

Benefits of Positive Psychology-Based Story Reading on Adolescent Mental Health and Well-Being

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Abstract

The importance of complete mental health in school context has recently begun to attract a lot of attention. Positive psychology interventions are often associated with improvement in mental health outcomes, but few studies have examined whether story reading is an intervention that is linked with indicators of complete mental health. This study investigated the effects of story reading interventions on both positive and negative indicators of mental health over time for a group of Turkish grade 10 high school students (n = 53). These included 33 students in a story reading group and 20 in a control group for comparison. The results showed that story reading led to improvement in students' mindfulness, optimism, happiness, and positive emotions, and also caused reduction in depression, anxiety, pessimism, and other negative emotions over a 5-week period, with a small to large effect sizes. The obtained results are discussed in the context of their implications for potential psychological interventions in high school settings.

Keywords Well-being · Mental health · Optimism · Mindfulness · Story reading · Positive psychology

Conventional psychology has predominantly focused on mitigating dysfunctional states of human functioning caused by problems such as stress, anxiety and depression (Seligman & Csikszentmihalyi, 2000). Endeavours to build a science of illness have been very effective in terms of classifying the types of illness and their correlates and causes, developing and validating effective interventions to treat them,



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and clinical guidelines to improve efficiency (Slade, 2010). In contrast, the field of positive psychology focuses on the science of positive mental states rather than just avoiding negative states, and this has become an important area of research (Arslan, 2019a; Arslan & Wong, 2022; Burke & Arslan, 2021; Yıldırım, 2019a). This view aligns with that of the World Health Organization, who define health as a state of complete mental, social, and physical well-being, and not only the absence of disease (World Health Organization, 2004). Absence of illnesses or negative state of mind does necessarily correspond to states of happiness and well-being (Arslan, 2019b; Yildirim & Balahmar, 2020). Thus, designing interventions to prioritise psychological strengths and promote psychological wellbeing can be as important as treating illness.

1 The Complete State Model of Mental Health

Prevention of mental disorders can be viewed as a product of promoting mental health and well-being. The complete state model of mental health (Keyes, 2005) is a framework to achieve this with two primary dimensions: mental illness and well-being. While mental illness can be represented on an essential spectrum from absent to present, well-being can be represented a spectrum from low to high. In this model, having a *high* level of well-being and *low* level of mental illness is classified as "flourishing" (i.e., complete mental health), whereas "floundering" (i.e., complete mental *illness*) is characterised by a *low* level of well-being and a *high* level of mental illness. The two axes can combine in other ways as well: *high* level of well-being with *high* level of mental illness is classified as "struggling" (i.e., *incomplete* mental illness), while *low* level of mental illness with *low* level of well-being is classified as "languishing" (i.e., *incomplete* mental health.

Research have demonstrated that positive mental health corresponds to better general health, as well as better social and economic outcomes (Arslan & Allen, 2020; Arslan et al., 2020; Arslan & Renshaw, 2018; Keyes, 2007; Lyubomirsky et al., 2005). For example, positive mental health is associated with better social relationships, coping, physical health, income, productivity, marriage, and work satisfaction (Genç, 2021; Lyubomirsky et al., 2005) as well as reduced mortality, risk of suicide and mental health problems (Arslan, 2021a; Campion et al., 2012). These findings of positive psychology research are imperative to mental health providers and services due to its emphasis on a good life both for people with and without mental illness (Arslan & Burke, 2021; Slade, 2010).

2 Strength-Based Training

The positive psychology literature has primarily emphasised positive psychological interventions and strength-based training to promote well-being and positive mental health. There is a wealth of empirical evidence supporting the association between strength-based training and positive mental health outcomes (Billington et al., 2010). A systematic review of 136 studies of this approach conducted by O'Connor



et al. (2010) demonstrated that strength-based interventions are associated with reduced anxiety symptoms among healthy adults, reduced depression symptoms among patients with diagnosed depression, reduced pain intensity among patients with lower back pain, and reduced fatigue symptoms among older adults. It was also associated with improvements in cognition among older adults, better sleep quality among depressed older adults, and higher self-esteem. In particular, Seligman et al. (2009) have emphasized the effectiveness of positive psychology and classroom-based intervention to promote young people's psychosocial health and wellbeing by reducing depressive symptoms and improving social skills, learning outcomes, and character strengths. There is a need for empirically tested interventions for improving well-being and mental health in school context. Cultivating positive interventions into the school context can be a successful approach to intervening mental health and well-being (Boniwell et al., 2016). Programs that promote positive mental health and prevention of mental illness can lead to higher academic achievement and better mental health in school (Levitt et al., 2007).

