Self-Compassion and Stress in Early Adulthood

Muhammad Hudzaifah[1*], Katrim Alifa Putrikita[2]
[1]Universitas Mercu Buana Yogyakarta, Indonesia
[2]Universitas Mercu Buana Yogyakarta, Indonesia
*200810762@student.mercubuana-yogya.ac.id

ABSTRACT

Early adulthood represents a transitional phase characterized by elevated stress levels compared to other developmental stages. Numerous mental health issues that frequently emerge during this period have been well-documented to be associated with stress. In recent years, self-compassion has gained attention as a relatively new concept in psychology, demonstrating its potential to reduce stress and serve as a healthy coping mechanism. Hence, the purpose of this study is to explore the relationship between self-compassion and stress among early adults in Indonesia. Our hypothesis is that increased self-compassion inversely correlates with stress levels in early adults. Data were collected using two instruments: the stress subscale of the DASS-42 questionnaire and the Self-Compassion Scale. Pearson correlation was utilized to analyze the data, examining the relationship between stress and self- compassion. Employing a correlational design, involving 388 early adults aged 20-40 years, encompassing both genders and various educational backgrounds. Our findings reveal several significant results: (1) An increase in self-compassion is inversely associated with stress levels among early adults ($r = -0.714$, $p < 0.001$). This result supports the hypothesis. (2) The positive aspects of self-compassion—self-kindness, common humanity, and mindfulness—demonstrate a moderate negative correlation with stress, while the negative aspects—self-judgment, isolation, and overidentification—exhibit a stronger positive correlation with stress. (3) Individuals with higher education display lower stress levels and higher self-compassion compared to those without higher education. These findings underscore the effectiveness of self-compassion as a coping mechanism for managing stress, and mental health practitioners should consider incorporating strategies to enhance self-compassion as a means of alleviating stress in early adulthood.

Keywords: coping mechanism, correlation, early adulthood, self-compassion, stress

Introduction

The early adulthood period represents a critical developmental stage during which individuals focus on job seeking, identity exploration, and the formation of romantic relationships. These pursuits are often driven by a passion for achieving career aspirations and academic goals (Santrock, 2018). Simultaneously, individuals encounter changes and challenges related to career choices and the establishment of romantic relationships, while also beginning to shape their life views (Arnett, 2000; Arnett, 2007). Early adulthood, typically spanning from ages 20 to 40, is characterized by self-identity exploration and challenges in relationships and employment (Kuther, 2016; Boyd & Bee, 2014). Research indicates that career-related concerns and shifting perspectives on intimate relationships are frequently part of the early adulthood experience (Ramdhani, Budiamin, & Budiman, 2019;

Tillman, Brewster, & Holway, 2019). Additionally, social and cultural pressures to achieve specific milestones, along with the adaptation to new roles in relationships with parents, can contribute to stress during this period (Albert & Trommsdorff, 2014)

Research conducted by Solmi et al. (2022) indicates that various mental health issues frequently emerge during early adulthood. Stress significantly contributes to the onset and persistence of various mental health disorders that commonly emerge during this stage of life, including anorexia nervosa (Xiao, Liu, Cline, & Gilbert, 2020), bulimia nervosa (Collins etal., 2017), binge eating (Lim, Parsons, Goglio, & Fox, 2021), cannabis use disorder (al'Absi & Allen, 2021), schizophrenia (Vargas, Conley, & Mittal, 2020), personality disorders (White, Conway, & Oltmanns, 2020), anxiety disorders (Daviu, Bruchas, Moghaddam, Sandi, & Beyeler, 2019), and alcohol use disorder (Wittgens, Muehlhan, Kräplin, Wolff, & Trautmann, 2022). Additional research supports the significant relationship between stress in early adulthood and mental health (Schneiderman, Ironson, & Siegel, 2005). Moreover, the unique transitional characteristics of early adulthood can be a source of stress, posing a threat to individuals' mental health (Konaszewski, Niesiobędzka, & Kolemba, 2022)

