

Subjective Well-Being and its Association with Social Skills and Psychological Flexibility

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Abstract

Subjective well-being is seen as an indicator of high quality of life and is associated with good mental health and the prevention of psychopathology. Therefore, research aiming at identifying variables that influence and preserve subjective well-being is essential. This study aims at identifying the relationship between social skills, psychological flexibility, and subjective well-being. Based on previous research, it was hypothesized that psychological flexibility mediates the effect of social skills on subjective well-being. 181 people (79 males, 101 females and 1 non-binary), ranging in age from 18 to 58 ($M = 24.4$, $SD = 7.4$), took part in this study. The findings indicate a significant relationship between all three variables. When accounted for psychological flexibility, the association between social skills and subjective well-being decreased but was still significant. Therefore, the association between social skills and subjective well-being seems to be partially mediated by psychological flexibility. This means that well-developed social skills are associated with higher psychological flexibility, which in turn is associated with higher subjective well-being. Thus, psychological flexibility might preserve well-being even when social interactions are reduced. This study gives insights for further research, as an association between psychological flexibility and social skills has been confirmed. Based on this, the causal links of this relationship should be investigated. Concluding, the importance of social skills and, especially, psychological flexibility concerning subjective well-being, was emphasized.

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Introduction

The COVID-19 pandemic impacted many people throughout the last two years. In order to manage the spread of the virus and the associated impact on citizens' health and the healthcare system, many governments enacted societal restrictions (Dawson & Golijani-Moghaddam, 2020). As a result, fewer social interactions and consequently increased distress and decreased well-being of citizens could be detected. In the UK, for example, 32% reported high levels of anxiety, which is usually around 6%, and 43% of diminished well-being (ONS, 2020, as cited in Dawson & Golijani-Moghaddam, 2020). The latter is thought to be an important aspect of preventing psychopathology (Arslan & Allen, 2022), and is closely related to optimal mental health and a good indicator of quality of life (Sokhey, 2010). Therefore, preserving and increasing well-being is essential, which is what the area of positive psychology intends to do.

Within this field, the concept of subjective well-being developed, which Eid and Diener (2004) define as multidimensional and consisting of cognitive judgements and affective evaluations. The first refers to life satisfaction whereas the latter includes positive and negative affects. Subjective well-being can be a momentary state or an enduring trait, depending on whether a specific moment, as in this study, or a time period is being measured. It is closely related to other psychological concepts that capture particular aspects of a person's quality of life, such as self-esteem or depression (Andrews & Robinson, 1991), further emphasizing its crucial importance regarding psychopathology and mental health. The identification of factors influencing subjective well-being is essential to accomplish the goal of preserving it.

One such factor could be social skills, as they are positively associated with subjective well-being (Segrin & Taylor, 2007). The definitions of social skills vary greatly among research. However, according to Little et al. (2017), the most important aspects of social skills are communication and interaction with others, as well as the ability to "function competently at social tasks" (p. 10). The development of social skills includes learned behaviours, and it facilitates interactions with others. Additionally, it is context-specific and socially reinforced. Well-developed social skills ease social interactions with others and therefore lead to an increase in peer acceptance, the social support system and positive relationships. The latter, for example, enhances confidence and having at least one mutual friendship in childhood is associated with lower levels of anxiety and loneliness. Furthermore, all these concepts are proven to affect

measures of well-being, such as life satisfaction (Segrin et al., 2007; Segrin & Taylor, 2007). Therefore, it appears that social skills and subjective well-being have a positive association.

The third key variable for this study is psychological flexibility. According to Cherry et al. (2021), psychological flexibility can be defined as “handling interference or distress[...]; taking action to manage interference or distress [...] and taking action occurs in a manner that fits situational demands and facilitates the pursuit of personal goals or values” (pp. 9-10). Put simply, psychological flexibility is the ability to adapt to situational change in a way that personal goals are still pursued. Therefore, this variable is especially important in times of uncertainty, such as the drastic change in life due to the COVID-19 pandemic. According to Kashdan and Rottenberg (2010), psychological flexibility is positively related with subjective well-being. Additionally, psychological flexibility is dynamic and changeable, which is why Acceptance and Commitment Therapy (ACT) aims specifically at improving it to increase subjective well-being (Wersebe et al., 2018). The existing relationship between psychological flexibility and subjective well-being and the fact that an increase in the first is associated with an increase in the latter, as shown by ACT, makes psychological flexibility an important variable to take into account when intending to preserve well-being.

There are several reasons to believe that there is a link between social skills and psychological flexibility. First, both variables positively affect the same third variable, namely subjective well-being (Segrin et al., 2007; Kashdan & Rottenberg, 2010). Second, a study by Bijstra and Jackson (1998) shows that social skills training increased the use of adequate coping strategies and the situational use of coping styles is also related to psychological flexibility (Dawson & Golijani-Moghaddam, 2020). Third, according to Doorley et al. (2020), psychological flexibility should enable people to manage uncertainties and emotional challenges in an interpersonal context. Those skills are considered to be vital for handling social situations competently, which is an aspect of social skills. Therefore, a relationship between those two variables seems to be apparent, even though this does not seem to have been studied yet.

