Resilience and Vulnerability among Newly immigrated Adolescents

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Abstract:

Background: The present study examined the extent to which grit, self-efficacy, and resilience are present in newly immigrated adolescents and how they differ from the norm population. The data was also examined for gender differences and correlations with the variables.

Methods: The study examined newly immigrated adolescents (n=55) while using RS-13 (Resilience Scale), GSE (General Self-efficacy Scale) and the Grit-Scale. Furthermore, sociodemographic variables like age, religion and gender were collected. The study variables were self-reported and t-tests, asymptotic Mann-Whitney- U -Test and Bravais-Pearson correlation analysis were performed.

Results: The participants showed a lower score regarding grit and general self-efficacy compared to the norm population, but they exhibited a higher resilience-score. Female participants demonstrated a lower resilience-score than male participants. Male participants showed lower general self-efficacy compared to female participants. There were no gender differences with regard to grit. The data revealed a negative correlation between resilience and grit and resilience and general self-efficacy.

Conclusions: The present sample shows that non-resilience or vulnerability does not exist qua migration and flight. Furthermore, the results show weaknesses in the use of RS-13 among newly immigrated adolescents and opens up the potential concept of resilience with regard to research with young refugees.

1. **Resilience and protective factors vs. vulnerability and risk factors among adolescents**

The term resilience has been a common term in different disciplines (e.g. psychology and pedagogy) for decades, each with its own interpretation; a theoretical specification is still pending. In the context of this paper, the following understanding of the term will apply: Resilience is understood as the counter-construct to vulnerability and is interpreted as a transactional, lifelong process of adaptation and learning. A resilient person adapts successfully in the face of challenging and highly stressful circumstances to the extent that he or she does not feel any psychological suffering and continues to maintain an effective exchange relationship with his or her environment (Masten et al., 1990 465). Regarding people with refugee experiences, many stressful circumstances can be named that initiate resilient action and thus maintain mental and somatic well-being: "acculturative stress" (Berry et al., 2006) as well as pre-, peri-, and post-migrant stress and trauma. Resilient individuals are then considered to maintain a relatively stable, healthy level of psychological functioning despite adverse circumstances (Bonanno, 2005).

The building and development of resilience occurs through a constellation of internal and external protective and risk factors unique to each individual, which are contextual, multifinal, and specific (Cohler et al., 1995).
Internal/internal and external/external protective factors are those aspects of an individual and his environment that support his psychological resilience. Internal protective factors include, for example, a reliable caregiver, balanced emotional regulation, self-efficacy, persistence, social competence, and acceptance of responsibility (e.g. Werner, 1996). Risk factors are aspects that make it difficult to process negative events in a "healthy" way, e.g., preventing access to education, poverty, experiences of marginalization, disability, or mental illness of a parent.

When listing protective and risk factors, there is the difficulty of general validity. No causal conditions can be presented, since individuals have different contextual conditions on the one hand, and on the other hand, the common resilience concepts do not adequately reflect the lives and experiences of those who are considered vulnerable. In this regard, resilience research still lacks theoretical precision and measurement-theoretical coverage that also captures non-Western-definable protective and risk factors. It is clear from the foregoing that resilience is constantly socially constructed. Therefore, the concept of resilience needs to be analysed as an instrument of power and marginalization, as the categorization of individuals as "resilient" or "non-resilient/vulnerable" has implications for the lives of those who are categorized as "non-resilient/vulnerable" (exemplified by people with disabilities by Hutcheon & Lashewicz, 2013). Here, Foucault's discourse of normalization offers itself as an analytical tool to uncover hegemonic orders of a "doing-resiliency".

