.4% reported "other". Regarding refugee status in the Netherlands, 91.1% of participants reported that they had temporary refugee status, and 7.7% were asylum seekers without a permit. Participants reported a mean number of 3.99 family members as also being present in the Netherlands (SD = 4.80). In our sample, 89.3% of participants indicated that they had family members that had been left behind in Syria. Furthermore, regarding the primary reasons for leaving Syria, 83.3% reported it was a lack of safety because of the conflict in Syria, 53.6% of our participants indicated it was due to a lack of safety because of political beliefs, 32.7% identified a lack of safety because of religious beliefs, and 18.5% endorsed the "other" option, writing in reasons such as compulsory military service, and sexual orientation. Additionally, 12.5% of the participants reported that they

have resided in other countries besides Syria and the Netherlands for longer than 3 months.

The retention rates for the study were 72.0%, 63.7%, and 65.5% at the second, third, and fourth assessments, respectively. In order to better understand our missing data, we compared participants who provided dispositional compassion scores only at T1 versus participants who participated in additional waves. Results showed that when grouped this way, participants did not differ significantly on their pre-migration adversity, post-traumatic stress symptoms at T1, post-migration living problems at T1, age and time since arrival in the Netherlands at T1, education level and refugee status, $p > .05$. However, women were more likely to participate in additional waves compared to men, $\chi^2$ (1, $N = 168$) = 4.06, $p = .044$.

## Procedure

*Karakter* took place across 4 assessments that occurred approximately every 4 months over the course of 13 months. In the first three assessments, data collection appointments were conducted by at least one research team member at participants' home or in public locations (e.g., a library). At each appointment, a buddy system was used to help ensure the well-being of the participant and members of the research team. At the beginning of each data collection appointment, information about the background of the research, the research procedure, privacy issues, and compensation was provided to the participant in Arabic, followed by the completion of an informed consent form. After the participant consented to participate, they completed an hour-long questionnaire accessed via the Qualtrics website on a tablet. The fourth wave was completed online; no research team members were physically present, but assistance was provided through phone call, WhatsApp messaging, and e-mail. The study was approved by the Medical Ethics Review Committee of Utrecht University (METC Protocol ID: NL66459.041.18); a cultural advisory board was involved during all phases of the study.

Inclusion criteria for participants were as follows: (1) being of Syrian-origin (having Syrian nationality), (2) being fluent in reading and writing Arabic, (3) being between the ages of 18- and 35-years old, and (4) having entered the Netherlands between 5 and 60 months before participation in the study. Participants in the project were recruited through organizations that serve people with refugee backgrounds (e.g., asylum seeker centers, refugee support organizations, language centers, and community groups). In addition, recruitment also took place on social media via advertisements for the study in Arabic and Dutch with a reference to the project website. Participants signed up for participation and were contacted by the research team to arrange a data collection appointment. Members of the data collection team were trained to interact with and support people who have experienced trauma (i.e., Psychological First Aid Online: National Child Traumatic Stress Network, 2009).

## Measures

All measures in the current study were translated from English to Arabic via a back-translation procedure (Brislin, 1970), with the exception of the Harvard Trauma Questionnaire. An Arabic version of this measure was available and was used in the current study (Mollica et al., 1992). Details on these measures and others included in *Karakter* are accessible here: https://osf.io/9usbn/

*Dispositional compassion.* Dispositional compassion was measured by one subscale of the Dispositional Positive Emotions Scale (DPES, Shiota et al., 2006). The DPES is a 33-item self-report scale used to measure 7 positive emotion dispositions, including compassion. The Dispositional Compassion subscale consisted of 5 items (e.g., *"It is important to take care of people who are vulnerable"*) that were rated on 8-point scales with response anchors ranging from 1 (*strongly disagree*) to 8 (*strongly agree*). Item scores were averaged such that a higher total score indicated greater levels of dispositional compassion. To model trajectories of dispositional compassion, we used data from all four assessments. Coefficient omega in the current sample was .84, .89, .88 and .93, respectively across the four waves. Longitudinal measurement invariance tests indicated that the model for configural invariance showed an adequate fit to the data, but stricter models did not fit the data well, as indicated by changes in the chi-square.[1] Therefore, we decided to not modify the model, concluding that the means provided by our model are potentially biased. See Table 1 for model fit indices.

*Pre-migration adversity.* The degree to which participants were exposed to pre-migration adversity was assessed with the Harvard Trauma Questionnaire (HTQ) Part I (Mollica et al., 1992) at the first assessment. Participants indicated whether they had experienced any of the 43 presented experiences in their lifetime (e.g., *"Witnessed someone being physically harmed"*) by choosing the response options of "no" (*0*) or "yes" (*1*). These ratings were summed into one score.

*Post-traumatic stress symptoms.* The degree to which participants experienced post-traumatic stress symptoms was assessed with the HTQ Part IV (Mollica et al., 1992; Shoeb et al., 2007). This part of the HTQ consists of items that describe trauma symptoms (e.g., "*recurrent thoughts or memories of the most hurtful or terrifying events*", and "*avoiding thoughts or feelings associated with the hurtful events*"); we used data from the first assessment in the current study. Participants were asked to rate the extent to which they had observed the listed symptoms in the past week. Response options ranged from 1 (*not at all*) to 4 (*extremely*). Responses to the first 16 items were averaged to produce a scale score indicating the amount of DSM-IV post-traumatic stress symptoms in the past week.

*Post-migration living problems.* Post-migration living problems were measured by the Post-Migration Living Problems Checklist (PMLP-C, Silove et al., 1997). The scale consists of 24 post-migration difficulties (e.g., *"Unable to return home in emergency", "Communication difficulties",* and *"Discrimination"*); we used data from the first assessment in the current study Each item was rated by participants on a 5-point scale ranging from 1 (*no problem*

**Table 1.** Model fit indices for longitudinal measurement invariance tests of dispositional compassion scores.

| Invariance level | $\chi^2$ | df | RMSEA | $p_{close\ fit}$ | CFI | TLI | SRMR | AIC | BIC | $\chi^2_{diff}$ | $df_{diff}$ | $p$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Configural (number of factors and associated items equal) | 225.149 | 134 | .064 [.049, .078] | .064 | .937 | .911 | .087 | 7012.914 | 7312.814 | — | — | — |
| Weak (factor loadings equal) | 252.831 | 146 | .066 [.052, .079] | .030 | .927 | .905 | .096 | 7016.595 | 7279.008 | 27.681 | 12 | .006 |
| Strong (factor loadings and intercepts equal) | 269.265 | 158 | .065 [.051, .078] | .037 | .924 | .908 | .097 | 7009.030 | 7233.955 | 16.435 | 12 | .172 |
| Strict (factor loadings, intercepts, and residuals equal) | 316.988 | 173 | .070 [.058, .083] | .004 | .901 | .891 | .102 | 7026.752 | 7204.818 | 47.722 | 15 | .000 |

*Note.* RMSEA = Root Mean Square Error of Approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardized Root Mean Square Residual; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion.

at all) to 5 (*a very serious problem*). Ratings of 1 or 2 were recoded into scores of 0, and ratings of 3, 4 or 5 were recoded into 1. To calculate a total score, all items were summed; higher total scores indicated greater difficulties with the immigration process.