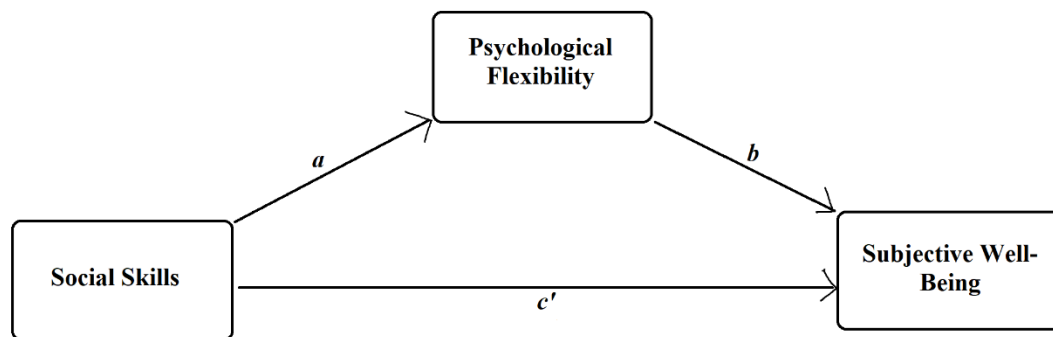
The interrelationship between the three variables may point towards a mediation effect that is worth investigating further. Keeping in mind that social skills training increases the adequate use of coping strategies and both are thus closely related to psychological flexibility, makes it most logical to argue for a mediation effect of psychological flexibility on the relation of social skills on subjective well-being and not vice versa. The COVID-19 pandemic and its

mental health consequences showed that many people struggle with maintaining high levels of subjective well-being when social support systems are not available (Dawson & Golijani-Moghaddam, 2020). Therefore, it is important to identify other variables that preserve well-being and may account for the positive effect that social skills, often through an increased social support system (Segrin et al., 2007), have on well-being. If a mediation effect of psychological flexibility on the association between social skills and well-being exists, future interventions could aim at increasing psychological flexibility, especially in such extraordinary circumstances as a pandemic.

Accordingly, this study aims at investigating the relationship between subjective well-being, social skills, and psychological flexibility. It is hypothesised that (1) high social skills are associated with high subjective well-being, (2) high psychological flexibility is associated with high subjective well-being, (3) high social skills are associated with high psychological flexibility, and (4) psychological flexibility mediates the association between social skills and subjective well-being.

Figure 1

Visualization of the Proposed Mediation Effect



Methods

Design

A cross-sectional design was employed, to indicate whether psychological flexibility mediates the effect of social skills on subjective well-being, as this study aimed at measuring these concepts in a specific moment. Therefore, the Social Skills Inventory (SSI) represented the independent variable (IV), the Acceptance and Action Questionnaire 2 (AAQ-2) functioned as the mediating variable (M) and the Satisfaction With Life Scale was the dependent variable (DV).

Participants

In total 203 participants were gathered through the test subject pool ‘Sona’ and through convenience sampling by recruiting friends and family members of the researchers. Due to incomplete data and the exclusion when not meeting the inclusion criteria of being above the age of 18, the final number was $N = 181$. Of those, 79 participants identified as male, 101 as female and 1 as non-binary. Their age ranged from 18 to 58 ($M = 24.4$, $SD = 7.4$).

Materials

Participants needed a laptop or mobile device and a stable internet connection to take part in this study. The survey, consisting of a brief information sheet, informed consent, demographic questions, and several questionnaires, was implemented into the web-based survey tool Qualtrics.com. They used questionnaires, relevant for this paper, are the Acceptance and Action Questionnaire (AAQ-2), the Satisfaction with Life Scale (SWLS), and the Social Skills Inventory (SSI).

The AAQ-2, developed by Bond et al. (2011), was used, as this scale shows adequate validity and reliability. The questionnaire contains seven items, such as “Worries get in the way of my success” (see Appendix A). The participants answer these items on a seven-point Likert scale, ranging from “Never true” to “Always true”. Therefore, the highest possible score is 49 and the lowest is 7 and a higher score on the AAQ-2 indicates less psychological flexibility. Yavuz et al.'s (2016) study shows good psychometric properties with Cronbach’s α of .84 and a

Pearson's Correlation Coefficient of .85. In the present paper, Cronbach's α was .89 and only one item showed an Eigenvalue > 1 , indicating that, as intended, one dimension was measured.

The SWLS, developed by Diener et al. (1985), measures the subjective life satisfaction of participants (Pavot & Diener, 2008). The questionnaire contains five items, such as "In most ways my life is close to my ideal". These statements are answered on a seven-point Likert scale, ranging from "Strongly disagree" to "Strongly agree" (see Appendix B). The sum of the answers can be added up to get a total score, ranging from 5 to 35. A higher score indicates higher life satisfaction. Additionally, its internal consistency is satisfactory with a coefficient alpha of .79 and .89 (Pavot & Diener, 2008). In the present paper, the psychometric properties are adequate with Cronbach's α of .85. The factor analysis revealed that one dimension, as intended, was measured, as one item showed an Eigenvalue > 1 .