Resilience research has identified the most prominent protective factors for adolescents as a) a reliable bond with at least one caregiver (Werner, 2006) and b) a positive self-concept, which is composed of, among other things, high self-efficacy (Collishaw et al., 2016) and grit (Tang et al., 2020). Marley and Mauki (2019) identified age, self-esteem/self-efficacy, maintenance of cultural identity, social support, belonging and safety, and innovative social care services in the community as protective factors, particularly for refugees and newly migrated adolescents. In the given context, the focus should be on self-efficacy and grit as inner protective factors, as it is considered to have a significant influence on human resilience (e.g. Sabin et al., 2021). In the discourse on newly arrived immigrants and refugees, attributions and social constructs dominate that describe these groups of people disproportionately often as "traumatized," "emotionally burdened," and "vulnerable," and thus as non-resilient and deficient (e.g. Frank et al., 2017). Although the high rate of sequential traumatization in this group of people is acknowledged by the authors, the focus here will now be on the processing of trauma and stress, or its end product can be: Resilience.

2.   Current state of research

There is a shortage in the state research when looking at resilience, general self-efficacy, and grit in newly immigrated adolescents. No studies have been found investigating resilience, general self-efficacy and grit in newly immigrated adolescents while using all three instruments, RS-13, GSE and Grit-Scale in combination. Some studies used only isolated instruments, while others examined resilience, grit, or general self-efficacy in combination with other instruments. The investigations using RS-13, GSE and grit were partly conducted with a non-German adolescent sample but not within newly immigrated adolescents. Areepattamannil and Khine (2018) provided support for the appropriateness of the original

Grit-Scale among adolescents in the Arab Gulf state. Data demonstrated support that GSE is a universal instrument for different cultures (Scholz et al., 2002; Schwarzer et al., 1997). Furthermore, no studies were found which exhibit the difference between newly immigrated adolescents and the norm population regarding all these instruments, RS-13, Grit-Scale and GSE.

The state of research is also weak regarding investigating the *correlation* between resilience, general self-efficacy and grit in newly immigrated adolescents while using all instruments RS-13, Grit-Scale and GSE. Sporadically, studies exist which are exhibiting the correlations between two of the instruments of resilience, general self-efficacy and Grit-scale within people who are not newly immigrated. There is some evidence that grit and general self-efficacy are correlated positively with resilience. Studies showed a positive correlation between RS-13 and GSE on a representative German sample (Hinz et al., 2006; Schumacher et al., 2004). Calo et al. (2019) demonstrated a positive relation between grit and resilience within Australian health students using the Grit-scale and the Brief Resilience Scale.

Some studies have identified gender differences in general self-efficacy or resilience while using an adolescent sample. Female adolescents have been observed to score lower on instruments of resilience (Stratta et al., 2013). Furthermore, female adolescents have greater general self-efficacy than male (Gnilka & Novakovic, 2017; Jenkins et al., 2002). In contrast, Hinz et al. (2006) shows higher GSE values for male subjects in a representative German sample. No gender difference within grit could be found (Duckworth & Quinn, 2009).

In summary, a research desideratum emerges regarding resilience, grit, and general self-efficacy among recent immigrant adolescents. The present study addresses this research gap with an initial small sample.

3.   **Methodological frame and research question**

In the following, using a small sample of newly immigrated adolescents as an example, it will be shown and discussed that non-resilience or vulnerability does not exist with migration and flight per se.

3.1 Research Questions

The following questions arise from the research desideratum described above: 1) How do grit, general self-efficacy, and resilience show up in newly immigrated adolescents in comparison to the norm population? 2) Do grit, resilience, and general self-efficacy correlate with each other? 3) Are there different results depending on the instrument or are the results of the three

instruments consistent in the present sample? 4) To what extent are there gender differences present in the results?

3.2 Participants

The survey study presented here was conducted as part of the project "Weichenstellung" ("Setting the Course"), carried out by the University of Cologne and the Catholic University of Applied Sciences NRW, both in Germany. The project uses the mentoring principle to bring together students of education and social work with newly immigrated young people and aims to promote learning processes at school as well as the development of protective factors.

The term "newly immigrated" was given preference here in comparison to the term "refugee." Newly immigrated describes a group of people who immigrated to a (safe) country with the plan to settle there, regardless of their legal residence status or nationality, the reason for migration and the (planned) length of stay in the (safe) country of arrival (Massumi/von Dewitz, 2015, p. 9).