Story reading can be an effective approach for the promotion of mental health and well-being in a school context. In the literature, stories and storytelling are employed as systematic and independent psychotherapeutic technique (Chan, 1993). Storytelling/story reading/story-acting play-based interventions have been found to promote mental health in young adults (McCulliss & Chamberlain, 2013). Story reading as a therapeutic approach has also been shown to lead to reduction in depression symptoms and improvement in well-being (Billington et al., 2010), to be effective in building the levels of hopeful thinking (Lucas et al., 2019), and promote healthy social/emotional growth and maintain positive mental health (McCulliss & Chamberlain, 2013).

Evidence from studies support the positive effect of reading on health and well-being (Latchem & Greenhalgh, 2014). Lucas et al. (2019) highlighted that bibliotherapy (a projective indirect intervention involving storytelling or the reading of specific texts to treat psychological disturbance) can be used in building social relationships, empathy, resilience, solving problem skills, self-confidence, and assertiveness. In their review study, Latchem and Greenhalgh (2014) argued that although there are encouraging results concerning the positive effects of reading as a therapeutic approach, the available results should be considered with caution because of a lack of randomisation and small numbers of participants in the conducted studies. Therefore, more research showing the effectiveness of story reading is needed to establish it as a useful therapeutic approach in the promotion of mental health and well-being.

3 The Present Study

To study the effect of positive story reading on the mental health and well-being of students, this study surveyed a sample of high school students regarding their appraisals of story reading. Story reading design provides a unique opportunity to examine individual differences within each person. It is critical to promote a safe and healthy transition from childhood to adulthood. Adolescence—defined as occurring



between 10 and 19 years— is a important period of life where specific psychosocial and physical needs occur (World Health Organization, 2021). Providing interventions to promote the mental health and wellbeing of this group of people is an essential step to understand their developmental process. We, therefore, believe that this study can help to fill the gap in the literature by providing a story reading-based intervention program to high school students and empirically evaluating its effect. Because there is a lack of research that has examined the unique effects of story reading on both mental health and well-being, hypotheses were generated based on earlier similar evidence: (1) story reading will have a positive impact on positive indicators of well-being (i.e., mindfulness, happiness, optimism, and positive emotions); and (2) story reading will have a negative impact on negative mental health outcomes (i.e., depression, anxiety, pessimism, and negative emotions).

4 Method

4.1 Participants

Participants included 53 grade 10 students attending a public high school in the Mediterranean region of Tukey. After announcing the study in two classes, 60 students initially volunteered to participate. Of these, 25 were assigned to the control condition, while the other 35 were in the intervention condition that included the story reading. Students were assigned to groups according to their willingness, not randomly. All participants completed measures at baseline (i.e., pre-test). However, seven of the students (two in the intervention and five in control) did not fulfil the post-test measurements, resulting in the final sample size of n=53. The story reading group included 33 students (64% female), all 15 or 16 years of age (M=15.61, SD=0.50). The final control group consisted of 20 students (60% female) between 15 and 18 years of age (M=15.60, SD=0.75).

4.2 Measures

Mindful Attention Awareness Scale (MAAS) The MAAS was designed to assess the core characteristics of mindfulness (Brown & Ryan, 2003). The MAAS includes five items (e.g., "I find myself doing things without paying attention") and is scored using a 6-point Likert scale (1="always never", 6="almost never"). The scale had strong internal reliability estimate with Turkish young people (Arslan & Yıldırım, 2020). In the current study, the scale showed weaker but adequate internal reliability (α =0.71) and its distribution of scores was approximately normal (skewness=-0.51, kurtosis=-0.28).

Oxford Happiness Questionnaire-Short Form (OHQ-SF) The OHQ-SF is an 8-item self-report measure (e.g., "I feel that life is very rewarding") developed to assess happiness (Hills & Argyle, 2002). The items are rated using a 6-point Likert scale



(1="strongly disagree" to 6="strongly agree"). The scale had strong internal reliability estimate with Turkish young people (Dogan & Cotok, 2011). It also had strong internal reliability with the sample of this study (α =0.82) and its distribution of scores was approximately normal (skewness=-0.23, kurtosis=0.41).

Youth Internalizing Behavior Screeners (YIBS) The YIBS is a 10-item self-report measure developed to assess internalized problems of Turkish children and adolescents. The YIBS comprises two subscales, each of which includes five items: depression and anxiety (e.g., "I feel depressed and pessimistic"). Items are rated on a 4-point Likert scale (1="almost never" to 4="almost always"). It has shown adequate-to-strong internal and construct reliability estimates with Turkish youths (Arslan, 2019c) and in other cultures (e.g., Asanjarani & Arslan, 2020). In this study, the scale had strong internal reliability (α =0.90) and was characterized by a relatively normal distribution (skewness=0.98, kurtosis=1.22).