The Social Skills Inventory is used to measure six components of social skills. These are Emotional Expressivity (EE), Emotional Sensitivity (ES), Emotion Control (EC), Social Expressivity (SE), Social Sensitivity (SS), and Social Control (SC) (Riggio, 1989, as cited in Oldmeadow et al., 2013), which are being answered on a 5-Point scale ranging from "not at all like me" to "exactly like me". Oldmeadow et al. (2013) created a short form of the original 90-item scale, including 4 items to measure each subscale (see Appendix C). In this short-form, the highest possible score is 120 and the lowest is 24. Due to the length of the online questionnaire used in this paper, this short form was implemented. Except for EE ($\alpha = .53$), Cronbach's α was above .8 for all subscales. The correlations between subscales were below -.01, indicating that each subscale measures a distinct aspect of social skills (Oldmeadow et al., 2013). In the present paper, Cronbach's α was .78 and the factor analysis revealed that the intended six dimensions were measured, as six items showed an Eigenvalue > 1 .

Procedure

At the beginning of the questionnaire, a brief description of the purpose and content of the study, including that the participants' data will be treated anonymously and that they can stop the survey anytime, was shown (see Appendix D). The participants had to voluntarily give informed consent that they had read the information and agreed with them. Then, demographic questions about the participant's age, gender, education, nationality, and occupation were asked. Afterwards, the participants filled out the questionnaire and got a brief "Thank You" message at

the end. People who participated through ‘Sona’, received 0.25 ‘Sona-Points’ as compensation. People that were recruited through convenience sampling by the research team did not receive compensation.

Data Analysis

The data analysis was conducted using the statistical program SPSS. Before the analysis, incomplete data were omitted from the data set to reduce noise. The sum score of the AAQ-2 was calculated into the variable ‘AAQ_Sum’. The results of the SWLS were added up and calculated into the variable ‘SWLS_Sum’. Before the results of the SSI could be calculated, seven items had to be re-coded as they indicate reversed scores (see Appendix C). Then, the 24 items were summed up into a total score variable called: ‘SS_Sum’.

After re-coding the items and calculating the sum scores, descriptive statistics of each test were calculated in order to provide an overview of the acquired data. To indicate the scales’ psychometric properties, factor analysis was conducted and Cronbach’s α was calculated for each scale. Next, the frequency distribution was assessed using the Shapiro-Wilk test to employ the appropriate methods for further analysis. In order to answer the first three hypotheses, a correlation analysis was conducted using Spearman’s rho, based on the outcome of the Shapiro-Wilk test. The mediation analysis aimed at answering the fourth hypothesis and was conducted using SPSS PROCESS macro, which makes use of bootstrapping to identify a possible mediation effect.

Results

The data was analysed using the above-described methods. The descriptives of each test are shown below in Table 1.

Table 1

Descriptive Statistics of the Total Score on the AAQ-2, the SSI and the SWLS

	Min.	Max.	M	SD	Skewness		Kurtosis	
					Statistic	SE	Statistic	SE
AAQ-2	7	49	22.15	8.67	.60	.18	.09	.36
SSI	47	101	76.22	11.46	-.16	.18	-.50	.36
SWLS	7	35	23.61	6.11	-.59	.18	-.20	.36

Note. In all three Scales N = 181

Next, the normality of all three scales was assessed to decide on the appropriate analysis. The Shapiro-Wilk test was used, revealing that the AAQ-2 and the SWLS were not normally distributed ($W = .97, p < .01$; $W = .963, p < .01$) and the SSI was normally distributed ($W = .99, p = .23$) (see Appendix E for Histograms).

Based on these results, non-parametric measurements were used for further analyses. The correlation was assessed using Spearman's rho, revealing that all three scales were significantly correlated (see Table 2).

Table 2

Correlation Table Showing Spearman's rho for the SSI, the AAQ-2 and the SWLS Scores

		SSI	AAQ-2	SWLS
SSI	Spearman's rho	1		
AAQ-2	Spearman's rho	-.26**	1	
SWLS	Spearman's rho	.34**	-.64**	1

Note. In all three scales N = 181.