The survey (n= 55) exhibits data regarding gender, age, and religion. Less than half of the participants (43,6 %, n= 24) were female. On the other hand, more than half of the participants (56,4%, n= 31) were reported as male. No participant used the section divers to express their gender. The age ranges from thirteen to seventeen years. Half of the participants reported to be at an age of fifteen (50,9 %, n= 28). Nearly one quarter of the participants were fourteen years old (23,6 %, n= 13). 14,5% (n=8) of the participants are sixteen years old. Just two (3,6%) participants were seventeen years old. More than half of the participants (56,4%, n= 31) reported belonging to the Islamic belief. 12,7 % (n= 7) of the participants identify as Christians. Fewer than a quarter (21,8 %, n= 12) reported a less common religion. Five participants (9,1 %) did not identify with any religion.

Table 1 Sociodemographic Characteristics of the Participants

	N	%
Gender		
Female	24	43,6 %
Male	31	56,4 %

Divers	0	0 %
Age		
13 years	4	7,3 %
14 years	13	23,6 %
15 years	28	50,9 %
16 years	8	14,5 %
17 years	2	3,6 %
Religion		
Islam	31	56,4 %
Christian	7	12, 7 %
Other	12	21,8 %
Atheist	5	9,1 %

Note. N = 55. Participants were on average 14.84 years old (*SD* = 0.9), and participant age did not differ by condition.

3.3 Instruments and measures

In this study the Resilience Scale (RS-13), the Grit-Scale and the General Self-Efficacy Scale (GSE) have been used to investigate the research questions.

3.3.1 Resilience Scale

To assess resilience the Resilience Scale RS-13 (Leppert et al. 2008) was used. The RS-13 is based on the original RS scale (RS-25) which was published by Wagnild and Young (1993). RS-13 is a self-assessment questionnaire which can be used as a coping capacity and individual resistance measure. RS-13 assesses resilience as a dynamic ability to control and

modify positive effects on a situation and the context adequately. All versions of the Resilience Scale capture the factors of personal competence and acceptance of oneself and life. Furthermore, the following aspects of the resilience concept were included in all resilience scales: optimism and emotional stability, enjoyment of life, energy, openness to new and the ability to change the perspective (Witz, 2021; Leppert et al, 2008).

The RS-13 scale is constructed with 13 items, and a 7 Likert Scale was used. RS-13 is a self-reporting instrument. The possible score ranges from 13 to 91 where a high score means a high resilience. Leppert et al. (2008) collect in a sample n= 2617 a mean of 70 and SD of 12. The internal consistency (Cronbach's alpha) was .90. RS-13 has shown a retest-reliability of .61 for the whole scale, .59 for the personal competence factor and .69 for the acceptance of oneself and life. Regarding the construct validity, a correlation between resilience and the big-five dimensions have been found.

Table 2 Items and content of RS-13 (Leppert et al., 2008, p. 14)

No.	Item	Factor	M	SD
1.	When I make plans, I follow through with them.	PersCom	5.57	1.34
2.	I usually manage one way or another.	PersCom	5.54	1.21
3.	I usually take things in stride.	AcOnLi	4.97	1.50
4.	I am friends with myself.	AcOnLi	5.32	1.39
5.	I feel that I can handle many things at a time.	PersCom	5.48	1.29
6.	I am determined.	PersCom	5.31	1.31
7.	I take things one day at a time.	AcOnLi	5.26	1.38

#				
8.	I keep interested in things.	PersCom	5.55	1.20
9.	I can usually look at a situation in a number of ways.	PersCom	5.47	1.32
10.	Sometimes I make myself do things whether I want to or not.	PersCom	5.57	1.34
11.	When I'm in a difficult situation, I can usually find my way out of it.	PersCom	5.54	1.21
12.	I have enough energy to do what I have to do.	PersCom	4.97	1.50
13.	It's okay if there are people who don't like me.	AcOnLi	5.32	1.39
	Total		70	12

Note. PersCom: personal competence; AcOnLi: acceptance of oneself and life. n= 7 102 (total)

3.3.2 Grit-Scale

To assess persistence and constant interest, the Grit-Scale (Beyer & Danner 2015) was used. Duckworth, Peterson, Matthews, and Kelly (2007) developed the Grit-Scale and defined grit as "perseverance and passion for long-term goals" (Duckworth et al. 2007, p.1087). People with high grit are associated with motivation to work strenuously towards a target or challenge over years (Beyer & Danner, 2015, p.3). A variety of Grit-Scale versions exists with different numbers of items.