## Analytic strategy

Descriptive statistics[2] and missing data analysis were conducted in IBM SPSS Statistics (Version 22). Bivariate correlation analyses and the LGCM were conducted in Mplus version 8.6 (Muthén & Muthén, 2017). Missing dispositional compassion data at T2, T3 and T4 were handled using multiple imputation in Mplus based on the available T1 migration-related and demographic variables. Mplus does not provide *p*-values for bivariate correlations based on imputed data. For interpretation, we focused on the size of the effects (i.e., .10–.30 were considered to be small effects; .30–.50 medium; and .50 and above to be large; Cohen, 2013). LGCM was conducted to examine the trajectory of compassion over the four waves. The first step of the LGCM was to examine whether the growth model was linear or quadratic. Our criteria for acceptable model fit were a root-mean-square error of approximation (RMSEA) < .08, comparative fit index (CFI) > .90, and a standardized root-mean-square residual (SRMR) < .08 (Hooper et al., 2008). A decrease in the Bayesian information criterion (BIC) value and Akaike information criterion (AIC) was also inspected for improvement in the model fit (Nylund et al., 2007). Next, we added the predictors to the final model in order to assess the extent that the migration-related and demographic variables were related to the intercept and slope of compassion over the four waves. The hypotheses in the current study were not preregistered. All SPSS and Mplus scripts and output files are available on the Open Science Framework (https://osf.io/mcqjf/).

## Results

Table 2 shows means and standard deviations of the study variables. Interestingly, participants showed relatively high levels of compassion with mean scores ranging between 6.72 and 7.08 across waves. Average scores were below the midpoint across the migration-related variables, although levels varied substantially between people.

Bivariate correlations (based on at five sets of imputed data) are shown in Table 3. First, dispositional compassion showed moderate to high test-retest correlations across waves ($r$s = .36 to .65). With regard to the associations between the migration-related and demographic variables, bivariate correlations indicated that post-traumatic stress symptoms showed small and positive associations with across the four waves ($r$s = .11 to .20). Moreover, pre-migration adversity had small correlations with compassion, but only at T1 ($r = .14$) and T4 ($r = .17$). Additionally, post-migration living problems, gender and age did not show meaningful relations with dispositional compassion, but a longer length of stay in the Netherlands was related to slightly lower levels of dispositional compassion at T2 ($r = -.14$) and T3 ($r = -.11$).

For our LGCM based on imputed data[3], a linear growth model indicated adequate fit on all indicators except for the SRMR, $\chi^2$ (5) = 5.98, $p$ = .310; AIC = 1752.05; BIC = 1780.16; CFI = .993; RMSEA = .034 [90% C.I. .000, .117]; SRMR = .148. The parameter estimates and rates of missingness is shown in Table 4. The means of the intercept and slope were significant, indicating that on average, the majority of participants scored high on dispositional compassion at wave 1 ($M = 7.10$, $SE = .07$, $p < .001$), and that there was a small but steady decrease in dispositional compassion over time, $\beta = -0.11$, $SE = 0.03$, $p < .001$. Additionally, the variance of the intercept was significant ($B = .430$, $SE = .102$, $p < .001$), showing that there was variability in our participant's initial standing on dispositional compassion. However, the variance of the slope was not significant ($B = .035$, $SE = .023$, $p = .129$), showing that participants did not substantially differ from each other in how they changed in dispositional compassion during the study period. A graphical representation of dispositional compassion is presented in Figure 1. It is worth noting that we also fit a model that included a quadratic slope, $\chi^2$ (1) = 0.01, $p$ = .913; AIC = 1748.79; BIC = 1789.40; CFI = 1.00; RMSEA = .000 [90% C.I. .000, .082]; SRMR = .002. A comparison between the models yielded no significant improvement in fit, $\chi^2_{change}(4) = 5.979$, $p = .201$. As such, we continued our analyses with the more parsimonious linear growth model.

Subsequently, migration-related and demographic variables were added to another iteration of the linear LGCM: $\chi^2$ (17) = 14.89, $p$ = .603; AIC = 1727.71; BIC = 1792.93;

**Table 2.** Descriptive statistics for the study variables.

| Variable | n | M (imputed M) | SD | Min | Max |
|---|---|---|---|---|---|
| Compassion at T1 | 168 | 7.07 (7.08) | 0.86 | 4.40 | 8.00 |
| Compassion at T2 | 121 | 7.10 (7.03) | 1.01 | 2.00 | 8.00 |
| Compassion at T3 | 108 | 6.96 (6.90) | 1.00 | 3.60 | 8.00 |
| Compassion at T4 | 110 | 6.80 (7.72) | 1.20 | 2.40 | 8.00 |
| Pre-migration adversity | 168 | 16.39 (16.45) | 8.01 | 1.00 | 41.00 |
| Post-traumatic stress symptoms | 168 | 2.04 (2.05) | 0.82 | 1.00 | 4.00 |
| Post-migration living problems | 168 | 10.20 (20.17) | 5.65 | 0.00 | 23.00 |
| Age | 167 | 28.02 (28.01) | 4.75 | 18 | 38 |
| Length of stay in the Netherlands[a] | 166 | 36.50 (36.54) | 15.73 | 2.00 | 60.00 |

Note. [a]In months. T1 to T4 denote assessment number.

**Table 3.** Bivariate correlations for the study variables.

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Compassion at T1 | — | | | | | | | | | |
| 2. Compassion at T2 | .48 | — | | | | | | | | |
| 3. Compassion at T3 | .52 | .65 | — | | | | | | | |
| 4. Compassion at T4 | .36 | .48 | .56 | — | | | | | | |
| 5. Pre-migration adversity | .14 | .02 | .03 | .17 | — | | | | | |
| 6. Post-traumatic stress symptoms | .21 | .16 | .11 | .20 | .45 | — | | | | |
| 7. Post-migration living problems | .04 | −.01 | .01 | −.00 | .37 | .33 | — | | | |
| 8. Age | −.02 | −.04 | −.02 | .11 | .17 | .13 | .07 | — | | |
| 9. Gender | −.04 | −.12 | −.07 | −.08 | .37 | .03 | .22 | .18 | — | |
| 10. Length of stay in the Netherlands[a] | .03 | −.14 | −.11 | −.07 | −.00 | .04 | −.08 | .20 | .13 | — |

Note. [a]In months. T1 to T4 denote assessment number. p-values are not available for correlations based on imputed data. Estimates can be interpreted in terms of effect size: .10 (small), .30 (medium), .50 (large).

CFI = 1.00; RMSEA = .000 [90% C.I. .000, .062]; SRMR = .087. Parameter estimates and rates of missingness are shown in Table 5. Results indicated that greater pre-migration adversity was related to a *higher* intercept of dispositional compassion. None of the other predictors was significantly related to the intercept of dispositional compassion and no associations were found between the migration-related and demographic variables and the linear slope of dispositional compassion.[4]

## Discussion

In the current study, we followed Syrian young adults who were undergoing the process of resettlement (Gonsalves, 1992) in the Netherlands at the time they participated in the study. We focused on change in dispositional compassion, as compassion is regarded to be simultaneously a facet of the Big Five trait Agreeableness, a moral character trait, and a dispositional emotion, all of which have been suggested to be fundamental to prosociality and positive adjustment. We examined experiences of pre-migration adversity, post-traumatic stress symptoms and post-migration living problems, length of stay in the Netherlands gender:, and age as potential correlates of initial levels of and subsequent change in dispositional compassion. Before we turn to describing our findings in relation to our research aims, it is important to note that the current sample is relatively small (N = 168 at the first time point), and not likely to represent the general Syrian population (e.g., 70% of participants

were male, more than half of the people in our sample were highly educated). Therefore, our results should be interpreted with these limitations in mind. However, it is worth noting that the Syrian population in the Netherlands is similar in terms of age (with about 50% aged 18–35), gender distribution (i.e., a majority of males) and educational background (i.e., relatively highly educated compared to the general Syrian population; Refugee Work Netherlands, 2020).