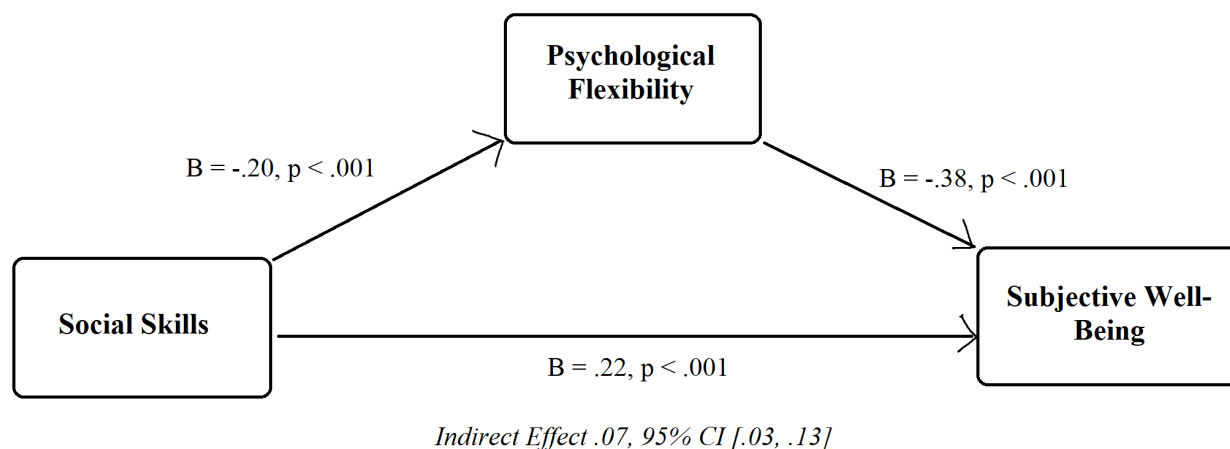
**Correlation is significant at the .01 level (2-tailed).

The model including the independent and the mediator variable was significant [$F(2, 178) = 69.21; p < .01$] with an adjusted r^2 of .44. The direct effect of social skills on subjective well-being was positive and statistically significant. The path from social skills to psychological flexibility was negative and statistically significant. The direct effect of psychological flexibility on subjective well-being was negative and statistically significant. The indirect effect was statistically significant (see Figure 2; see Appendix F for Scatterplots)

These results indicate that psychological flexibility might partially mediate the effect of social skills on subjective well-being, as the indirect effect is significant and the direct effect, which is not accounted for by psychological flexibility is also still significant.

Figure 2

Results of the researched mediation effect



Discussion

This paper aimed at investigating the relationship between subjective well-being, social skills and psychological flexibility, as subjective well-being is an important part of mental health and should be preserved. Social skills and psychological flexibility are two variables that are thought to have a positive effect on subjective well-being and consequently, a correlation analysis was conducted. Additionally, it was investigated whether psychological flexibility mediates the association between social skills and subjective well-being.

The study's results show a significant positive correlation between social skills and subjective well-being, and thus the first hypothesis, that high social skills are associated with high subjective well-being, is accepted. These findings are in line with previous research, as a positive relationship between social skills and subjective well-being was shown in other studies as well (Segrin & Taylor, 2007; Ozben, 2013). This relationship could be explained through the increase of positive relationships when having high social skills. These, in turn, have positive effects on well-being (Segrin & Taylor, 2007). Additionally, high social skills are associated with higher self-esteem and perceived social support, which are two variables that are associated with higher well-being, and thus, could also explain the positive association between social skills and subjective well-being (Segrin et al., 2007).

The second hypothesis, that high subjective well-being is associated with high psychological flexibility, is accepted. The study shows a significant negative correlation between psychological flexibility and subjective well-being, as the first is expressed with a low score on the AAQ-2. These findings are in line with prior studies, which found that high psychological flexibility scores are linked to high well-being scores (Kashdan & Rottenberg, 2010; Dawson & Golijani-Moghaddam, 2020; Fledderus et al., 2010). This association could be explained by the process of how psychological flexibility works. It enables one to achieve personal goals and pursuing these goals is associated with increased subjective well-being (Thorsteinsen & Vittersø, 2018). Especially when obstacles arise and well-being is at stake, psychological flexibility seems to be an important process in preserving high well-being, due to the adaptation of behaviour to the situational demand while still focusing on accomplishing one's goals.

The third hypothesis, that high social skills are associated with psychological flexibility, is accepted, as a significant negative correlation between social skills and psychological flexibility seems to be apparent. As no previous literature could be found that investigated the correlation between social skills and psychological flexibility, these results cannot be compared. However, previous studies have hypothesised that a relationship might exist, in this sense the findings are in line with previous research. Doorley et al. (2020) argued for an association between social functioning and psychological flexibility, due to the apparent relationship between social functioning and emotion regulation flexibility, which is closely related to psychological flexibility. Adapting to social contexts and being flexible in how to cope with situational demands is a part of both, psychological flexibility and well-developed social skills (Doorley et al., 2020). Therefore, an association between both variables seems to logically arise, especially in social contexts.

The results of this study support the fourth hypothesis, that psychological flexibility mediates the relationship between social skills and subjective well-being, to a certain extent. When accounting for psychological flexibility, the indirect effect of social skills on subjective well-being is still significant but reduced to approximately one-third of the direct effect, meaning that a partial mediation seems to be apparent. There have not been any studies that investigated this relationship, but these findings are in line with how the three concepts work. Social skills start developing at a young age and from thereon benefit a person's well-being mainly through a social support system and positive relationships with others. These positive social interactions

are associated with positive emotions, which, in turn, enable more psychological flexibility in terms of behaviour and thinking, as persons in positive emotional states tend to consider a variety of factors in order to “create efficient, thorough, high-quality decisions” (p. 873; Kashdan & Rottenberg, 2010). Additionally, social anxiety, which can be a consequence of low social skills and is associated with reduced well-being, is associated with low psychological flexibility (Little et al., 2017; Moore, 1999; Kashdan et al. 2020, as cited in Doorley et al., 2020). These indications might explain the mediation effect of psychological flexibility on the association between social skills and well-being. However, some degree of this association cannot be explained by psychological flexibility, indicating that social skills themselves benefit a person in a way that is not grasped in psychological flexibility. Even though high social skills seem to benefit psychological flexibility, they first and foremost improve the relationships with others and build up a social support system. The benefits on well-being that these interpersonal relationships have might be more than just facilitating psychological flexibility. They simply release positive emotions, such as happiness, adding up to high well-being.