Optimism and Pessimism Measure (OPM-Short) The OPM is a 6-item self-report scale (e.g., "I hope many things will be better in the future", "I can't be happy with anything, I'm a pessimistic person") designed to measure optimism and pessimism among Turkish youths and adults (Arslan & Yıldırım, 2021). The items are rated using a 5-point Likert scale (1="strongly disagree" to 5="strongly agree"). Previous research has indicated that the scales had strong internal reliability (Arslan & Yıldırım, 2020). In this study, it showed adequate internal reliability for optimism (α =0.73), and strong internal reliability for pessimism (α =0.84). The distribution of scores was approximately normal (skewness=-0.63, kurtosis=-0.27).

Scale of Positive and Negative Experience (SPANE) The SPANE is a 12–item self-report measure used to assess youths' positive and negative emotions (Diener et al., 2010). The items of the scales are scored on a 5-point Likert scale (1="very rarely or never" to 5="very often or always"). It has shown strong internal reliability estimates for Turkish samples (Telef, 2013, and also in this study (α =0.93 for positive emotions and 0.82 for negative emotions). The distribution of scores was approximately normal (skewness=-0.38, kurtosis=0.27).

4.3 Procedure and Intervention

This study was conducted using an experimental research design, including intervention and control groups at two different time points. A web-based survey including the study measures and demographic items was generated using an online application and presented to students to gather the data. Before administering the survey, students were provided a 20-min online presentation about the purpose of the study and the study measures. All students were informed using a consent form that provided information about the study measures, that their participation in this study was voluntary, and that they could withdraw the study at any time. The study was conducted between January 13 and February 20 of 2021, during the COVID-19



pandemic. An electronic consent form on the first page of the online survey was signed by all participants.

The study was approved by the Institutional Review Board of Mehmet Akif Ersoy University. Pre-test measures were completed by students during the online presentation meeting. Stories were selected from the Rumi's Masnavi, one of the well-known works of Sufism. The stories were chosen based on three criteria: (1) positive psychology theme, (2) reading ability of the students, and (3) age appropriateness. Participants were given a total of eight stories (two per week). Each story included at least one positive psychology theme, but some included more than one. These themes included gratitude, compassion, character strengths, mindfulness, empathy, forgiveness, responsibility, modesty, perseverance, and justice.

Following the assignment of the stories each week, participants were asked to write down what they had understood from the stories, and then report whether they had experienced such stories in their day-to-day lives. Afterwards, they were asked to practice these activities in their daily lives. This procedure was repeated for each week. Following the four-weeks of implementation, the students completed the post-test measures.

4.4 Data Analyses

Prior to the primary analyses, descriptive analysis was conducted for the pre-test and post-test scores of wellbeing (i.e., mindfulness, happiness, optimism, positive emotions) and mental health indicators (i.e., depression, anxiety, pessimism, negative emotions). Given that students were assigned to an experimental condition by willingness and not randomly, analyses of variance (ANOVA) were first run to look for differences in pre-test data between the intervention that could be confounding.

Primary analyses were conducted using analyses of covariance (ANCOVA) to investigate the effect of story reading on mental health and wellbeing while controlling for pre-test scores for both groups. ANCOVA is a sensitive and useful method to examine differences among groups in a randomized control design, when groups are random assignment to them is not possible (Huck & McLean, 1975; Tabachnick & Fidell, 2013). The intervention's effect size was interpreted using partial eta squared (η_p^2) with the traditional decision rules: 0.01 to 0.059=small, 0.06 to 0.139=medium, and \geq 0.14=large (Cohen, 1988). All data analyses were employed using JASP v0.14.1 for Windows (The JASP Team, 2020).

5 Results

5.1 Preliminary Analyses

In the preliminary ANOVAs on group differences in pre-test wellbeing and mental health measures indicated several significant differences, with medium to large effect sizes. These included happiness, F(1, 51) = 12.51, p < 0.001, $\eta_p^2 = 0.20$, optimism, F(1, 51) = 7.47, p = 0.01, $\eta_p^2 = 0.13$), positive emotions, F(1, 51) = 7.60,



p=0.01, η_p^2 =0.13, depression, F(1, 51)=7.0, p=0.011, η_p^2 =0.12, anxiety, F(1, 51)=9.65, p=0.003, η_p^2 =0.16, and negative emotions, F(1, 51)=9.00, p=0.004, η_p^2 =0.15. There were no -significant differences in mindfulness or pessimism. Further analyses regarding the assumptions of analyses (e.g., homogeneity of variance, normal distribution, and homogeneity of regression slopes), suggested the planned ANCOVA was deemed an appropriate approach to test the effectiveness of the story reading intervention.