A notable finding from the current study is that mean levels of our measure of dispositional compassion were very high (ranging from 7.08 at T1 to 7.72 at T4 on an 8-point scale for the imputed data) for our sample of Syrian young adults in the Netherlands. Although we cannot make direct comparisons between samples from different studies, it appears that mean levels were higher in the current sample than what has been shown in previous research using the same instrument (e.g., means were 5.42 and 5.50 in samples of American students on a 7-point scale; Dixson et al., 2018; Stellar et al., 2012). Why might this be the case? Socioeconomic status (SES) differences have been one potential explanation for individual differences in compassion, with students of score relatively lower in SES reporting higher levels of compassion than their counterparts of relatively higher SES(Stellar et al., 2012). Specifically, lower-SES individuals are thought to be more attuned to others' distress because—due to a lack of resources—they may be more dependent on forming reciprocal networks with others, relative to their higher SES peers. We speculate that

**Table 4.** Parameter estimates for latent growth curve model of dispositional compassion.

| Parameter Estimates | B | SE B | β/r | p | Rate of Missing |
|---|---|---|---|---|---|
| Intercept by | | | | | |
| Compassion T1 | 1.000 | .000 | .738 | — | .000 |
| Compassion T2 | 1.000 | .000 | .637 | — | .000 |
| Compassion T3 | 1.000 | .000 | .670 | — | .000 |
| Compassion T4 | 1.000 | .000 | .505 | — | .000 |
| Slope by | | | | | |
| Compassion T1 | .000 | .000 | .000 | — | .000 |
| Compassion T2 | 1.000 | .000 | .180 | — | .000 |
| Compassion T3 | 2.000 | .000 | .378 | — | .000 |
| Compassion T4 | 3.000 | .000 | .428 | — | .000 |
| Covariance slope with intercept | .024 | .041 | .223 | .555 | .231 |
| Means | | | | | |
| Intercept | 7.097 | .067 | — | <.001 | .056 |
| Slope | −.110 | .029 | — | <.001 | .085 |
| Intercepts | | | | | |
| Compassion T1 | .000 | .000 | — | — | .000 |
| Compassion T2 | .000 | .000 | — | — | .000 |
| Compassion T3 | .000 | .000 | — | — | .000 |
| Compassion T4 | .000 | .000 | — | — | .000 |
| Variances | | | | | |
| Intercept | .430 | .102 | — | <.001 | .260 |
| Slope | .035 | .023 | — | .129 | .189 |
| Residual variances | | | | | |
| Compassion T1 | .358 | .103 | — | <.001 | .391 |
| Compassion T2 | .547 | .088 | — | <.001 | .361 |
| Compassion T3 | .291 | .065 | — | <.001 | .326 |
| Compassion T4 | .804 | .182 | — | <.001 | .566 |

*Note.* Rate of Missing denotes the proportion uncertainty due to missing data/total uncertainty.

a similar mechanism may play a role in the current context, with individuals with refugee backgrounds being particularly attuned to others distress. Another reason for this may be that compassion reflects an important aspect of Syrian culture. Syria is generally considered to have a predominantly collectivistic culture (Merkin & Ramadan, 2010), and prosocial behavior has been linked to cultures that have a collectivistic orientation (Lampridis & Papastylianou, 2017). It could be that the high levels of dispositional compassion found in the current sample partially reflect Syrian values and norms. Another reason may be due to people in our sample being motivated to reciprocate the support that they may have received during the resettlement process in the Netherlands. In a recent study examining the experiences of people with refugee backgrounds living in Germany (Schmitt, 2021), some participant narratives showed that in the process of resettlement, that they were recipients and dependents on the host society in terms of practical and emotional support, and further, that they felt a desire to reciprocate this support. In this light, perhaps this is one reason why the people in our sample may be particularly attuned to others' needs and distress, exhibited in high levels of dispositional compassion. Finally, the high levels of dispositional compassion may also be reflective of social desirability. Previous research has indicated that respondents are more likely to rate themselves (but not people in general) highly on personality questionnaire items with high social desirability than on items with low social desirability (Pedregon et al., 2012). This, however, may not fully explain why individuals in our sample appear to score higher than participants of earlier empirical studies. Yet, the idea that the high levels of dispositional compassion observed in our sample may be more than just contextual or socially desirable responses are exemplified in a narrative describing the journey from Syria to the Netherlands provided by one of our participants, who shared the following (see Appendix A for the complete narrative):

> We stayed in Greece for a year and two months due to the closure of the borders… I felt completely alone. Except that one day…[when] a young man with unfamiliar features was talking to an Arab woman and she did not understand. I wanted to help her as I walked towards them and saluted both of them, and offered to help. The woman was very grateful, and then the young man asked me if I wanted to help him all day, and I answered [that I] agreed. He was distributing clothes for young children, and when we finished he took me to introduce me to the rest of his friends and asked me if I would like to join them as a translator. I had a glimpse of hope that crept into my heart and a shiver creeping into my body, and so I started working and worked with other organizations as well, such as the Spanish Red Cross, among others. I was not paid [in] anything but the love of people, and their prayers [were] enough for me."

Additionally, using multiple imputation to deal with missing data, we observed that our participants were relatively stable in their levels of dispositional compassion
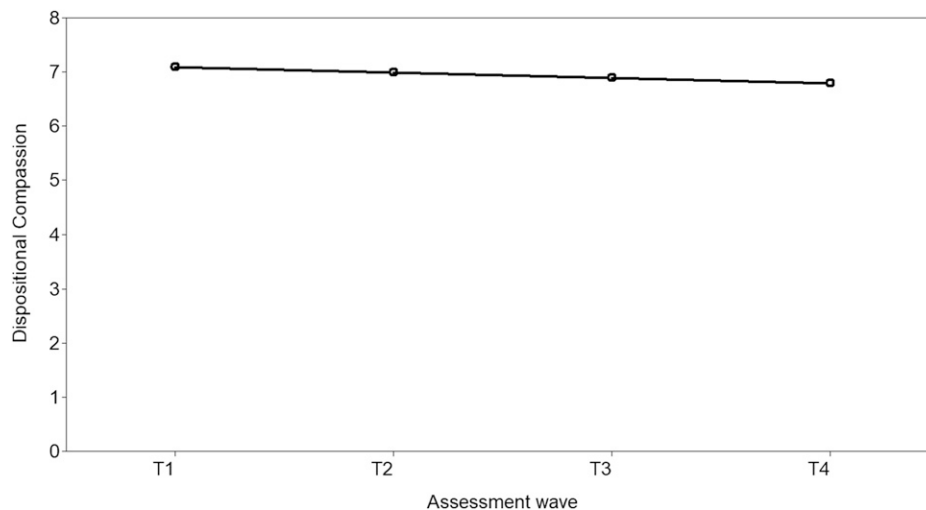
**Figure 1.** Dispositional compassion scores over four waves.

over time, both in terms of test-retest stability and mean-level change. On the one hand, bivariate correlations indicated that people's levels of compassion were only moderately stable over time ($r_{\text{range}} = .36–.65$ across waves). Although we focused explicitly on dispositional compassion—presumably reflecting relatively stable tendencies rather than state fluctuations (e.g., Schriber et al., 2017)—the magnitude of these correlations suggests that some change in people's relative standing in dispositional compassion was quite common over a 13-month period.

On the other hand, our latent growth model analyses indicated that at the group level, our participants demonstrated small changes in dispositional compassion across the four waves. Many of our participants not only showed high levels of dispositional compassion, but also substantial stability in these levels indicating that our sample was generally positively adjusted and appeared to be doing well. This finding might also be interpreted as an indication of resilience. However, resilience has traditionally been described as stable levels of adjustment following a temporary decrease in (psychological) functioning following adversity (Bonanno, 2004; Masten, 2014). The changes we found at the group level indicated small *decreases* in dispositional compassion over time. First, at a methodological level, the decreases found may simply reflect a ceiling effect as not much increase may be possible given the high initial levels found in our sample. Second, at a more conceptual level, our findings may indicate that in general, our participants were still in the "temporary decrease" and not yet back to their initial levels of dispositional compassion. Instead, the small decreases in dispositional compassion found seem to align with the consistent empirical support previously found for the negative psychological consequences of adversity and migration-related adversity specifically (Alisic et al., 2014; Bhugra, 2004; Bonanno, 2004; Chan et al., 2016; Henkelmann et al., 2020; Smid et al., 2011). Of course, even if the absolute levels of compassion are relatively high in our sample, the decreases found over a relatively short period of 13 months may reflect suffering and maladaptive development and therefore warrant further attention in research and practice.

