

“I am scared of commitment.”

A study on Identity development and Well-being

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Abstract

This study examines the relationship between commitment strength and well-being, and the possible moderating effect of exploration in breadth. Prior research has shown that commitment strength is a strong predictor of well-being, and that exploration in breadth is of importance too. To test this possible moderation effect, we collected data of 90 first-year psychology students. They filled in a survey with multiple questions dedicated to these variables. As expected, a strong positive relationship between commitment strength and well-being was found. However, this relationship was not moderated by exploration in breadth. Meaning that exploration in breadth doesn't have an influence on interaction between commitment strength and well-being. This implies that both commitment strength and exploration in breadth do contribute to a better well-being individually, rather than interactively.

Keywords: identity, well-being, commitment, exploration, moderation effect

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In today's world everyone is aspiring to have a satisfying and pleasurable life. All our needs need to be fulfilled. It is well known that the term well-being is complex and dubious whilst it is a term rich in significance. In this study well-being was seen as functional mental health. In the period between the ages 18-29 emerging adulthood starts (Erikson, 1968). In this period of life the chance of mood disorders, anxiety disorders and mental health disorders is highest (Arnett et al., 2014). During emerging adulthood individuals start trying various identities. What kind of person am I, and who do I want to become, is a frequently discussed question. Over the last decades, research has split the formation of identity in different processes. Marcia's identity status model (1966) introduced exploration and commitment. During the exploration phase, individuals start actively exploring new identities. They are gaining information on different roles, relationships, and careers. Commitment represents the degree to which an individual has made decisions on the identity elements that they've explored. These processes have been extended into commitment strength and exploration in breadth. Commitment strength includes the identification with a certain commitment that was made (Van der Graag et al., 2020). After a commitment has been made, an individual has to identify him- or herself with the commitment for it to contribute to their identity. Exploration in breadth is defined by the exploration of multiple different options and weighing up various alternatives before making a choice (Luyckx et al., 2006). Previous research has shown that there is a positive relationship between commitment strength and well-being (Karaś, D., Ciecuch, J., Negru, O., & Crocetti, E., 2015), (Luyckx et al., 2006). However, the influence of exploration in breadth on well-being has not been researched excessively. Exploration in breadth has been linked to feelings of uncertainty, experience of crisis but also curiosity and openness (Samuolis et al., 2001) (Luyckx et al., 2006). Marcia's model suggested that

commitment and exploration interacted to create an identity. Both processes contribute to the well-being of an individual, but due to the suggested interaction between them, they might influence each other. This study is interested in the influence of exploration in breadth on the relationship between commitment strength and well-being. As mentioned above, emerging adults are struggling with their mental health. Interventions based on improving well-being might change based on these findings. Understanding this relationship could be crucial for further research on the theoretical understanding of identity development.

Well-being

Well-being is a complex concept with multiple components that include more than the comprehensive definition; 'Health is a state of psychical, mental and social well-being and not merely the absence of disease or infirmity' (*WHO*, z.d.). An individual's well-being includes concepts like satisfaction with life (Diener, 1984), happiness (Waterman, 1993) and mental well-being (Waterman, 1993). It is more than the absence of illness (Jahoda, 1958). Together these components express the fact that well-being describes that an individual is fully functioning in their environment (Waterman, 2007). Meaning that an individual is able to lead a fulfilling life, whilst maintaining relationships and achieving their goals. An individual's well-being is of great importance, because it predicts outcomes such as life expectancy, career status and relationships (Seligman, 2002). There are several factors that contribute to an individual's well-being such as socio-economic factors, cultural variations and individual differences. (Diener et al., 2003) (Crocetti, Scignaro, et al., 2012). Examples of individual-level factors can be career, actions, and goals. Individual activities that will help ascend someone's mental well-being, will be activities that will help someone accomplish goals, or help develop their skills and talents (Waterman, 1993). These actions can give an individual meaning in life and purpose, which promotes their well-being. In conclusion, there

are different aspects that could influence someone's well-being. In scientific research well-being is commonly linked to different aspects of identity (Kunnen et al., 2008).

Identity Formation

During the age of 18 and 29 emerging adulthood starts, in which identity formation becomes a central task. During this period, individuals start exploring and considering new identities. Marcia's identity status model (1966) has been the framework for identity research for almost fifty years. This model scopes in on an earlier theory by Eric Erikson (1968). Marcia's model explores the theme of identity development during the period of emerging adulthood. The model introduces two important processes; exploration and commitment. The active search for identity alternatives is called exploration. After the exploration period, individuals can start to put time and effort in the choices they've decided upon. These choices are called commitments. They refer to the values or goals of an individual.