For early adults, managing the developmental tasks of intimacy, identity, and independence is crucial, and maintaining low stress levels is key to this process (Santrock, 2018). Elevated stress levels can significantly reduce energy and overall well-being, thereby hindering an individual's capacity to manage daily responsibilities and attain personal autonomy (Taylor, 2015). Stress often leads to unhealthy coping mechanisms, like poor diet and substance abuse, undermining efforts to build intimate connections. Additionally, stress diminishes self-esteem and optimism, weakening social networks and undermining efforts to build intimate connections (Dafiq et al., 2024). It also impairs cognitive functions necessary for making informed decisions about career and personal development, further challenging their ability to navigate these developmental tasks (Calvo & Gutierrez-Garcia, 2016; Music & Rossel, 2016). Early adulthood is a period when individuals are at the greatest risk of suicidedue to severe stress reaching a critical threshold in those with certain predispositions, underscoring the importance of managing stress effectively during early adulthood (Lester and Gunn, 2016; Graham & Fenelon, 2023). Therefore, managing stress is essential for early adults to effectively as they tackle challenges arising from their developmental tasks and thrive as they transition into adulthood.

Stress has emerged as a significant global health issue, with approximately 41% of adults in 122 countries reporting high levels of stress (Gallup, 2022). In the United States, 67% of adults have reported increased stress in recent years (American Psychological Association, 2020). Similarly, in the United Kingdom, nearly three-quarters of adults feel highly stressed and unable to cope (Mental Health Foundation, 2018). In Indonesia, 75% of respondents reported significant stress levels (Media Asuransi, 2018), and the country has the highest stress levels in Asia (Garmin, 2021). In a study by Winding, Nielsen, and Grytnes (2023), it was observed that stress levels fluctuate as individuals transition into early adulthood. For females, stress levels started at 34% at age 15, dipped slightly to 33% at age 18, and then peaked at 35% by age 21. Similarly, for males, stress began at 22% at age 15, decreased slightly to 21% at age

18, and then rose to a peak of 28% at age 21. These findings indicate that the transition intoearly adulthood is associated with the most significant increase in reported stress levels.

Research on Indonesian early adults, reveals a significant prevalence of moderate to severe stress in this demographic. For instance, Sulana, Sekeon, and Mantjoro (2020) found that among individuals aged 20 to 24, 67.5% experienced moderate stress, 27.9% faced severe stress, and only 4.7% reported mild stress. Similarly, Aulia and Panjaitan (2019) observed that 71.3% of individuals aged 21 to 23 exhibited moderate stress, with 14.8% experiencing severe stress and 13.9% mild stress. These findings highlight the substantial stress burden carried by Indonesian early adults as they navigate critical life transitions, such as completing education, seeking employment, and meeting societal expectations. The pressure to achieve financial independence, establish social roles, and fulfill cultural expectations, including finding a life partner, further intensifies stress levels (Putri, 2019; Putri, Lestari, & Khisbiyah, 2022). Additionally, Dafiq et al. (2024) emphasize that academic challenges, social pressures, and interpersonal conflicts further exacerbate stress among Indonesian early adults, often leading to anxiety, concentration difficulties, and reduced self-esteem.

Lovibond and Lovibond (1995) characterize stress as a state of persistent arousal and tension with a low threshold for becoming upset or frustrated. Lazarus and Folkman (1984) conceptualize stress as a response to an imbalance between environmental demands and individual resources. Similarly, Sarafino and Smith (2017) define stress as the result of an individual's perception of a discrepancy between environmental demands and their available resources. According to Lovibond and Lovibond (1995), stress encompasses several aspects, including difficulty relaxing, nervous arousal, easily upset/agitated, and irritable/over-reactive, and impatient.

Folkman (2010) posits that stress can be influenced by both internal and external factors. Internal factors include personality characteristics, coping strategies, and perceived control. External factors encompass daily stressors, significant life events, losses, and past traumas. Sarafino and Smith (2017) further elaborate that stress can also be influenced by psychosocial factors such as social support, personal control, and personality type.

Michie (2002) identifies that stress can be caused by external factors, such as situations that are difficult to predict or control, including exams or tight deadlines, as well as internal factors, such as individual traits, personality, and beliefs. Kudielka, Hellhammer, and Wüst (2009) further elaborate that these internal factors, including genetic predisposition and early life experiences, influence an individual's vulnerability to stress. Breines et al. (2014) demonstrate that self-compassion, as an internal factor, can reduce physiological responses to stress and serve as an effective coping strategy (Allen & Leary, 2010). Additionally, research by Chwyl, Chen, and Zaki (2021) indicates that low self-compassion is associated with theuse of less healthy coping strategies, which can increase stress levels.