Notably, our findings from the LGCM analyses seem to contradict what has been described as post-traumatic growth: the idea that despite the suffering that arises from facing adversity, adversity may also promote adjustment (Frazier et al., 2009; Tedeschi & Calhoun, 2004). Traditionally, post-traumatic growth has been examined by asking individuals who have been exposed to adversity whether they experienced growth because of it. This approach has been increasingly questioned, particularly because self-reports of growth may not reliably capture genuine positive change due to the adverse experiences (Frazier et al., 2009; Jayawickreme & Blackie, 2014). Of course, given our focus on Syrian young adults who were resettling in the Netherlands, it is not possible to know if the increases we found were the result of the adversity our participants experienced in Syria, or during their flight to the Netherlands, because we did not assess levels of dispositional compassion prior to flight. However, we think that the current findings allow us to overcome some of the critique that traditional post-traumatic growth research has received as far as retrospective self-reports are of concern: rather than asking our participants whether they think they grew, we were able to document dispositional compassion over time, a construct which appears to be a morally valued trait both in collectivistic cultures such as Syria (Lampridis & Papastylianou, 2017; Merkin & Ramadan, 2010) and in Western societies (Fleeson et al., 2014; Miller, 2021). Yet, even when tracking dispositional compassion longitudinally, some care is still warranted in interpreting changes in terms of "growth" or even "positive" change (Miller, 2014). More precisely, at an individual level, increases in compassion may not be experienced as a positive development. Especially in case of particularly high levels of dispositional compassion (as found in the current study), individuals may experience what has been referred to as "compassion fatigue" in the social work literature. However, support for compassion fatigue is limited and it is unclear whether and how it translates to the context of refugee and migration research (Nilsson, 2014). On a similar note, change in other constructs, such as

**Table 5.** Parameter estimates for latent growth curve model of dispositional compassion with migration-related and demographic variables as predictors.

| Parameter Estimates | B | SE B | β/r | p | Rate of Missing |
|---|---|---|---|---|---|
| Intercept by | | | | | |
| Compassion T1 | 1.000 | .000 | .738 | — | .000 |
| Compassion T2 | 1.000 | .000 | .628 | — | .000 |
| Compassion T3 | 1.000 | .000 | .655 | — | .000 |
| Compassion T4 | 1.000 | .000 | .501 | — | .000 |
| Slope by | | | | | |
| Compassion T1 | .000 | .000 | .000 | — | .000 |
| Compassion T2 | 1.000 | .000 | .189 | — | .000 |
| Compassion T3 | 2.000 | .000 | .394 | — | .000 |
| Compassion T4 | 3.000 | .000 | .453 | — | .000 |
| Regressions Intercept on | | | | | |
| Pre-migration adversity | .005 | .010 | .055 | .658 | .058 |
| Post-traumatic stress symptoms | .206 | .096 | .262 | .032 | .105 |
| Post-migration living problems | −.005 | .013 | −.047 | .669 | .038 |
| Age | −.012 | .015 | −.087 | .428 | .104 |
| Gender | −.110 | .163 | −.078 | .500 | .105 |
| Length of stay in Netherlands | −.001 | .004 | −.017 | .870 | .015 |
| Slope on | | | | | |
| Pre-migration adversity | .001 | .006 | .058 | .798 | .437 |
| Post-traumatic stress symptoms | −.005 | .054 | −.023 | .930 | .478 |
| Post-migration living problems | −.003 | .006 | −.074 | .677 | .206 |
| Age | .009 | .007 | .228 | .193 | .272 |
| Gender | −.042 | .082 | −.103 | .610 | .325 |
| Length of stay in Netherlands | −.003 | .002 | −.252 | .192 | .404 |
| Covariance slope with intercept | .022 | .041 | .241 | .590 | .259 |
| Intercepts and means | | | | | |
| Compassion T1 | .000 | .000 | — | — | .000 |
| Compassion T2 | .000 | .000 | — | — | .000 |
| Compassion T3 | .000 | .000 | — | — | .000 |
| Compassion T4 | .000 | .000 | — | — | .000 |
| Intercept | 7.093 | .429 | — | <.001 | .088 |
| Slope | −.223 | .208 | — | .284 | .236 |
| Residual variances and variances | | | | | |
| Compassion T1 | .346 | .102 | 3.397 | .001 | .372 |
| Compassion T2 | .555 | .091 | 6.124 | <.001 | .373 |
| Compassion T3 | .313 | .069 | 4.522 | <.001 | .338 |
| Compassion T4 | .771 | .182 | 4.248 | <.001 | .555 |
| Intercept | .380 | .100 | 3.811 | <.001 | .308 |
| Slope | .033 | .023 | 1.418 | .156 | .216 |

*Note.* Rate of Missing denotes the proportion uncertainty due to missing data/total uncertainty.

psychological problems, may play a more dominant role in an individual's general experience of positive adjustment. As such, change—in any direction—in a sample of Syrian young adults with refugee backgrounds can be of importance as it contributes to a more comprehensive picture adjustment during the process of resettlement, yet it is only a first step. Moreover, our investigation supports the need to conduct longitudinal research to examine well-being and positive adjustment in the aftermath of adversity in more detail (Jayawickreme & Blackie, 2014).

To better understand the meaning of both initial levels and change in dispositional compassion, we examined the associations between migration-related factors and demographic variables, and dispositional compassion both by means of bivariate correlations and in our LGCM analyses.

By including multiple migration-related and demographic variables, we aimed to approximate different ways in which adversity might be associated with (changes in) dispositional compassion. Our bivariate correlations indicated small to moderate associations between several variables. Specifically, post-traumatic stress symptoms were consistently related to higher levels of dispositional compassion across the four waves. And in contrast to our hypothesis, more pre-migration adversity was also related to higher levels of compassion, but only at T1 and T4. This finding warrants further scientific attention as it indicates that the suffering that has been reported in the aftermath of migration-related trauma (e.g., Bhugra, 2004) can *co-occur* with positive adjustment, and dispositional compassion specifically. Previous research has found support for the co-occurrence between suffering and adjustment (e.g., self-

reported growth; Meyerson et al., 2011) following adversity, although this research has typically involved the link between adjustment and PTSD (in contrast to the nature or amount of adversity experienced).

In addition, length of stay in the Netherlands was related to lower levels of compassion. Although length of stay is not interchangeable with the 13-month duration of our study, this finding seems to correspond to the decreases in dispositional compassion found in the LGCM analyses. Future research starting shortly after arrival in the host country and following individuals for a prolonged period of time would be needed to demonstrate when the decreases in dispositional compassion start and how long the decline lasts before relative stability is reached. Furthermore, post-migration living problems, gender and age did not show meaningful relations with dispositional compassion. The findings regarding Furthermore, post-migration living problems may be surprising given previous research that identified a link between post-migration living problems and increased psychological problems (Li et al., 2016; Miller & Rasmussen, 2010) as well as lower quality of life (Correa-Velez et al., 2020).

Additionally, adding predictors to our LGCM indicated only a significant effect of pre-migration adversity on the intercept of dispositional compassion. None of the other migration-related or demographic variables was related to the intercept, and no associations were found between any predictor and change in dispositional compassion over the four waves. Our LGCM findings were in contrast to the results of our bivariate correlations (with the exception of the link between greater pre-migration adversity and higher initial levels of dispositional compassion), and cross-sectional findings from other studies (e.g., Alisic et al., 2014; Bonanno, 2004; Chan et al., 2016; Henkelmann et al., 2020; Smid et al., 2011). Specifically, associations that were observed between variables within each time point did not hold when these data were modeled longitudinally. This raises questions about choosing between a cross-sectional versus a longitudinal approach to the association between adversity and adjustment. The co-occurrence of potential suffering and adjustment (i.e., the association between exposure to adversity and compassion) seems to hold a positive message: people might experience psychological problems in the aftermath of adversity, but they may also do well in other domains of functioning.