The Grit-Scale consists of 9 items and a 5 Likert-scale was used. The Grit-Scale is a self-reporting instrument. The 9-item-Grit-Scale was used in the Programme for the International Assessment of Adult Competencies (PIAAC) field trial in 2010. 21 OECD countries participated with n = 7 102. The reliability of this Grit-Scale varies regarding the country. The mean composite reliability is at .74 and tests on Cronbach's alpha have found a mean of .70 (Breyer & Danner, 2015). The German sample showed the same reliability as the mean.

Regarding the criterion validity in most countries' positive associations between grit and level of education and also between grit and employment were found (Breyer & Danner, 2015). On the other hand, no correlation with competence or income was found. The German evaluation exhibited the same results.

Table 3 Items and content of Grit (Breyer & Danner, 2015, p. 4)

No.	Item	M	SD
1.	I am a hard worker	3.91	.90
2.	I get enthusiastic about ideas for a short time but later lose interest	3.60	1.08
3.	I am self-disciplined	3.80	.96
4.	I can cope with setbacks	3.79	.89
5.	New projects sometimes distract me from previous ones (-)	3.48	1.02
6.	I am good at resisting temptation	3.39	1.02
7.	I finish whatever I begin	4.01	.87
8.	I have difficulties maintaining focus on projects or tasks that take more than a few months to complete (-)	3.81	1.09
9.	I habe trouble concentrating (-)	4.06	.99
	Total Mean	3.81	.98

3.3.3 General Self-Efficacy

To assess general self-efficacy, the General Self-efficacy Scale (GSE) of Matthias Jerusalem and Ralf Schwarzer was used. The instrument is based on the perceived self-efficacy which was a mean aspect of Bandura´s (1997) social-cognitive theory. The GSE assumes that humans are referring to their successful and unsuccessful experiences to themselves and generalising these experiences. Schwarzer and Jerusalem (1999) view GSE as a subjective belief of their own competences to master difficulties and barriers and to handle critical, demanding situations using their own strength on an everyday basis.

GSE is constructed out of 10 items and a 4 Likert Scale is used. GSE is also a self-reporting instrument. GSE is available in 33 languages and raw data is available of more than 19 000 participants from 25 nations (Schwarzer & Warner, 2013). Cronbach's alpha spreads from .76 to .91 in these countries (Scholz et al., 2002). German surveys showed an internal consistency between .80 and .91 (Hinz et al., 2006; Schwarzer & Jerusalem 2003). Regarding Criteria validity, numerous correlations have been discovered (Schwarzer & Warner, 2013). Positive correlations were found between GSE and dispositional optimism and work satisfaction. Negative correlations have been discovered between GSE and fear, Depression, Burnout estimation of stress (Luszczynska et al., 2005).

Table 4 Items and content of GSE (Hinz et al., 2006, p. 28)

No.	Item	M	SD
1.	I can always manage to solve difficult problems if I try hard enough.	2.98	.68
2.	If someone opposes me, I can find the means and ways to get what I want.	3.00	.66

3.	It is easy for me to stick to my aims and accomplish my goals.	2.89	.74
4.	I am confident that I could deal efficiently with unexpected events.	2.84	.74
5.	Thanks to my resourcefulness, I know how to handle unforeseen situations.	2.96	.70
6.	I can solve most problems if I invest the necessary effort.	2.89	.75
7.	I can remain calm when facing difficulties because I can rely on my coping abilities.	3.07	.68
8.	When I am confronted with a problem, I can usually find several solutions.	2.97	.73
9.	If I am in trouble, I can usually think of a solution.	2.90	.69
10.	I can usually handle whatever comes my way.	2.88	.73
	Total	29.38	5.36

Note. n= 2 031 (total)

3.4 Procedure and ethical considerations

The adolescents received a questionnaire, which was completed online via a tablet. Completing the survey took between 15 and 45 minutes. There was a pilot test beforehand. The survey took place in fall 2020.
The participants were informed in advance about data protection and the processing of the data as well as about the voluntary nature of participation. In addition, the adolescents were informed about the aim and procedures of the survey. Parental consent to participate in the

survey was obtained. The privacy statement was also available to the legal guardians - in different languages.