Coping strategies might provide alternative explanations for the above-described findings of this study. First, they might account for the significant relationship between social skills and psychological flexibility, as social skills training has been effective in increasing the use of adequate coping strategies and the situational use of coping strategies is also related to psychological flexibility (Bijstra & Jackson, 1998; Dawson & Golijani-Moghaddam, 2020). Second, they might also account for the relationship between psychological flexibility and subjective well-being. In the study conducted by Dawson and Golijani-Moghaddam (2020), coping strategies partially mediated the effect of psychological flexibility on distress. Even though distress and subjective well-being are two distinct concepts, their interrelationship is clear, as they usually contradict each other. Third, coping strategies might also explain the relationship between social skills and subjective well-being. Social skills training has a positive effect on the use of adequate coping strategies and those, in turn, are positively associated with well-being, which might indicate that coping strategies account for some of this relationship (Bijstra & Jackson, 1998; McFadden et al., 2021).

This study found a significant relationship between social skills and psychological flexibility, where the latter seems to partially mediate the effect of the first on subjective well-being. However, both variables are closely related to coping strategies (Bijstra & Jackson,

1998; Dawson & Golijani-Moghaddam, 2020). Therefore, coping strategies might mediate this relationship to a certain extent as well.

The findings of this study indicate that psychological flexibility might be more important than social skills when trying to preserve subjective well-being. Social skills have been proven to be positively associated with subjective well-being in this and previous studies. However, the association between psychological flexibility and well-being has been twice as big as the association between social skills and well-being. This, and the partial mediation effect of psychological flexibility indicate that psychological flexibility might be closer related to subjective well-being. Additionally, psychological flexibility works in both individual and social contexts, whereas social skills mostly bring advantages to the latter. Therefore, future interventions should emphasise more on psychological flexibility to increase subjective well-being.

Psychological flexibility might be more important to preserve well-being in times of uncertainty and change than social skills. Even though social skills are associated with high well-being, this relationship might be less apparent in exceptional times, such as the COVID-19 pandemic. The associated social restrictions made it difficult to benefit from well-developed social skills, as they tend to preserve well-being through an increased social support system and positive relationships (Segrin et al., 2007). Contradictory, people possessing psychological flexibility might specifically benefit from it in such exceptional times, as it includes the ability to overcome changes and uncertainties while still pursuing personal goals (Cherry et al., 2021). Therefore, an already high psychological flexibility could work as a buffer against the negative mental health consequences associated, for example, with the COVID-19 pandemic (Dawson & Golijani-Moghaddam, 2020). High psychological flexibility of its population would enable governments to enact the necessary restrictions to protect the health of citizens without causing mental health consequences, as more people would be able to appropriately handle such changes. As the ACT has proven to effectively increase psychological flexibility (Wersebe et al., 2018; Fledderus et al., 2010), a nationwide intervention, using ACT methods, could be conducted to prepare people for future times of change and uncertainty.

Limitations and Further Research

The following limitations should be kept in mind when interpreting the results and implications of this study's findings. First, the measurement of subjective well-being, the SWLS, only measures one dimension of subjective well-being. As defined by Eid and Diener (2004), subjective well-being consists of life satisfaction and positive and negative affect. Thus, an essential dimension of subjective well-being has not been measured. The inclusion of positive and negative affect could have changed the results of this study, as they are a social component of subjective well-being. Including every dimension of subjective well-being could have led to a higher correlation between social skills and subjective well-being and also to a reduced mediation effect of psychological flexibility on this relationship. However, the inclusion of this dimension must not necessarily mean that the results change drastically, as positive affect is also positively associated with flexible thinking and behaviour, which are parts of psychological flexibility (Kashdan & Rottenberg, 2010). Second, the AAQ-2, even though it has been widely used and shows adequate psychometric properties, it received some criticism. The scale shows high correlations with psychopathology measures, which questions the construction validity of the scale (Bond et al., 2011). Thus, the high correlation between life satisfaction and psychological flexibility might actually indicate a high correlation between life satisfaction and the absence of psychopathologies, such as depression and anxiety, and not between life satisfaction and psychological flexibility. Third, a cross-sectional design was implemented, which means that no conclusions about causal relationships could be drawn.