Yet, identifying the causes of change in adjustment, however, is not an easy ride. Seemingly, the mechanisms underlying trajectories of maladjustment and positive adjustment may be different. Whereas psychological problems reflect suffering, compassion has been suggested to represent the key emotion that motivates prosocial behavior (Goetz et al., 2010). As a result, compassion binds individuals together in long-lasting relationships based in mutual care (Lim & DeSteno, 2016). From this perspective, it seems plausible that characteristics of one's social milieu, and not migration-related adversity, may facilitate and help drive stability and change in dispositional compassion. This suggests that future research aiming to understand individual differences in dispositional compassion trajectories in people resettling in their new country should have a stronger focus on the quality of people's social relationships and their sense of belonging with the host country. Given the normative transition into new roles and relationships typical for the transitional period of young adulthood (Bleidorn, 2015), this may be particularly important in samples of young adults as included in the current study. Finally, research identifying change in stress responses over time indicate that psychological factors (e.g., coping ability, attitudes, personality), in combination with environmental and demographic characteristics (e.g., age, education), contribute to a resilient pattern of adaptation to severe stressors over time (e.g., Galatzer-Levy et al., 2018). Most likely, different forces may jointly contribute to some people experiencing increases in adjustment—maybe dispositional compassion but possibly also other personality and psychological constructs—after experiencing adversity when in new surroundings.

Some additional considerations should be taken into account when interpreting the results of the current study. As stated earlier, the sample size of the current study was relatively small. Additionally, we were limited to relatively basic, descriptive analyses, and focused on the prediction of changes in dispositional compassion. More sophisticated analyses in a larger sample may better account for individual differences in trajectories of dispositional compassion (Bonanno, 2004). Such an approach may enable detection of small subgroups showing deviating trajectories of change, potentially including increases in dispositional compassion across time.[5] Nonetheless, although our sample size was relatively small compared to other longitudinal studies, our sample size of 168 is quite large for one focused on Syrian young adults with refugee backgrounds. Recruiting a sufficiently large and representative sample of people from specific populations living in disadvantaged circumstances can be challenging, and the number of participants in the study is likely to be smaller than samples drawn from normative populations (Chung et al., 2021; Jayawickreme et al., 2021).

Furthermore, the time since arrival in the Netherlands varied substantially across individuals in our sample. Although the bivariate correlations indicated that a longer time since arrival was related to lower levels of dispositional compassion (seemingly corresponding to the decreases found in in the LGCM), length of stay was not associated with either the intercept nor slope of dispositional compassion in the LGCM analysis. Finally, the current study included four waves covering 13 months. Although this design is unique given our sample of participants, future research may aim to start data-collection within a few months after arrival and follow the participants up for multiple years. This would not only provide more insight in the full resettlement process, but also allow investigation of more trait-like characteristics including positive personality traits (Blackie et al., 2017; Jayawickreme & Blackie, 2014).

In sum, our sample of young adults from Syria showed high initial levels, yet small decreases in dispositional compassion while building up a new life in the

Netherlands. In our cross-sectional correlation analyses, we observed some significant associations between migration-related variables and dispositional compassion. Yet, when we examined these associations longitudinally using LGCM, only the link between pre-migration adversity and the intercept of dispositional compassion was significant. The absence of a prospective link between post-traumatic stress in the presence of a cross-sectional one (as often found in cross-sectional studies on post-traumatic growth) emphasizes the importance of conducting longitudinal research for examining growth following adversity. Although our study has methodological limitations such as a lack of pre-migration assessment, a relatively short assessment period, and a relatively small sample size, our findings indicate that the trajectory of dispositional compassion is not what may be expected from a post-traumatic growth perspective—the majority of participants showed a decline in dispositional compassion. More research is needed to fully capture and understand the trajectory of dispositional compassion and their correlates with regard to resettlement and adjustment.

## Contributorship

O.M.L.: Conceptualization, formal analysis, supervision, writing – original draft, writing – review & editing. J.E.S.: Conceptualization, formal analysis, writing – original draft, writing – review & editing. K.A.: Investigation, Formal analysis, writing – review & editing. E.A.: Investigation, Project administration. L.M.: Investigation, Resources, Project administration. N.M.: Data curation, formal analysis. T.M.: Conceptualization, formal analysis, writing – original draft, writing – review & editing. I.O.: Formal analysis, writing – original draft. H.R.: Investigation, writing – original draft, writing – review & editing. D.T.: Data curation, formal analysis, resources, methodology, writing – review & editing. R.Z.: Data curation, formal analysis. J.M.C.: Conceptualization, data curation, formal analysis, writing – original draft, writing – review & editing.

## ORCID iDs

Duygu Taşfiliz ⬤ https://orcid.org/0000-0002-1899-6956
Joanne M Chung ⬤ https://orcid.org/0000-0002-2191-9644

## Supplemental Material

Supplemental material for this article is available online.

## Notes

1. To get a better sense of model misfit in the weak invariance model, we examined modification indices from the model output but did not identify any paths that could be freed that seemed sound (i.e., output indicated that allowing the residuals for the items, "I often notice people who need help" and "I am a very compassionate person" for T1, T2, and T4 would reduce model misfit but it is not clear why).

2. It should be noted that the current analyses differ from an earlier iteration of this manuscript, in which we proposed a commentary and extensive descriptive analyses of a larger set of variables than is included in the current study. Based on helpful comments by our reviewers, we separated the commentary from our empirical examination, resulting in Chung et al., (this issue) and the current study. Furthermore, we refined our empirical investigation to a limited set of relevant variables as correlates of change in dispositional compassion. However, interested readers can find the results of our originally planned descriptive analyses on the Open Science Framework: https://osf.io/w3gke/

3. In an earlier version of the manuscript, we followed Little's recommendations for understanding missing data which we replaced by multiple imputation based on reviewer's comments, but also add here for transparency. Little's MCAR-test suggested that missingness was completely at random, $\chi2(72) = 91.447$, $p = .061$, indicating that running our analyses using Full Information Maximum Likelihood (FIML) was appropriate. Conclusions did not differ between the original model we conducted using FIML and the model with imputed data. For the linear growth model, $\chi2 (5) = 5.98$, $p = .310$; AIC = 1331.31; BIC = 1359.42; CFI = .992; RMSEA = .034 [90% C.I. .000, .117]. SRMR = .105; b = −0.10, SE= 0.03, $p < .01$. For the linear growth model with predictors, all model fit statistics was available: $\chi2 (17) = 15.07$, $p = .590$; AIC = 1318.23; BIC = 1383.46; CFI = 1.000; RMSEA = .000 [90% C.I. .000, .063]. SRMR = .07. Only pre-migration adversity was significantly related to the intercept of dispositional compassion, but not to linear growth. See: https://osf.io/mcqjf/

4. Descriptive analyses indicated increasing variances for dispositional compassion over the four waves, raising the possibility that the predictor variables would be associated with an intercept that was centered at T4 instead of T1. To further explore this, we followed up on a reviewer's suggestion to run our analyses using reversely time ordered dispositional

compassion scores (i.e., T4-T3-T2-T1), allowing for the migration-related and demographic variables to predict an intercept paralleling T4 instead of T1. Results indicated that there were some slight differences in the path estimates compared to the chronologically time ordered model. However, none of the predictors were significantly related to either the intercept or slope. See: https://osf.io/mcqjf/

5. In earlier version of this manuscript, we conducted Latent Class Growth Analyses (LCGA) on the dispositional compassion data. However, LGCAs have several limitations when using a small sample like ours. Our results suggested a number of subgroups in the trajectory of dispositional compassion, but they were too small for further analyses, as pointed out by a helpful reviewer. However, for transparency, interested readers can find the output here: https://osf.io/mcqjf/

## References

Alisic, E., Van der Schoot, T., van Ginkel, J. R., & Kleber, R. J. (2008). Looking beyond posttraumatic stress disorder in children: Posttraumatic stress reactions, posttraumatic growth, and quality of life in a general population sample. *Journal of Clinical Psychiatry*, 69(9), 1455–1461. https://doi.org/10.4088/JCP.v69n0913

Alisic, E., Zalta, A. K., van Wesel, F., Larsen, S. E., Hafstad, G. S., Hassanpour, K., & Smid, G. E. (2014). Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: Meta-analysis. *The British Journal of Psychiatry*, 204(5), 335–340. https://doi.org/10.1192/bjp.bp.113.131227

Allport, G. W. (1961). *Pattern and growth in personality*. Holt, Reinhart & Winston.