5.2 Primary Analyses

Prior to conducting the ANCOVAs, the assumption of homogeneity of regression slopes was examined, indicating non-significant interaction terms for the dependent variables. Results from the ANCOVA for wellbeing outcome measures indicated a significant main effect of the intervention for mindfulness, F(1, 50) = 11.30, p < 0.001, $\eta_p^2 = 0.18$, and optimism, F(1, 50) = 4.28, p < 0.05, $\eta_p^2 = 0.08$, but no significant main effect for happiness, F(1, 50) = 2.95, p = 0.092, $\eta_p^2 = 0.06$, or positive emotions, F(1, 50) = 1.82, p = 0.184, $\eta_p^2 = 0.04$. The effect sizes indicated that the story reading had a large effect on mindfulness, and a medium effect on optimism. Subsequently, the primary analyses for reducing negative mental health symptoms also demonstrated a significant main effect of the intervention for depression, F(1, 50) = 5.34, p < 0.05, $\eta_p^2 = 0.10$, anxiety, F(1, 50) = 5.67, p < 0.05, $\eta_p^2 = 0.10$, pessimism, F(1, 50) = 6.35, p < 0.05, $\eta_p^2 = 0.11$, and negative emotions, F(1, 50) = 8.85, p < 0.001, $\eta_p^2 = 0.15$. The effect sizes showed moderate-to-large beneficial changes in mental health measures for the story reading intervention group. Descriptive statistics and the ANCOVA results for wellbeing and mental health measures are presented in Table 1.

6 Discussion

The prevalence of mental health problems (e.g., depression) among young people is extremely high worldwide. Approximately 20% of young people experience depressive symptoms during high school (Arslan, 2021b; Lewinsohn et al., 1993). However, the review of existing evidence on the impact of benefits of story reading in complete mental health has received scarce attention. Although there are studies emphasizing the importance of positive psychology constructs for the promotion of mental health and wellbeing among Turkish children and adolescents, very few have focused on positive psychology-based interventions. This study therefore attempted to shed light on this topic by evaluating the benefits of story reading for cultivating positive indicators of mental health and decreasing negative indicators. This study may present one of the first attempts to expand the focus of story reading research to a conceptual background in this area and better understand complete mental health.

Results from the study first indicated a significant main effect of the intervention for mindfulness and optimism but no significant main effect for happiness and positive emotions. The effect sizes indicated that the story reading had a large effect



Table 1 Descriptive statistics and ANCOVA results for wellbeing and mental health measures

Outcomes	Intervention		Control			ANCOVA	_	
	Pre-test M(SD)	Post-test M(SD)	Pre-test M(SD)		Post-test M(SD)	F	d	$\eta_{\rm p}^2$
Wellbeing								
Mindfulness	23.42 (4.58)	24.18 (4.20)	22.70 (4.76)		20.25 (4.50)	11.30	<.001	.18
Happiness	26.00 (3.64)	26.40 (3.84)	22.00 (4.52)		21.35 (5.57)	2.96	.092	90:
Optimism	11.33 (2.74)	11.61 (2.53)	9.20 (2.76)		9.15 (2.39)	4.28	4.0.	.08
Positive emotions	22.27 (5.10)	23.36 (4.96)	18.20 (5.39)		18.95 (5.38)	1.82	.184	90.
Mental health								
Depression	7.67 (2.23)	7.36 (1.92)	10.10 (4.46)	10.05 (3.55)		5.34	.025	.10
Anxiety	9.21 (1.80)	8.90 (2.35)	11.85 (4.32)	12.40 (3.97)		2.67	.021	.10
Pessimism	7.46 (2.83)	6.42 (2.60)	8.40 (3.45)	8.75 (3.51)		6.35	.015	11.
Negative emotions	14.64 (3.15)	12.82 (2.91)	17.85 (4.65)	17.90 (5.50)		8.85	<.001	.15



on mindfulness, and a medium effect on optimism. This indicates that story reading interventions can have beneficial effects for positive mental health in a school context. The occurrence of insignificant results concerning happiness and positive emotions may be related to time interval for the data collection. Given that happiness and positive emotions are temporary feelings subjected to contextual factors (Yıldırım, 2021, 2019b), the selected time interval could have been long leading to disappearance of the effect. It is also important to interpret this finding in the context of pandemic which causes substantial reduction in the experiences of happiness and positive feelings (Arslan & Allen, 2021; Yıldırım & Arslan, 2020; Yıldırım et al., 2021).