Further research could focus on longitudinal studies and coping strategies. In order to analyse the causal relationship between social skills and psychological flexibility, longitudinal studies are needed. As argued before, increasing psychological flexibility might preserve well-being more efficiently than increasing social skills. However, to strengthen this point, the causal relationship between social skills and psychological flexibility has to be investigated, as social skills could be a precedent of psychological flexibility and are needed to effectively increase the latter. Research on the relationship between the investigated variables and coping strategies should also be conducted. As explained above, coping strategies might play an important role in explaining the found associations. Insights into the effects of coping strategies regarding the researched variables would help to understand how well-being could be preserved most effectively.

Conclusion

This study confirmed the hypotheses that subjective well-being, social skills, and psychological flexibility are positively related. It was also found that psychological flexibility seems to partially mediate the effect of social skills on subjective well-being. These findings are consistent with previous research that indicated such associations. However, coping strategies have to be considered as a possible confounding variable, since literature indicates an association between them and the three variables investigated in this study. Future research should investigate this additional variable and also conduct longitudinal studies to investigate the causal relationships. As the importance of psychological flexibility in relation to well-being was emphasised, this information could be used to preserve well-being effectively.

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Appendix A
Acceptance and Action Questionnaire 2

Below, the AAQ-2, developed by Bond et al. (2011), can be seen. Each item is answered on a Seven-Point Likert Scale ranging from “Never True” to “Always True”.

1. My painful experiences and memories make it difficult for me to live a life that I would value.
2. I'm afraid of my feelings.
3. I worry about not being able to control my worries and feelings.
4. My painful memories prevent me from having a fulfilling life.
5. Emotions cause problems in my life.
6. It seems like most people are handling their lives better than I am.
7. Worries get in the way of my success.

Appendix B

Satisfaction With Life Scale

Below, the SWLS, developed by Diener et al. (1985), is shown. Each item is answered on a Seven-Point Likert Scale ranging from “Strongly Agree” to “Strongly Disagree”.

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Appendix C

Short-Form of the Social Skills Inventory

List of Items used in the short form of the Social Skills Inventory, developed by Oldmeadow, Quinn & Kowert (2013), with (*) indicating a reversed scored item.

Emotional Expressivity (EE):

- I usually feel uncomfortable touching other people (*).
- Sometimes I have trouble making my friends and family realize how angry or upset I am with them (*).
- I often touch my friends when talking to them.
- I rarely show my feelings or emotions (*).

Social Expressivity (SE):

- I love to socialize.
- I always mingle at parties.
- At parties I enjoy talking to a lot of different people.
- I enjoy going to large parties and meeting new people.

Social Sensitivity (SS):

- I am very sensitive of criticism.
- It is very important that other people like me.
- I am generally concerned about the impression I am making on others.
- I am often concerned what others are thinking of me.

Social Control (SC):

- When I am with a group of friends I am often the spokesperson for the group.
- I find it very difficult to speak in front of a large group of people (*).
- I am usually very good at leading group discussions.
- I am often chosen to be the leader of a group.

Appendix D

Study Information and Informed Consent

Thank you for your willingness to participate in this study. This research investigates the broader topic of mental health and resiliency during the COVID-19 pandemic.

In order to help people through these tough times, the purpose of this study is to identify promoting factors for resilience. Therefore, we examine psychological variables that are related to the concept of resilience, including personality traits, psychological flexibility and coping strategies.

This survey takes approximately 15 minutes to complete, but you can take as much time as you want. There are no risks of participating in this study. Your data will be anonymized, treated confidential and deleted at the end of this study. You have the right to withdraw from participating at any given time without giving explanation or justification.

If there are any further questions regarding this study, please contact one of the researchers.

Researchers: Kjell Gralla, David Hähnchen and David Konsorr

I hereby declare that (1) I agree to participate in this study, (b) I have been informed about the nature of the study, (c) I am aware that participation is voluntary, (d) I can stop and withdraw at any time without explanation or justification, (e) I am at least 18 years old.