Aquino, K., & Reed, A. II. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology*, 83(6), 1423–1440. https://doi.org/10.1037/0022-3514.83.6.1423

Arnett, J. J. (2011). *Debating emerging adulthood: Stage or process?* Oxford University Press.

Bakker, L., Dagevos, J., & Engbersen, G. (2014). The importance of resources and security in the socio-economic integration of refugees. A study on the impact of length of stay in asylum accommodation and residence status on socio-economic integration for the four largest refugee groups in the Netherlands. *Journal of International Migration and Integration*, 15(3), 431–448. https://doi.org/10.1007/s12134-013-0296-2

Bhugra, D. (2004). Migration and mental health. *Acta Psychiatrica Scandinavica*, 109(4), 243–258. https://doi.org/10.1046/j.0001-690X.2003.00246.x

Blackie, L. E. R., Jayawickreme, E., Tsukayama, E., Forgeard, M. J. C., Roepke, A. M., & Fleeson, W. (2017). Post-traumatic growth as positive personality change: Developing a measure to assess within-person variability. *Journal of Research in Personality*, 69, August, 2017, 22–32. https://doi.org/10.1016/j.jrp.2016.04.001

Bleidorn, W. (2015). What accounts for personality maturation in early adulthood? *Current Directions in Psychological Science*, 24(3), 245–252. https://doi.org/10.1177%2F0963721414568662

Bleidorn, W., & Schwaba, T. (2017). Personality development in emerging adulthood. In *Personality development across the lifespan* (pp. 39–51). Academic Press.

Bonanno, G. A. (2004). Loss, Trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59(1), 20–28. https://doi.org/10.1037/0003-066X.59.1.20

Bosman, R. C., Ten Have, M., de Graaf, R., Muntingh, A. D., van Balkom, A. J., & Batelaan, N. M. (2019). Prevalence and course of subthreshold anxiety disorder in the general population: a three-year follow-up study. *Journal of Affective Disorders*, 247(15), 105–113. https://doi.org/10.1016/j.jad.2019.01.018

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross- Cultural Psychology*, 1(3), 185–216. https://doi.org/10.1177/135910457000100301

Calhoun, L. G., & Tedeschi, R. G. (2014). *Handbook of posttraumatic growth: Research and practice*. Psychology Press.

Caspi, A., & Roberts, B. W. (2001). Personality development across the life course: The argument for change and continuity. *Psychological Inquiry*, 12(2), 49–66. https://doi.org/10.1207/S15327965PLI1202_01

Chan, K. J., Young, M. Y., & Sharif, N. (2016). Well-being after trauma: A review of posttraumatic growth among refugees. *Canadian Psychology/Psychologie Canadienne*, 57(4), 291–299. https://doi.org/10.1037/cap00000655432

Choi, Y., Lim, S. Y., Jun, J. Y., Lee, S. H., Yoo, S. Y., Kim, S., Gwak, A. R., Kim, J. C., Lee, Y. J., & Kim, S. J. (2017). The effect of traumatic experiences and psychiatric symptoms on the life satisfaction of North Korean refugees. *Psychopathology*, 50(3), 203–210. https://doi.org/10.1159/000468544

Chung, J., Zonneveld, R., Al Sawaf, Z., Alajak, K., Moopen, N., Rahim, H., Çiftçi, L., Alisic, E., Stellar, J., Mooren, T., Sleijpen, M., Tešanovic, T., Al Baker, H., Dali, R., Papadantonaki, M., Papakosta, N., Antink, M., Charisopoulou, S., Frens, M., & Laceulle, O. (2021). Initial insights from a study of emotions and positive personality change in syrian origin young adults who have recently resettled in the Netherlands. Preprint. https://psyarxiv.com/xvqrs/

Chung, J. M., Robins, R. W., Trzesniewski, K. H., Noftle, E. E., Roberts, B. W., & Widaman, K. F. (2014). Continuity and change in self-esteem during emerging adulthood. *Journal of Personality and Social Psychology*, 106(3), 469–483. https://doi.org/10.1037/a0035135

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Academic press.

Correa-Velez, I., Green, A., Murray, K., Schweitzer, R. D., Vromans, L., Lenette, C., & Brough, M. (2020): Social context matters: Predictors of quality of life among recently arrived refugee women-at-risk living in Australia. *Journal of Immigrant & Refugee Studies*, 18(4), 498–514. https://doi.org/10.1080/15562948.2020.1734893

Crowe, M. L., Lynam, D. R., & Miller, J. D. (2018). Uncovering the structure of agreeableness from self-report measures. *Journal of Personality*, 86(5), 771–787. https://doi.org/10.1111/jopy.12358

Dagevos, J., Huijnk, W., Maliepaard, M., & Miltenburg, E. (2018). Syriërs in Nederland: Een studie over de eerste jaren van hun leven in Nederland. Den Haag: Sociaal Cultureel Planburea (SCP).

Devi, S. (2018). Syria: 7 years into a civil war. *The Lancet*, 391(10115):15–16. doi: 10.1016/S0140-6736(18)30006-0

DeYoung, C. G., Quilty, L. C., & Peterson, J. B. (2007). Between facets and domains: 10 aspects of the Big Five. *Journal of Personality and Social Psychology*, 93(5), 880–896. https://doi.org/10.1037/0022-3514.93.5.880

Dixson, D. D., Anderson, C. L., & Keltner, D. (2018). Measuring positive emotions: An examination of the reliability and structural validity of scores on the seven dispositional positive emotions scales. *Journal of Well-Being Assessment*, 2(2), 115–133. https://doi.org/10.1007/s41543-019-00015-y

Ellis, B. H., Abdi, S. M., Horgan, J., Miller, A. B., Saxe, G. N., & Blood, E. (2015). Trauma and openness to legal and illegal activism among Somali refugees. *Terrorism and Political Violence*, 27(5), 857–883. https://doi.org/10.1080/09546553.2013.867849

Erikson, E. H. (1964). *Insight and responsibility*. Norton.