Neff (2003) defines self-compassion as a compassionate attitude towards oneself, encompassing self-kindness, a sense of common humanity, and mindfulness. This attitude can mitigate the adverse effects of stress. Research has shown that self-compassion can reduce

self-criticism and enhance psychological well-being (Breines & Chen, 2012). Additionally, it can activate the parasympathetic nervous system, thereby alleviating stress (Wang et al., 2019; Weissman & Mendes, 2021). Consequently, self-compassion can significantly influence stress levels. Thus, this study aims to examine the relationship between self-compassion and stress levels in early adulthood. This study hypothesizes that increased levels of self-compassion are inversely correlated with stress levels.

Methods

This study focuses on the early adulthood population aged 20-40 years in Indonesia. Indonesia is projected to have 90 million individuals aged 20-40 years in 2024 (Badan Pusat Statistik, 2020). Accidental sampling was utilized to select participants from this population. Participants were recruited through advertisements on social media platforms across Indonesia and were asked to complete questionnaires via a website created by the researchers. From an initial group of 446 respondents, 388 individuals were included, excluding those outside the age range of 20 to 40 years. According to Isaac and Michael (1995), a sample size of 349 is needed to achieve a 95% confidence level for a large population or for an infinite population. Therefore, the sample in this research satisfies for a 95% confidence level.

The data collection method in this study utilized two scales: the stress subscale derived from the Indonesian version of the DASS-42 (Widyana, Safitri, & Sumiharso, 2020) and the Indonesian version Self-Compassion Scale (Sugianto, Suwartono, & Sutanto, 2020). The stress subscale of the Depression Anxiety Stress Scales (DASS), originally developed by Lovibond and Lovibond (1995) and adapted into Indonesian by Widyana, Safitri, and Sumiharso (2020). The stress subscale of the DASS-42 encompasses various dimensions such as difficulty relaxing, nervous arousal, easily upset/agitated, and irritable/over-reactive, and impatient. This scale employs four response options: Very Often, Often, Rarely, and Never, with each statement scored on a scale of 3-0. While the DASS-42 comprises 42 items assessing depression, anxiety, and stress, this study analyzed only the 12 stress-specific items. Psychometric analysis conducted by Widyana, Safitri, & Sumiharso. (2020) demonstrated a total item-rest correlation coefficient ranging from 0.552 to 0.714, with a reliability coefficient of α=0.917, indicating the Indonesian version has high reliability.

The level of self-compassion was measured using the Indonesian version of Self-Compassion Scale developed by Sugianto, Suwartono, and Sutanto (2020). This scale employs five response alternatives, ranging from Almost Always to Almost Never. Items related the aspects of self-kindness, common humanity, and mindfulness are scored from 5 to 1, whereas items related to self-judgment, isolation, and over-identification are scored from 1 to 5. This scale is based on Neff (2003) dimensions of self-compassion, which include self- kindness vs. self-judgment, common humanity vs. isolation, and mindfulness vs. over- identification. The scale has been tested with a reliability coefficient alpha of 0.872, indicating a good reliability.

The data were analyzed using SPSS version 27. The analysis process included conducting classic assumption tests to assess normality, linearity, and homogeneity; performing

descriptive analysis for the variables of self-compassion and stress; and conducting correlation analysis using Pearson Correlation to examine the relationship between self-compassion and stress, as well as Spearman Correlation to explore associations between each aspect of self- compassion (self-kindness, self-judgment, common humanity, isolation, mindfulness, over- identification) and stress. Additionally, independent samples t-test analysis was performed to compare levels of self-compassion and stress between individuals with higher education and those without.

Results

The demographic analysis of the 388 participants reveals distinct differences in educational attainment and gender distribution. Among the participants, 60.3% possess higher education qualifications, while 39.6% do not. Specifically, within the higher education group, 4.12% hold a Master's Degree, 50.26% have a Bachelor's Degree, 5.16% possess an Associate Degree, 0.26% have a Diploma 2, and 0.52% hold a Diploma 1. Conversely, among those without higher education, 37.63% have completed high school, 1.80% have completed junior high school, and 0.26% have completed primary school. The sample is predominantly female, with women comprising 80.4% and men 19.6%. Participants come from 26 of Indonesia's 38 provinces.