Appendix E

Frequency Distributions of all Scales

Figure E1

Frequency distribution of sum score on the AAQ-2

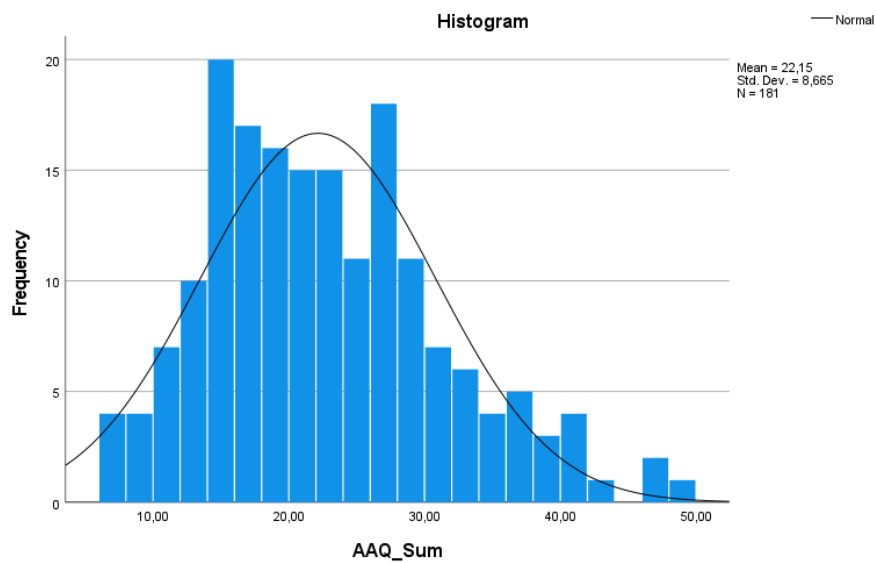


Figure E2

Frequency distribution of sum score on the SSI

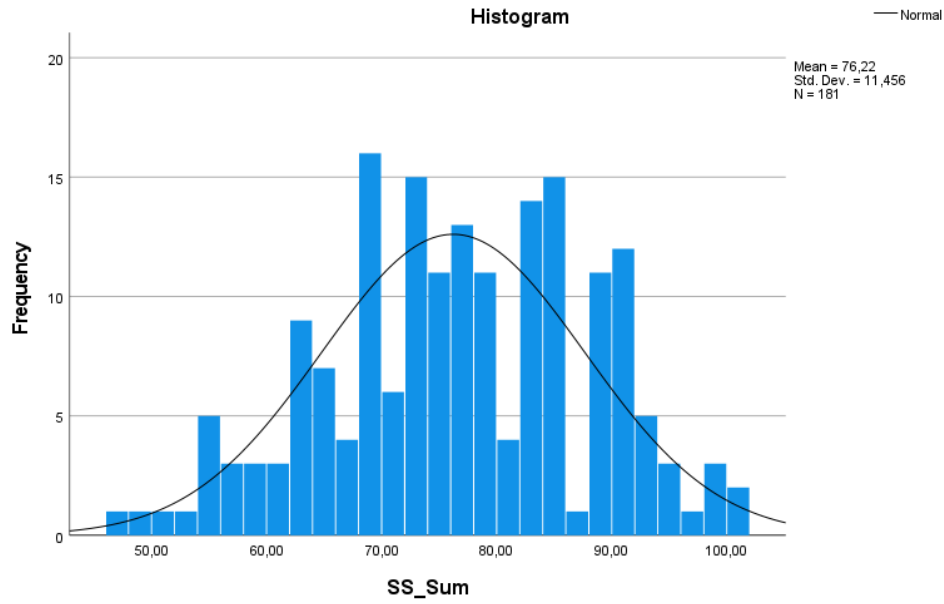
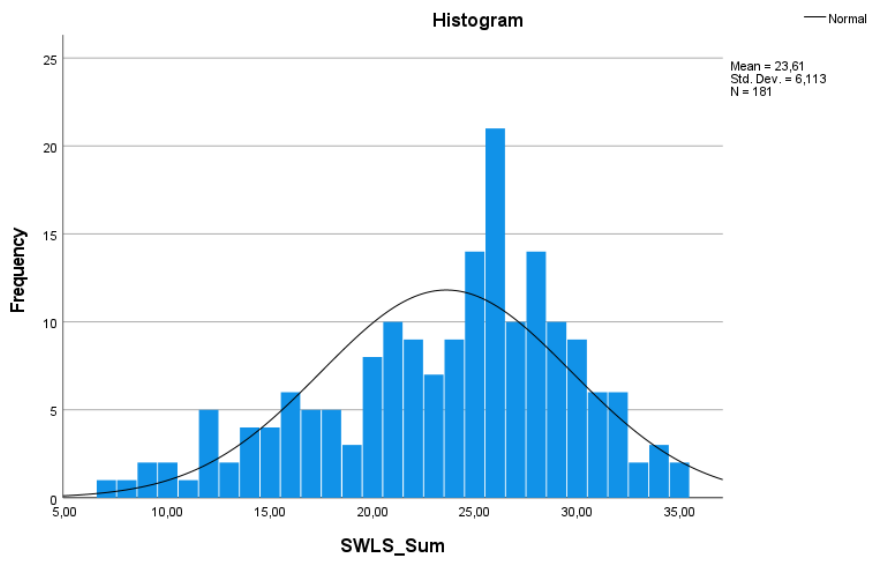