The adolescents were given the opportunity to have the results explained to them at the end of the evaluation. A psychotherapist was present during the survey in case of stress reactions due to the items.

Data was collected using a non-identifying entrance into an online survey. Students were informed that their choice to participate or not will have no bearing on their grades or assessments. Data provided was kept anonymous from the moment students entered the information.

3.5 Treatment of data and statistical analysis

The survey was conducted using the website SurveyMonkey. The data of 55 students was evaluated by IBM® SPSS® Statistics 26.0. Sociodemographic variables, resilience (RS-13, general self-efficacy (GSE), and grit (Grit-Scale) are the data of interest for this study. T-tests, Mann-Whitney- U -Tests, and Bravais-Pearson correlation analysis were performed.

4.   **Results**

The following results were found within the data regarding Grit-Scale, RS-13 and GSE (table 5). From the originally 55 participants who conducted the survey, only 47 completed the RS-13 instrument. The data ranges from 54,00 to 91,00 points with a mean of 73,70 and SD of 8,07. The Grit-Scale showed a lower completion rate (n=45). The scores reached from 1,67 to 3,67. The mean was characterized by 2,67 and the SD by 0,47. 49 participants finished to fill in the GSE instrument. The range indicated from 10,00 to 33,00. The mean was displayed by 19,65 with an SD of 5,28.

Table 5 Means, standard deviation and correlations between Grit-Scale, RS-13, SWE

Variable	N	M	SD	1.	2.	3.
1. Grit-Scale	45	2.6716	.46779	-	-	-
2. RS13	47	73.7021	8.07281	-,453[**]	-	-

| 3. GSE | 49 | 19,6531 | 5.28185 | ,625[**] | -,773[**] | - |

** Correlation is significant at the 0.01 level (2-tailed)

The participants demonstrated a higher resilience (M=73.70, SD= 8.07, n=47) than the norm population (M= 70 SD= 12, n= 2671), t (46) = 3.144 p= .003. The data of the norm population is derived from Leppert et al. (2008). Based on Cohen (1992) a small effect size has been exhibited (d= 0.31). Female participants demonstrate a lower resilience (Mdn=72.00) than male participants (Mdn=77.00), asymptotic Mann-Whitney- U -Test: U= 168.500, p= .023. Based on Cohen (1992) the data has exhibited a medium effect size (d= .70). The participants showed a lower general self-efficacy (M=19.65, SD= 5.28, n=49) as the norm population (M= 29.38, SD= 5.36, n=2031), t (48) = -12.891, p= .00. The data of the norm population is based on the research of Hinz et al. (2006). The effect size (Cohen, 1992) is large (d= 2.04). Male participants demonstrated a lower general self-efficacy (Mdn=17.00) than female participants (Mdn=23.00), asymptotic Mann-Whitney- U -Test: U= 149.000, p= .003. Based on Cohen (1992) the data has exhibited a high effect size (d= .92). The participants (M=2.67, SD= 0.47, n=45) showed a lower score regarding grit compared to the norm population (M=3.81, SD= .98, n=1545). Based on Cohen (1992), a large effect size was exhibited (d=.97). No gender difference could be demonstrated in this study regarding the Grit-Score.

The data revealed a negative correlation between resilience (RS-13) and grit (Grit-Scale) and resilience (RS-13) and general self-efficacy (GSE). Resilience correlates significantly with general self-efficacy, r_s = -.773, p= .000 n= 46. Based on Cohen (1992) the data demonstrated a large effect strength. Resilience is correlating significantly with grit, r_s = - .453, p= .002, n= 43. Based on Cohen (1992) the data demonstrates a medium effect strength. Furthermore, the data indicated a positive correlation between grit and general self-efficacy. Grit correlates significantly with general self-efficacy, r_s= .625, p= .000, n= 44. Based on Cohen (1992) the data demonstrates a large effect strength.