Fazel, M., Wheeler, J., & Danesh, J. (2005). Prevalence of serious mental disorder in 7000 refugees resettled in western countries: A systematic review. *The Lancet*, 365(9467), 1309–1314. https://doi.org/10.1016/S0140-6736(05)61027-6

Fleeson, W., Furr, R. M., Jayawickreme, E., Meindl, P., & Helzer, E. G. (2014). Character: The prospects for a personality-based perspective on morality. *Social and Personality Psychology Compass*, 8(4), 178–191. https://doi.org/10.1111/spc3.12094

Frazier, P., Tennen, H., Gavian, M., Park, C., Tomich, P., & Tashiro, T. (2009). Does self- reported posttraumatic growth reflect genuine positive change? *Psychological Science*, 20(7), 912–919. https://doi.org/10.1111%2Fj.1467-9280.2009.02381.x

Galatzer-Levy, I. R., Huang, S. H., & Bonanno, G. A. (2018). Trajectories of resilience and dysfunction following potential trauma: A review and statistical evaluation. *Clinical Psychology Review*, 63, July 2018, 41–55. https://doi.org/10.1016/j.cpr.2018.05.008

Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351–374. https://doi.org/10.1037/a0018807

Gonsalves, C. J. (1992). Psychological stages of the refugee process: A model for therapeutic interventions. *Professional Psychology: Research and Practice*, 23(5), 382–389. https://doi.org/10.1037/0735-7028.23.5.382

Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74(5), 797–816. https://doi.org/10.1037/0022-006X.74.5.797

Henkelmann, J. R., de Best, S., Deckers, C., Jensen, K., Shahab, M., Elzinga, B., & Molendijk, M. (2020). Anxiety, depression and post-traumatic stress disorder in refugees resettling in high-income countries: Systematic review and meta-analysis. *BJPsych Open*, 6(4), e68. https://doi.org/10.1192/bjo.2020.54

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology*, 50(3), 337–421. https://doi.org/10.1111/1464-0597.00062

Hooper, D., Coughlan, J., & Mullen, M. (2008). Evaluating model fit: a synthesis of the structural equation modelling literature. In 7th European Conference on research methodology for business and management studies. (pp. 195–200)

Hou, W. K., Liu, H., Liang, L., Ho, J., Kim, H., Seong, E., Bonanno, G. A., Hobfoll, S. E., & Hall, B. J. (2020). Everyday life experiences and mental health among conflict-affected forced migrants: A meta-analysis. *Journal of Affective Disorders*, 264, March, 2020, 50–68. https://doi.org/10.1016/j.jad.2019.11.165

Ibrahim, H., & Hassan, C. Q. (2017). Post-traumatic stress disorder symptoms resulting from torture and other traumatic events among Syrian Kurdish refugees in Kurdistan region, Iraq. *Frontiers in Psychology*, 8, Issue: February 2017, (1–8). https://doi.org/10.3389/fpsyg.2017.00241

Izard, C. E. (2010). The many meanings/aspects of emotion: Definitions, functions, activation, and regulation. *Emotion Review*, 2(4), 363–370. https://doi.org/10.1177%2F1754073910374661

Jayawickreme, E., & Blackie, L. E. R. (2014). Post-traumatic growth as positive personality change: Evidence, controversies and future directions. *European Journal of Personality*, 28(4), 312–331. https://doi.org/10.1002/per.1963

Jayawickreme, E., Infurna, F. J., Alajak, K., Blackie, L. E., Chopik, W. J., Chung, J. M., Dorfman, A., Fleeson, W., Forgeard, M. J. C., Frazier, P., Furr, R. M., Grossmann, I., Heller, A. S., Laceulle, O. M., Lucas, R. E., Luhmann, M., Luong, G., Meijer, L., McLean, K. C., & Zonneveld, R. (2021). Post-traumatic growth as positive personality change: Challenges, opportunities, and recommendations. *Journal of Personality*, 89(1), 145–165. https://doi.org/10.1111/jopy.12591

Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition & Emotion*, 13(5), 505–521. https://doi.org/10.1080/026999399379168

Kilmer, R. P. (2006). Resilience and posttraumatic growth in children. In L. G. Calhoun & R.G. Tedeschi (Eds.), *The handbook of posttraumatic growth: Research and practice* (pp. 264–288). Psychology Press.

Knipscheer, J. W., Sleijpen, M., Mooren, T., Ter Heide, F. J., & van der Aa, N. (2015). Trauma exposure and refugee status as predictors of mental health outcomes in treatment-seeking refugees. *BJPsych Bulletin*, 39(4), 178–182. https://doi.org/10.1192/pb.bp.114.047951

Kristjánsson, K. (2010). *The self and its emotions*. Cambridge University Press.

Kroger, J., Martinussen, M., & Marcia, J. E. (2010). Identity status change during adolescence and young adulthood: A meta-analysis. *Journal of Adolescence*, 33(5), 683–698. https://doi.org/10.1016/j.adolescence.2009.11.002

Laban, C. J., Gernaat, H. B., Komproe, I. H., Van Der Tweel, I., & De Jong, J. T. (2005). Postmigration living problems and common psychiatric disorders in Iraqi asylum seekers in the Netherlands. *The Journal of Nervous and Mental Disease*, 193(12), 825–832. https://doi.org/10.1097/01.nmd.0000188977.44657.1d

Laceulle, O. M., Kleber, R. J., & Alisic, E. (2015a). Children's experience of posttraumatic growth: Distinguishing general from domain-specific correlates. *PLoS One*, 10(12), Article e0145736. https://doi.org/10.1371/journal.pone.0145736

Laceulle, O. M., Nederhof, E., Karreman, A., Ormel, J., & Aken, M. A. G. (2012). Stressful events and temperament change during early and middle adolescence: The TRAILS study. *European Journal of Personality*, 26(3), 276–284. https://doi.org/10.1002%2Fper.832

Laceulle, O. M., van Aken, M. A., Ormel, J., & Nederhof, E. (2015b). Stress-sensitivity and reciprocal associations between stressful events and adolescent temperament. *Personality and Individual Differences*, 8(7), 76–83. https://doi.org/10.1016/j.paid.2014.12.009

Lamkaddem, M., Stronks, K., Devillé, W. D., Olff, M., Gerritsen, A. A., & Essink-Bot, M. L. (2014). Course of post-traumatic stress disorder and health care utilisation among resettled refugees in the Netherlands. *BMC Psychiatry*, *14*(1), 90. https://doi.org/10.1186/1471-244X-14-90h

Lampridis, E., & Papastylianou, D. (2017). Prosocial behavioural tendencies and orientation towards individualism–collectivism of Greek young adults. *International Journal of Adolescence and Youth*, *22*(3), 268–282. https://doi.org/10.1080/02673843.2014.890114

Lerner, R. M., & Schmid Callina, K. (2014). The study of character development: Towards tests of a relational developmental systems model. *Human Development*, *57*(6), 1–25. https://doi.org/10.1159/000368784

Li, S. S., Liddell, B. J., & Nickerson, A. (2016). The relationship between post-migration stress and psychological disorders in refugees and Asylum Seekers. *Current Psychiatry Reports*, *18*(9), 82. https://doi.org/10.1007/s11920-016-0723-0

Lim, D., & DeSteno, D. (2016). Suffering and compassion: The links among adverse life experiences, empathy, compassion, and prosocial behavior. *Emotion*, *16*(2), 175. https://doi.org/10.1037/emo0000144

Löckenhoff, C. E., Terracciano, A., Patriciu, N. S., Eaton, W. W., & Costa, P. T. (2009). Self- reported extremely adverse life events and longitudinal changes in five-factor model personality traits in an urban sample. *Journal of Traumatic Stress*, *22*(1), 53–59. https://doi.org/10.1002/jts.20385

Masten, A. S. (2014). Global perspectives on resilience in children and youth. *Child Development*, *85*(1), 6–20. https://doi.org/10.1111/cdev.12205

Merkin, R., & Ramadan, R. (2010). Facework in Syria and the United States: A cross-cultural comparison. *International Journal of Intercultural Relations*, *34*(6), 661–669. https://doi.org/10.1016/j.ijintrel.2010.05.006

Meyerson, D. A., Grant, K. E., Carter, J. S., & Kilmer, R. P. (2011). Posttraumatic growth among children and adolescents: A systematic review. *Clinical Psychology Review*, *31*(6), 949–964. https://doi.org/10.1016/j.cpr.2011.06.003

Miller, C. (2014). A satisfactory definition of "posttraumatic growth" still remains elusive. *European Journal of Personality*, *28*(4), 344–346. https://doi.org/10.1002/per.1970

Miller, C. (2021). The philosophy and psychology of character. *Personality Science*, *2*, 1–5. https://doi.org/10.5964/ps.6031

Miller, K. E., & Rasmussen, A. (2010). War exposure, daily stressors, and mental health in conflict and post-conflict settings: Bridging the divide between trauma-focused and psychosocial frameworks. *Social Science & Medicine*, *70*(1), 7–16. https://doi.org/10.1016/j.socscimed.2009.09.029

Mollica, R. F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S., & Lavelle, J. (1992). The Harvard Trauma questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease*, *180*(2), 111–116. https://doi.org/10.1097/00005053-199202000-00008

Muthén, B., & Muthén, L. (2017). *Mplus* (pp. 507–518). Chapman and Hall/CRC.