Figure E3

Frequency distribution of sum score on the SWLS

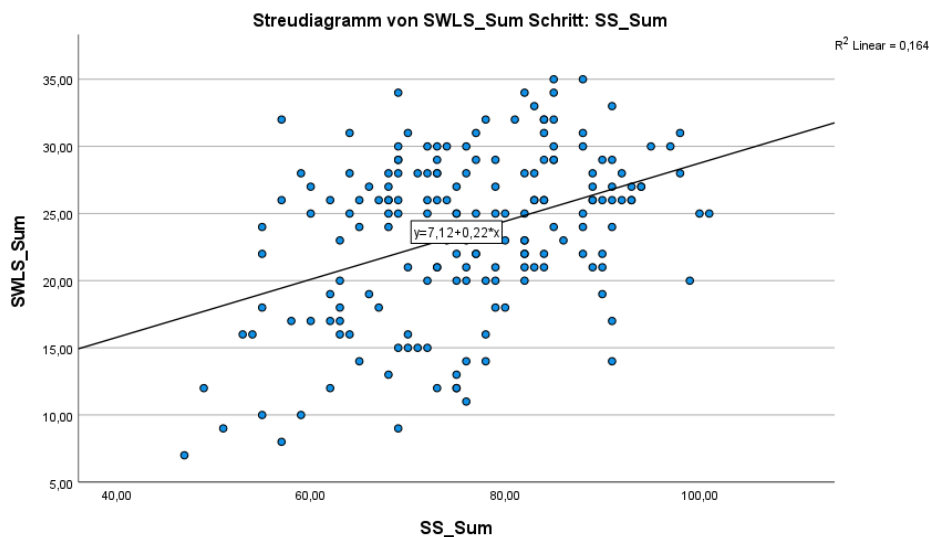


Appendix F

Scatterplots of all Scales

Figure F1

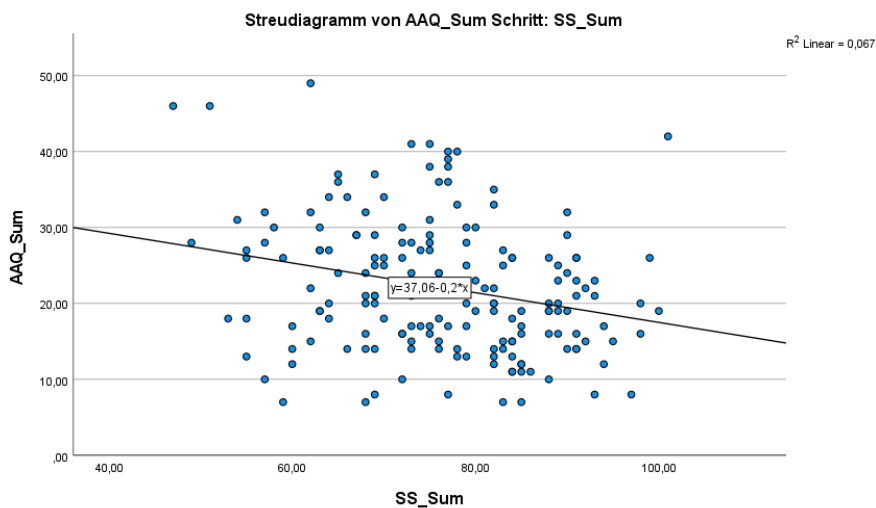
Scatterplot of the Correlation Between the Sum Score on the SWLS and on the SSI



Note. There seems to be a moderately significant positive correlation between both tests, with a Spearman's rho of .34 ($p < .001$).

Figure F2

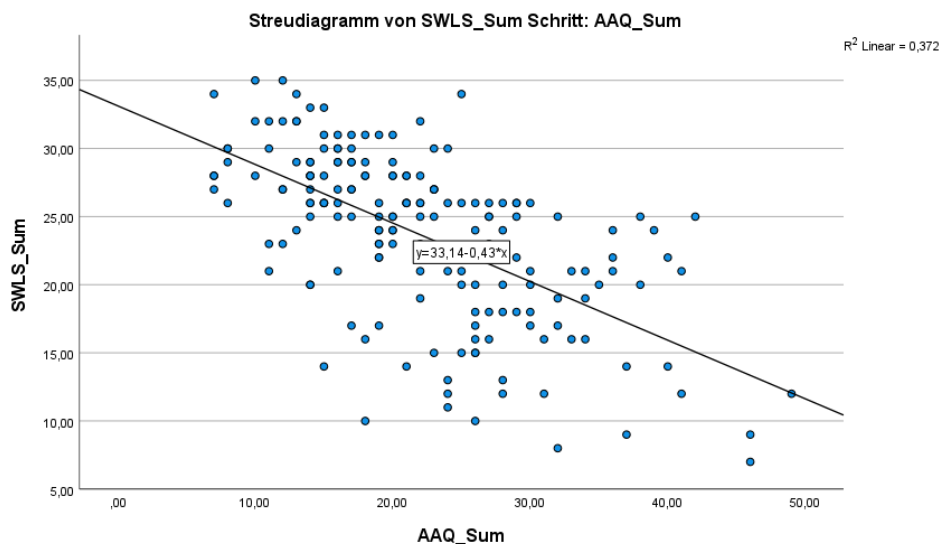
Scatterplot of the correlation between the sum scores on the AAQ-2 and on the SSI



Note. There seems to be a weak but significant negative correlation between both tests, with a Spearman's rho of $-.26$ ($p < .0001$) and a Spearman's rho of $-.26$ ($p < .0001$).

Figure F3

Scatterplot of the correlation between the sum scores on the SWLS and on the AAQ-2



Note. There seems to be a strong and significant negative correlation between both tests, with a Spearman's rho of $-.64$ ($p < .001$).

Figure F4

Scatterplot showing the relationship between the unstandardized predicted value, composed of the AAQ-2 and the SSI scores, and the SWLS scores