Table 2. Distribution of Participants by Region of Origin

NO	Region of Origin	Frequency
1	West Java	109
2	Central Java	49
3	East Java	46
4	Jakarta	39
5	Yogyakarta	28
6	South Sulawesi	18
7	Banten	16
8	North Sumatra	15
9	South Sumatra	14
10	Bali	9
11	Aceh	7
12	Jambi	6
13	West Sumatra	6
14	East Kalimantan	5
15	North Sulawesi	4
16	South Kalimantan	3
17	Gorontalo	2
18	Lampung	2
19	East Nusa Tenggara	2
20	West Sulawesi	2
21	Bangka Belitung	1
22	Bengkulu	1
23	West Kalimantan	1
24	North Maluku	1
25	Papua	1
26	Central Sulawesi	1
	Total	388

Table 2. Distribution of Participants by Level of Education

Level of Education		Percentage	Total
With Higher Education	Master's Degree (S2)	4.12%	60.30%
	Bachelor's Degree (D4/S1)	50.26%	
	Associate Degree (D3)	5.16%	
	Diploma 2 (D2)	0.26%	
	Diploma 1 (D1)	0.52%	
Without Higher Education	High School (SMA/SMK)	37.63%	39.60%
	Junior High School (SMP)	1.80%	
	Primary School (SD)	0.26%	
Total		100%	100%

Based on the analysis, significant variations were observed in both the stress score (M = 20.15, SD = 7.08) and the self-compassion score (M = 77.82, SD = 17.56) among participants. Additionally, participants reported scores in several aspects of self-compassion: self-kindness(M = 15.61, SD = 4.10), self-judgment (M = 14.98, SD = 4.38), common humanity (M = 13.11, SD = 3.52), isolation (M = 12.67, SD = 4.07), mindfulness (M = 12.43, SD = 3.23), and over-identification (M = 12.95, SD = 3.84). The data suggest that participants exhibit significant variability in stress and self-compassion scores, with notable differences across various aspects of self-compassion.

Normality testing using the Kolmogorov-Smirnov test and the deviation from linearity test was conducted on the variables of stress and self-compassion. The results indicated that both stress ($Z = 0.042$, $p = 0.095$) and overall self-compassion ($Z = 0.041$, $p = 0.124$) exhibited p-values greater than 0.05, suggesting conformity to a normal distribution. Additionally, the test for deviation from linearity ($F = 1.1$, $p = 0.286$) yielded a p-value greater than 0.05, indicating no significant departure from linearity. These findings support the assumptions of normality and linearity, thereby validating the use of Pearson correlation analysis for further investigation.

However, it is important to highlight that all individual aspect of self-compassion exhibited a non-normal distribution in this research. Specifically, the Kolmogorov-Smirnov test yielded p-values below 0.005 for all aspect of self-compassion, indicating a substantial departure from normality. Consequently, while stress and overall self-compassion are suitable for Pearson correlation (r) analysis due to their normal distribution, the individual aspect of self-compassion necessitate the use of Spearman correlation (ρ), which does not require assumptions of normality and is therefore more appropriate.

Table 3. Descriptive and Correlational Analysis

Variable	*n*	M	SD	Stress
Stress	388	20.15	7.08	-
Self-Compassion	388	77.82	17.56	-0.714*
Self-Kindness	388	15.61	4.10	-0.388**
Self-Judgment	388	14.98	4.38	0.612**
Common Humanity	388	13.11	3.52	-0.354**
Isolation	388	12.67	4.07	0.713**
Mindfulness	388	12.43	3.23	-0.405**
Over-Identification	388	12.95	3.84	0.691**

Note: *Pearson $p < 0.001$, **Spearman $p < 0.001$

The findings from this research demonstrate a significant negative correlation between stress levels and self-compassion (rxy = -0.714, p < 0.001). Thus, the hypothesis is accepted. This suggests that higher levels of self-compassion are associated with lower levels of stress. Conversely, lower levels of self-compassion correspond with increased stress levels. The correlation results indicate that self-kindness and stress, have a correlation coefficient (ρxy = -0.388, p < 0.001), indicating a significant negative correlation. Similarly, both common humanity (ρxy = -0.354, p < 0.001) and mindfulness (ρxy = -0.405, p < 0.001) also show significant negative correlations with stress levels. This suggests that aspects of self-kindness, common humanity, and mindfulness are also significantly associated with lower levels of stress.