Commitment

Commitment is the psychological attachment or investment to a certain identity or role. This contributes to a sense of stability, purpose and meaning in life (Erikson, 1968). Previous research separated commitment into two different processes: commitment making and identification with commitment. Commitment making refers to the actual making of the choices. Identification with commitment refers to the process of assessing whether a person's identity is well-chosen and harmonizes with their capacity (Luyckx et al., 2006). An upcoming student might for example have made a commitment towards the study of psychology. They can now identify themselves as a psychology student and set academic targets and career goals. They can start creating a long-term vision, which can provide them with purpose and meaning in life. Commitment strength is the term used to describe the degree of an individual's attachment to certain choices they've made regarding their identity, relationships, and goals (Van der Graag et al., 2020). All these choices are based on informed

decisions after thoughtful consideration which happened during the exploration phase. It reflects long-term dedication and emotional investment towards these aspects of their identity. Strong commitments characterized by high dedication are crucial for a stable identity (Van der Graag et al., 2020). Commitments provide meaning of life (Erikson, 1968), aiding in clear self-definition and self-preservation (Meeus et al., 2002). Another study has found that strong commitments are linked to higher levels of well-being (Karaś, D., Ciecuch, J., Negru, O., & Crocetti, E., 2015), (Lise et al., 2023). As noted earlier, commitment is a result of exploration. However instead of a fixed outcome, Meeus et al. (2002) described commitment as an intertwined process with exploration.

Exploration

In the period of personal development exploration complements the process of commitment. Where commitment expresses the dedication to certain goals or targets, exploration involves the active process of collecting information and experiencing identity alternatives (Marcia, 1966). In contrast with Marcia's definition, exploration also focuses on the maintenance of commitment (Meeus et al., 2002). More extensive work was performed by Luyckx et al. (2006) dividing exploration into two different processes; exploration in breadth and exploration in depth. Exploration in depth was defined by the gathering of information about ongoing choices. Exploration in breadth was defined as the collection of information on different identity alternatives, to form commitments. It involves the active participation in new experiences, gathering information and stepping out of one's comfort zone. This gives an individual a deeper understanding of themselves. To continue the previous example of the future student during high school, they may take different courses, participate in extracurricular activities, or visit career days, acquiring information on what study to choose. There are multiple factors that influence exploration in breadth such as social and environmental factors like parental support and encouragement (Steinberg, 2001)

(Darling & Steinberg, 1993), and personality traits which include conscientiousness and cognitive flexibility (Diamond, 2006) (McCrae & Costa, 1991). In their study Luyckx et al. (2006) made an interesting finding on exploration in breadth. Exploration in breadth was positively associated with depressive symptoms, distress, and substance abuse. However, this study also associated exploration with openness and curiosity. The contrasting findings indicate the complexity of the role of exploration in breadth and its potential to moderate the relationship between commitment strength and well-being.

Relationship

The Identity status model by Marcia (1966) showed four different identity statuses. These statuses were formed by different levels of exploration and commitment. Two of these statuses are achievement and foreclosure. The achieved status is the status in which an individual scores high on both exploration and commitment. Meaning that an individual has explored various goals, careers, and beliefs, before committing to those which align most with their self-concept. Individuals with a foreclosed identity status score high on commitment, but low on exploration. Previous studies showed that individuals with an achieved status scored higher on psychological well-being (Waterman, 2007) (Crocetti, Schwartz, et al., 2012). This study also showed that individuals with a foreclosed status had a negative relationship with psychological well-being. Which indicates that just having strong commitments is not enough to improve someone's well-being. This leads to the belief that exploration is also needed for a better psychological well-being. Sparking the question if exploration in breadth moderates the relationship between commitment strength and well-being.

Current study

The current study will look at the relationship between commitment strength and well-being. The first hypothesis is that commitment strength and well-being are positively

associated, based on previous findings on commitment. To summarize, individuals with strong commitment report heightened life satisfaction, a greater sense of meaning and purpose. (Karaś, D., Cieciuch, J., Negru, O., & Crocetti, E., 2015) (Lise et al., 2023) (Meeus et al., 2002) (Erikson, 1968). This also spills over into their relationships, education, and career. The second hypothesis is that exploration in breadth moderates the relationship between commitment strength and well-being. The hypothesis is based on the mixed finding on the relationship between exploration in breadth and well-being. Previous studies showed that exploration in breadth could lead to more openness and curiosity, but in contrast also lead to depressive symptoms and distress. (Luyckx et al., 2006) However, this only accounted for one study. Less to no research has been practiced on the variable exploration in breadth. The previous research of Waterman (2007) did show a difference in well-being for individuals with an achieved and foreclosed status. For that reason, this study looks at a possible moderation effect of exploration in breadth of the relationship between commitment strength and well-being. Exploration in breadth may moderate this relationship by influencing how commitments are made, evaluated, and integrated. Understanding the possible moderating role of exploration in breadth can offer insights in the way individuals integrate their commitments in the context of exploring alternative identities.