5.   **Discussion**

The results reveal the following questions that need to be addressed further. Looking at the correlations between RS-13, Grit-Scale and GSE and the differences between the participants and the norm population, the results show inconsistencies. The participants of this study showed a lower score regarding grit and general self-efficacy compared to the norm population, but they demonstrated a higher resilience-score than the norm population.

Furthermore, the data revealed a negative correlation between resilience and grit and resilience and general self-efficacy. These aspects distinguish this study from the state of research. Various studies indicate general self-efficacy and grit being protective factors for resilience (Collishaw et al., 2016; Marley & Mauki, 2019; Tang et al., 2020). On this basis, resilience should correlate positively with general self-efficacy and grit (Hinz et al., 2016; Sagone et al., 2021). Furthermore, other studies showed a tendency that GSE and grit are universal instruments which could be applied to different cultures and this partly within adolescents (Areepattamannil & Khine., 2018; Breyer & Danner, 2015; Schwarzer et al., 1997). However, this study could not confirm these statements. The findings of this study could indicate that RS-13 is not an adequate tool for newly immigrated adolescents. It could be assumed that the items contained in RS-13 are interpreted differently by young people of different cultures. Further investigation is required.

Regarding gender differences, these results are in line with various other studies (e.g. Zysberg et al., 2021). Female subjects demonstrated a lower resilience score while using RS-13 than male subjects. Pedagogical interventions and offers for female migrants should include special empowerment measures that deconstruct the not yet existing equality of the female gender in a hegemony- and patriarchy-critical and feminist way. General self-efficacy turned out to be the other way around: male respondents experienced themselves as less self-efficacious than female respondents. Against the background of performance expectations for men and boys, this result is not surprising and is confirmed by other studies (Gnilka & Novakovic, 2017; Jenkins et al., 2002). As an intervention, it would be worth considering practicing with male adolescents to also perceive and acknowledge small successes as a result of their general self-efficacy.

6.   **Conclusion**

The main findings are as follows: The differences found in the state of research on resilience, grit, and general self-efficacy suggest an invalidity of the RS-13 scale for recent immigrant adolescents. The findings on gender differences are consistent with current studies and suggest gender-specific interventions.

Overall, we see resilience research as cautionary about the assumption that promoting resilience can "harden" a vulnerable group. The authors reject this neoliberal, anti-individual life order (Webster & Rivers, 2019) and expect recognition of society's overall responsibility for adolescent resilience: By reducing inequality, discrimination, and marginalization and enabling children and adolescents to grow up free of violence and humiliation.

7.   Limitations

The survey took place in the middle of the Covid pandemic in the fall of 2020; it can therefore be assumed that the young people surveyed were under a great deal of stress (e.g. due to the demanding alternating or distance learning or concerns about their own health and that of their parents and other family members) - as for all marginalized groups of people major psychological disadvantages are described by the pandemic (Dubey et al., 2020). Thus, the present survey results are a snapshot within a time of crisis - and they have been compared with results from non-pandemic norming. Therefore, it can be surmised that respondents might well have scored even higher had the data not been collected in the midst of the pandemic situation.

The sample is an accrued sample and not a random sample. The adolescents had volunteered for the "Setting the Course" project or had been suggested by their teachers.

In addition, the instruments used are to be evaluated as critical in that only "Western-style" protective factors are used as a basis. A broader understanding around/on non-Western protective concepts that are interculturally adaptable would be useful in the future; making the idea of universal protective factors obsolete. Thus, resilience questionnaires should also think about "cultural imperatives" from non-Western spheres, such as "serving the family/community/nation" or "honor/honesty". There are initial indications that these concepts may well be associated with resilience (Park et al., 2021).

In addition, for the RS-13 as well as for the Grit-Scale, no comparable age sections (13-17 years) were available in the norm comparison values. Thus, reference was then made to the total norming sample.

Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants involved in the study.

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