Conversely, the correlation test results between self-judgment and stress, with a sample size of 388, show a correlation coefficient (ρxy = 0.612, p < 0.001), indicating a significantpositive correlation. Additionally, isolation (ρxy = 0.713, p < 0.001) and over-identification (ρxy = 0.691, p < 0.001) also exhibit significant positive correlations with stress levels. This indicates that these aspects are positively related to higher levels of stress.

To ensure the assumptions required for the independent samples t-test were met, homogeneity tests were conducted. The results indicate that for the self-compassion variable,F = 0.870 with a p-value of 0.351 (p > 0.05), and for the stress variable, F = 0.392 with a p- value of 0.532 (p > 0.05). These findings suggest that both variables meet the assumption of homogeneity, indicating that the data are derived from the same population.

Following the confirmation of homogeneity, the independent samples t-test revealed significant differences in self-compassion and stress levels between individuals with higher education and those without. For the self-compassion variable, the t-test yielded t = 3.813 with p < 0.001, indicating that the mean self-compassion level in the higher education group (Mean = 80.05) is higher compared to the group without higher education (Mean = 73.29). This suggests that individuals with higher education tend to have higher levels of self- compassion. Similarly, for the stress variable, the t-test yielded t = -4.520 with p < 0.001, indicating that the mean stress level in the higher education group (Mean = 18.99) is lower compared to the group without higher education (Mean = 22.16). This indicates that individuals with higher education tend to experience lower levels of stress.

Discussions

The results of this study indicate a significant negative correlation between stress levels and self-compassion (rxy = -0.714, p < 0.001), suggesting a strong inverse relationship between these variables. The correlation coefficient above 0.7 supports this strong negative association (Cronk, 2024). The correlation indicates that higher self-compassion is strongly associated with lower stress levels. On the other hand, lower self-compassion is strongly associated with higher stress levels. The results of this study align with numerous prior investigations that have identified a negative association between self-compassion and stress (Giyati & Whibowo, 2023; Huriyah, Prathama, & Wardhani, 2022; Lestari & Ediati, 2021). This research highlights the critical role of self-compassion in stress management among early

adults, corroborating previous studies that consistently demonstrate a negative correlation between self-compassion and stress levels. This suggests that higher levels of self-compassion are associated with lower stress levels, underscoring its importance in effectively managing stress in this age group.

Self-compassion serves as a constructive and supportive mechanism for managing stress among early adults, by aiding in emotional regulation. It allows early adults to transition from negative thought patterns to a more solution-oriented mindset when confronted with stress (Ewert, Vater, & Schröder-Abé, 2021), thereby facilitating more effective navigation through challenging circumstances. Furthermore, self-compassion promotes the seeking of social support during difficult times (Dupasquier, Kelly, Waring, & Moscovitch, 2020), thereby expanding the resources available to early adults for managing and mitigating stress. Additionally, self-compassion has the potential to enhance resilience (Garcia et al., 2022), enabling early adults to better manage the stress commonly encountered during early adulthood.

In addition to its psychological benefits, self-compassion functions as an effective coping mechanism by fostering self-support during challenging situations. It not only mitigates psychological stress but also exerts biological effects that reduce stress. Specifically, self-compassion has been shown to lower cortisol levels, a primary stress hormone (Herriot, Wrosch & Gouin, 2018), and to activate the parasympathetic nervous system (Wang et al., 2019), which enhances relaxation even in stressful situation (Uvnäs-Moberg, Handlin, & Petersson, 2015). Therefore, self-compassion holds significant potential for biologically regulating stress responses in early adults.

This study also provides a comprehensive insight into the significance of self-compassion as a coping mechanism. It examines both the positive and negative aspects of self-compassion in relation to stress. The analysis reveals that the positive aspects of self-compassion—self- kindness ($\rho xy = -0.388$, $p < 0.001$), common humanity ($\rho xy = -0.354$, $p < 0.001$), and mindfulness ($\rho xy = -0.405$, $p < 0.001$)—are significantly negatively correlated with stress levels. This indicates that higher levels of self-kindness, common humanity, and mindfulness are associated with lower levels of stress. Conversely, the negative aspects of self- compassion—self-judgment ($\rho xy = 0.612$, $p < 0.001$), isolation ($\rho xy = 0.713$, $p < 0.001$), and over-identification ($\rho xy = 0.691$, $p < 0.001$)—show significant positive correlations with stress levels. In other words, higher levels of self-judgment, isolation, and over-identification are associated with higher levels of stress.