Method

Materials

Several (adapted) questionnaires were employed in this study: the (Shortened) Twenty Statements Test, the Groningen Identity Development Scale-Landscape version (GIDS-L), the Manchester Short Assessment of Quality of Life (MANSA) inventory, and the Warwick Edinburgh Mental Well-Being Scale (short version). Sexual and gender identity were investigated by using items drawn from DeChants et al. (2021).

Commitment Statement Task. This task consisted of three stages. First, the shortened version of the Twenty Statements Test by Kuhn & McPartland (1954) asked for ten

statements to be written in the format of “I am...”. This repeated for each domain and once for a general sense of self, completing this test a total of four times. The domains were (1) Dating, Sexual & Romantic Relationships, (2) Education & Career, (3) a flexible domain in which any theme could be written about, and (4) a general domain. Second, a commitment statement had to be formulated. Lastly, an adapted version from Van der Gaag et al. (in prep) of the GIDS-L was filled in four times - three times using a version we termed the “GIDS-L Specific”, and once using a version we termed the “GIDS-L General”. Both questionnaires were reduced from 32 items to 15, with three items measuring commitment strength (e.g. Are you certain of this commitment?) ($M \alpha = .80$, Min = .72, Max = .90), three measuring broad exploration (e.g. Are you searching for a different commitment?) ($M \alpha = .85$, Min = .83, Max = .87), three measuring in-depth exploration (e.g. Do you try to learn new things to develop this commitment?) ($M \alpha = .71$, Min = .59, Max = .88), three measuring commitment utility (e.g. Does this commitment give you direction in your life?) ($M \alpha = .76$, Min = .57, Max = .86), two measuring valence of commitment (e.g. Do you have positive feelings about this commitment?) ($\alpha = .xx$), and one measuring satisfaction with domain (see appendix for all Cronbach’s alpha values). The items were rated on a scale from 0 to 100, with zero being “No (rarely)”, “Never”, “Little”, or “Very unsatisfied”, and 100 being “Yes (often)”, “Often”, “A lot”, “As much as possible”, or “Very satisfied”.

Domain Importance. To assess domain importance the IMP was used. A 7-point Likert scale ranging from 1 (not important) to 7 (extremely important) based on Scroggs and Vennum (2021) was used to assess the importance of each domain.

Quality of life. The Manchester Short Assessment of Quality of Life (MANSA) inventory was employed to assess Quality of Life through satisfaction in life, education, relationships and mental health. The current study exclusively utilized the items limited to quality of life, hence employing a shortened version of the MANSA inventory. The MANSA

used a 7-point Likert scale ranging from 1 (Couldn't be worse), to 7 (Couldn't be better). An example item from the MANSA scale was: "How satisfied are you with your life as a whole today?". The Cronbach's Alpha was found to be 0.74 (Priebe et al., 1999).

Mental Well-Being. The Shortened Warwick Edinburgh Mental Well-Being Scale (SWEMWBS) was used to investigate both the functional and feeling aspects of mental wellbeing. The WEMWBS used a 5-point Likert scale ranging from 1 (None of the time) to 5 (All of the time). A sample question was "I've been feeling relaxed about the future". A recent study found a Cronbach's Alpha of 0.87 with a test-retest reliability of 0.79 (Sabanci, 2019).

Demographics. Questions regarding their demographics about age, mother tongue, and nationality were asked at the start of the survey. Questions regarding the highest level of education, previously completed apprenticeships were asked near the end of the survey.

Gender and Sexual identity. Sexual and gender identity items were drawn from a survey by DeChants et al. (2021). A question regarding their sexuality was asked with options including but not limited to straight, gay, bisexual, pansexual and asexual. Gender identity had options including but not limited to girl or woman, boy or man, nonbinary, genderfluid or genderqueer, etc. For both gender and sexual identity participants could indicate whether they understood the question, whether they weren't sure of their identity, or whether they preferred not to answer.