National Child Traumatic Stress Network. (2009). Psychological first aid online. https://www.nctsn.org/resources/psychological-first-aid-pfa-online

Nickerson, A., Liddell, B. J., Maccallum, F., Steel, Z., Silove, D., & Bryant, R. A. (2014). Posttraumatic stress disorder and prolonged grief in refugees exposed to trauma and loss. *BMC Psychiatry*, *14*, 106. https://doi.org/10.1186/1471-244X-14-106

Nilsson, P. (2014). Are empathy and compassion bad for the professional social worker? *Advances in Social Work*, *15*(2), 294–305. https://doi.org/10.18060/17679

Noftle, E. (2015). Character across early emerging adulthood: Character traits, character strivings, and moral self-attributes. In C. B. Miller, R. M. Furr, A. Knobel, W. Fleeson (Eds.), *Character: New directions from philosophy, psychology, and theology* (pp. 490–521). Oxford University Press.

Nolen-Hoeksema, S., & Davis, C. G. (2004). Theoretical and methodological issues in the assessment and interpretation of posttraumatic growth. *Psychological Inquiry*, *15*(1), 60–64. http://www.jstor.org/stable/20447203

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLoS Medicine*, *9*(11), Article e1001349. https://doi.org/10.1371/journal.pmed.1001349

Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*, *14*(4), 535–569. https://doi.org/10.1080/10705510701575396

O'Donnell, M. L., Creamer, M., & Pattison, P. (2004). Posttraumatic stress disorder and depression following trauma: Understanding comorbidity. *The American Journal of Psychiatry*, *161*(8), 1390–1396. https://doi.org/10.1176/appi.ajp.161.8.1390

Pedregon, C. A., Farley, R. L., Davis, A., Wood, J. M., & Clark, R. D. (2012). Social desirability, personality questionnaires, and the "better than average" effect. *Personality and Individual Differences*, *52*(2), 213–217 https://doi.org/10.1016/j.paid.2011.10.022

Refugee Work Netherlands Vluchtelingenwerk Nederland. (2020, August). Vluchtelingen in getallen (Refugees in Numbers). https://www.vluchtelingenwerk.nl/sites/default/files/u36436/vluchtelingen_in_getallen_2020_v11.pdf

Şafak-AyvazoĞlu, A., KünüroĞlu, F., Van de Vijver, F., & YaĞmur, K. (2021). Acculturation of Syrian refugees in the Netherlands: Religion as social identity and boundary marker. *Journal of Refugee Studies*, *34*(1), 555–578. https://doi.org/10.1093/jrs/feaa020

Schick, M., Zumwald, A., Knöpfli, B., Nickerson, A., Bryant, R. A., Schnyder, U., Müller, J., & Morina, N. (2016). Challenging future, challenging past: The relationship of social integration and psychological impairment in traumatized refugees. *European Journal of Psychotraumatology*, *7*(1), 28057. https://doi.org/10.3402/ejpt.v7.28057

Schmitt, C. (2021). 'I want to give something back': Social support and reciprocity in the lives of young refugees. *Refuge: Canada's Journal on Refugees/Refuge: Revue canadienne sur les réfugiés*, *37*(1), 3–12. https://doi.org/10.1016/j.paid.2011.10.022

Schriber, R. A., Chung, J. M., Sorensen, K. S., & Robins, R. W. (2017). Dispositional contempt: A first look at the contemptuous person. *Journal of Personality and Social Psychology*, *113*(2), 280–309. https://doi.org/10.1037/pspp0000101

Shiner, R. L., Allen, T. A., & Masten, A. S. (2017). Adversity in adolescence predicts personality trait change from childhood to adulthood. *Journal of Research in Personality*, *64*, 171–182. https://doi.org/10.1016/j.jrp.2016.10.002

Shiota, M. N., Keltner, D., & John, O. P. (2006). Positive emotion dispositions differentially associated with big five personality and attachment style. *The Journal of Positive Psychology*, *1*(2), 61–71. https://doi.org/10.1080/17439760500510833

Shoeb, M., Weinstein, H., & Mollica, R. (2007). The Harvard Trauma Questionnaire: Adapting a cross-cultural instrument for measuring torture, Trauma and posttraumatic stress disorder in Iraqi refugees. *International Journal of Social Psychiatry*, *53*(5), 447–463. https://doi.org/10.1177/0020764007078362

Sigvardsdotter, E., Vaez, M., Rydholm Hedman, A. M., & Saboonchi, F. (2016). Prevalence of torture and other warrelated traumatic events in forced migrants: A systematic review. *Torture*, *26*(2), 41–73.

Silove, D., Sinnerbrink, I., Field, A., Manicavasagar, V., & Steel, Z. (1997). Anxiety, depression and PTSD in asylum-seekers: Associations with pre-migration trauma and post-migration stressors. *The British Journal of Psychiatry*, *170*(4), 351–357. https://doi.org/10.1192/bjp.170.4.351

Sleijpen, M., Haagen, J., Mooren, T., & Kleber, R. J. (2016). Growing from experience: An exploratory study of posttraumatic growth in adolescent refugees. *European Journal of Psychotraumatology*, *7*(1), 28698. https://doi.org/10.3402/ejpt.v7.28698

Smid, G. E., Lensvelt-Mulders, G. J., Knipscheer, J. W., Gersons, B. P., & Kleber, R. J. (2011). Late-onset PTSD in unaccompanied refugee minors: Exploring the predictive utility of depression and anxiety symptoms. *Journal of Clinical Child & Adolescent Psychology*, *40*(5), 742–755. https://doi.org/10.1080/15374416.2011.597083

Starkey, C. (2015). Emotion and character. In C. B. Miller, R. M. Furr, A. Knobel & W. Fleeson (Eds.), *Character: New directions from philosophy, psychology, and theology* (pp. 192–211). Oxford University Press.

Statistics Netherlands. (2021). Centraal Bureau voor de Statistiek. https://www.cbs.nl/en-gb

Steel, Z., Silove, D., Phan, T., & Bauman, A. (2002). Long-term effect of psychological trauma on the mental health of Vietnamese refugees resettled in Australia: A population-based study. *Lancet*, *360*(9339), 1056–1062. https://doi.org/10.1016/S0140-6736(02)11142-1

Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., Maruskin, L. A., & Keltner, D. (2017). Self-transcendent emotions and their social functions: Compassion, gratitude, and awe bind us to others through prosociality. *Emotion Review*, *9*(3), 200–207. https://doi.org/10.1177/1754073916684557

Stellar, J. E., Manzo, V. M., Kraus, M. W., & Keltner, D. (2012). Class and compassion: Socioeconomic factors predict responses to suffering. *Emotion*, *12*(3), 449.

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, *15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01

United Nations High Commissioner for Refugees. (2021). Global trends. https://www.unhcr.org/flagship-reports/globaltrends/

Vollhardt, J. R. (2009). Altruism born of suffering and prosocial behavior following adverse life events: A review and conceptualization. *Social Justice Research*, *22*(1), 53–97. https://doi.org/10.1007/s11211-009-0088-1