Based on the findings regarding the relationship between each aspect of self-compassion and stress, it can be concluded that these dimensions mutually influence their effects on stress levels. Numerous studies have also demonstrated the interconnectedness of self-compassion components, as originally proposed by Neff (2003) and supported by subsequent research (Barnard & Curry, 2011; Dreisoerner, Junker, & van Dick, 2020; Krejčová, Rymešová, & Chýlová, 2023). These findings further indicate that the negative aspects of self-compassion exhibit stronger positive correlations ($\rho xy = 0.6$ to 0.7) with stress levels compared to the negative correlations of the positive aspects of self-compassion ($\rho xy = -0.4$ to -0.35). This

suggests that self-judgment, isolation, and over-identification may have a greater impact onstress levels than self-kindness, common humanity, and mindfulness.

Our findings also indicate a significant difference in self-compassion levels between early adults with higher education and those without. The average self-compassion score for early adults with higher education is 80.05 ($p < 0.001$), whereas for early adults without higher education it is 73.29 ($p < 0.001$). This suggests that education plays a role in determining a person's level of self-compassion, with those possessing higher education exhibiting greater self-compassion compared to those without. This finding aligns with previous research, which has demonstrated that early adults with higher education tend to have elevated levels of self-compassion (López, Sanderman, Ranchor, & Schroevers, 2018). Additionally, educational attainment can be considered a proxy for socioeconomic status (Bluth, Park, & Lathren, 2020), with lower socioeconomic status being associated with reduced self-compassion (Kroshus et al., 2023).

Additionally, the study identified significant differences in stress levels among groups based on their level of education. The average stress level for early adults with higher education was 18.99 ($p < 0.001$), compared to 22.16 ($p < 0.001$) for those without higher education. This suggests that education plays a crucial role in determining an individual's stress levels, with higher education associated with lower stress. Education level can serve as an indicator of socio-economic factors (Bluth, Park, & Lathren, 2020), where lower socio- economic status has long been linked to higher stress levels (Baum & Yali, 1999), a relationship corroborated by several recent studies (Reiss et al., 2019; Kraft & Kraft, 2021; Rahal, Shaw, & Stigler, 2023).

This study has several limitations that warrant consideration. Firstly, its correlational nature precludes direct causal inferences between self-compassion and stress. Additionally, the reliance on self-reported data for stress introduces potential biases. The use of non- probability sampling methods further limits the generalizability of the findings. Future research that incorporates experimental designs, utilizes physiological measurements for assessing stress levels, and applies probability sampling techniques could more effectively address these limitations.

Nevertheless, this study holds significant clinical implications. Interventions promoting self-compassion could serve as valuable tools in stress management and overall psychological well-being. These findings underscore the importance for mental health practitioners to develop or implement interventions focusing on self-compassion. Such interventions have the potential to assist early adults in cultivating a compassionate self-attitude, particularly in coping with stress during early adulthood. Subsequent research should assess the effectiveness of these interventions within early adulthood clinical populations, contributing to the advancement of improved treatments for stress-related disorders.

Conclusion

This study identified a significant negative correlation between self-compassion and stress levels among early adults, indicating that higher levels of self-compassion are associated with lower levels of stress, thereby supporting the research hypothesis. The additional analysis revealed that positive aspects of self-compassion, such as self-kindness, common humanity, and mindfulness, significantly correlate with reduced stress levels, whereas negative aspects like self-judgment, isolation, and over-identification are linked to increased stress levels. Additionally, there was a significant difference in self-compassion and stress levels between early adults with higher education and those without, with highly educated early adults tending to experience lower stress levels and higher levels of self-compassion.

This study has limitations, including its correlational design, potential biases from self-reported data, and non-probability sampling. Future research should employ experimental designs and incorporate physiological measurements to assess stress levels, and probability sampling. Despite these limitations, the study underscores the clinical value of self-compassion interventions for stress management, suggesting that mental health practitioners should develop these interventions and evaluate their effectiveness in clinical settings.

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