We can therefore conclude that story reading can be an important resource to promote positive mental health. We cannot conclude that anyone who reads stories will become more mindful and optimistic, but we can conclude that those who participate in story reading activities in school may feel better psychologically. Therefore, story reading may lead to a positive perception and assessment of the state of positive mental health that may ultimately result in positive human functioning. These findings are consistent with previous research showing a positive influence of story reading on mental health and well-being (Latchem & Greenhalgh, 2014). Earlier research employed bibliotherapy, therapeutic reading, and self-help reading as tools for treating and promoting mental health. Previous research also demonstrated that by utilising therapeutic reading, participants displayed heightened cultural awareness, more empathy, and more effective problem-solving skills (Forgan, 2002; Pehrsson & McMillen, 2010). Recent research has also stressed that reading activities can be used by mental health services to promote well-being and mental health by cultivating psychological resilience, coping strategies, self-confidence, hope, social relationship, healing, personal growth, and reducing emotional disturbance (Lucas et al., 2019; McCulliss, 2012).

Subsequent findings revealed a significant main effect of the intervention for depression, anxiety, pessimism, and negative emotions. The effect sizes showed moderate-to-large beneficial changes in mental health measures for the story reading intervention group. These results suggest that the story reading has negative impact on symptoms of mental illnesses and even may function as a factor to prevent mental health problems in schools. Available evidence showed that those therapeutic approaches have various benefits to readers, from reduced loneliness and isolation to mitigated depressive symptoms (Bruneau & Pehrsson, 2014). The benefits of therapeutic reading in reducing depression and anxiety have been documented in different populations including adolescents and adults (Scogin et al., 2014). For example, a systematic review study conducted by Montgomery and Maunders (2015) reported that therapeutic reading activities are effective in reducing various mental problems including internalizing and externalizing problems and increasing adaptive prosocial behaviours in children. This suggests that story reading is a promising and useful therapeutic approach to address mental health problems and promote positive wellbeing and mental health, especially in school-aged young people.



6.1 Implications and Limitations

Building on prior research, our findings offer empirical support for the benefits of story reading for complete mental health in schools. The results are also important for practice: Mental health problems are common among students in school, where they may not have a chance to freely express their feelings and opinions in academic or social modes or feel appreciated and recognized by their peers or teachers. In school, we recommend that teachers acknowledge their students' strengths and good qualities through approaches such as story reading. In the process of teaching, students can be paired in the classroom by encouraging involvement in story reading activities, and this could help to protect their mental health. Parents should also encourage their teenagers and inspire their interest in reading stories, which may ultimately allow them to build new skills for coping with mental health challenges.

There are several strong points of our study. First, we had an experimental and control group, allowing isolation of the differences in our dependent variables (i.e., mental health outcomes) attributable to the story reading intervention. Without such a control group, it could have been hard to examine whether the changes in the dependent variables have been arisen from the story reading or some other factor. Second, we tested the effect of story reading on mental health outcomes over time, which is particularly useful in terms of understanding the longitudinal impact of story reading on mental health. In addition, this study included multiple positive (e.g., mindfulness, optimism) and negative (e.g., depression, anxiety) indicators of mental health, and examined the impact of story reading on those mental health indicators simultaneously, which has rarely been done in the relevant academic literature on story telling.

Despite above-mentioned strengths, the study is not without limitations. First, the sample was relatively small and included only Grade 10 students in the Mediterranean region of Turkey. As such, the sample is barely representative of all Turkey. Recruiting more students from different regions of the country could enhance the generalizability study findings. Second, we did not take all positive and negative indicators of mental health (e.g., hope, optimism, resilience, stress, fear, post-traumatic stress disorder) into account. It would be worthwhile to explore the impact of story reading on other mental health indicators, and to better understand the underlying mechanism whereby story reading benefits mental health. Third, assignment into the control group and intervention group was not random but self-sorted, which could reduce the validity of the control comparison—though this was addressed in the analysis to a degree by looking for group differences in the pre-test measures and using the ANCOVA method to control for them.

In conclusion, the results of this study suggest that story reading is an effective approach for improving mindfulness and optimism, and reducing depression, anxiety, pessimism and negative emotions among high school students in Turkey. The findings also point to the need to study the experience of students in different states of mental health by using story reading. These findings can be useful to develop and implement support programs aimed at preventing negative mental



health states in the long term, ultimately minimizing the occurrence of mental health problems and promoting positive mental health.

Declarations

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed Consent was obtained from all participants included in the study.

Disclosure of Potential Conflicts of Interest The authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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