Procedure

The survey was implemented and conducted through Qualtrics, a digital survey tool, and took approximately 45 minutes to complete. The data collection process took place in January 2024. Before starting the survey, participants were provided with an information sheet outlining the study's purpose, risks, data treatment, and asked to confirm their

agreement before starting the survey. Furthermore, they were asked to provide basic demographic information including age, nationality, and native language.

The main study consisted of three parts. First, participants were asked to provide information about their identity in three specific domains by completing the short version of the Twenty Statement Test (TST-Short) and formulating a commitment statement summarizing their identity in the particular domain. In the free domain, participants were additionally asked to name the domain they chose to talk about. Secondly, the participants were assessed with qualitative measures on the variables commitment strength, exploration in depth, exploration in depth, commitment utility, valence of commitment, and satisfaction with the domain. Moreover, participants were asked to rate the personal importance of the three specific domains to their identity. Subsequently, participants were asked to talk about their general identity, not specified to any particular domain, by using the same procedure as for the specific domains.

In the third part of the study, participants provided information about their previous education, their gender and sexual identity and their relationship status. Finally, they were assessed on their well-being with two qualitative scales. At the end of the survey, they were asked whether they filled out the survey seriously or not and whether they would like to provide their email for further questions. There was no debriefing as the participants were not deceived during the study.

Statistical analysis

The study employed a cross-sectional design. In the first step the variables were computed. The independent variable commitment strength was computed by combining all the items of the GIDS-L based on commitment strength and calculating the average. The same procedure was followed for the moderator variable exploration in breadth. The dependent variable was functional well-being. The score for function well-being was

calculated by combining the scores on the SWEMWBS scale. These scores had to be transformed to scores for the WEMWBS via a scoring conversion table. All analyses have been performed with SPSS (SPSS Software, IBM 2021). Before the main analysis, the descriptive statistics have been measured. This gives more insight to our collected data, as seen in the results. These statistics will include the mean, standard deviation, and data visualization. The first hypothesis states that commitment strength predicts well-being. To answer this question a regression analysis will be used, to check if the relationship between dependent and independent variable is statistically significant. A linear regression analysis was performed using SPSS.

The second hypothesis states that, this relationship between commitment strength and well-being is moderated by exploration in breadth. To test this hypothesis, a SPSS extension was used called *PROCESS Macro*. This extension includes a possibility to perform moderation analysis. The *PROCESS* analysis will use commitment strength as X-variable, well-being as Y-variable and exploration in breadth as Moderator variable W. For the analysis the continuous variables were centered via an option in the extension, as well as the generation of simple slopes and the test for statistical significance.

Results

Participants

Of the 97 participants that took part in the study 7 were removed due to incompleteness of the survey, not fitting the predetermined age range of 18-25 or unserious answers. The final sample consisted of a diverse sample of 90 participants (23 males, 64 females, 1 nonbinary and 2 who are questioning), with ages ranging from 18 to 25 years ($M = 19.64$, $SD = 1.4$). Participants were drawn from various nationalities, including but not limited to Dutch ($N=50$), German ($N=19$), Romanian ($N=6$), Bulgarian ($N=5$), Hungarian ($N=2$), French

($N=2$), Belgian ($N=1$), Slovak ($N=1$), Latvian ($N=1$), Portuguese ($N=1$), Polish ($N=1$), Swedish ($N=1$).

Descriptive statistics

As figure 1 shows, the participants scored an average of 22.05 on functional well-being. ($SD = 3.77$, $Max = 29.31$, $Min = 14.75$). Scores between men and women were comparable, while men scored slightly higher, however these differences were not significant. ($M_{wom} = 21.78$, $SD_{wom} = 3.40$ and $M_{men} = 23.39$, $SD_{men} = 4.33$, respectively; $t = 1.84$, $p = 0.07$). Figure 2 shows both independent variable commitment strength and moderator exploration in breadth. An average of 80.86 was scored on commitment strength ($SD = 11.40$, $Max = 100$, $Min = 42.08$). Men scored slightly higher than women, but these differences were not significant. ($M_{wom} = 80.39$, $SD_{wom} = 11.79$ and $M_{men} = 82.10$, $SD_{men} = 10.42$, respectively; $t = 0.39$, $p = 0.53$). For the mediator variable exploration in breadth an identical pattern reiterates, with our participants scoring an average of 72.52. ($SD = 13.89$, $Max = 98.33$, $Min = 33.25$). The difference between men and women was not significant, with men scoring marginally higher. ($M_{wom} = 71.94$, $SD_{wom} = 13.83$ and $M_{men} = 73.92$, $SD_{men} = 14.25$, respectively; $t = 0.33$, $p = 0.57$).

Figure 1

Scores on Warwick scale

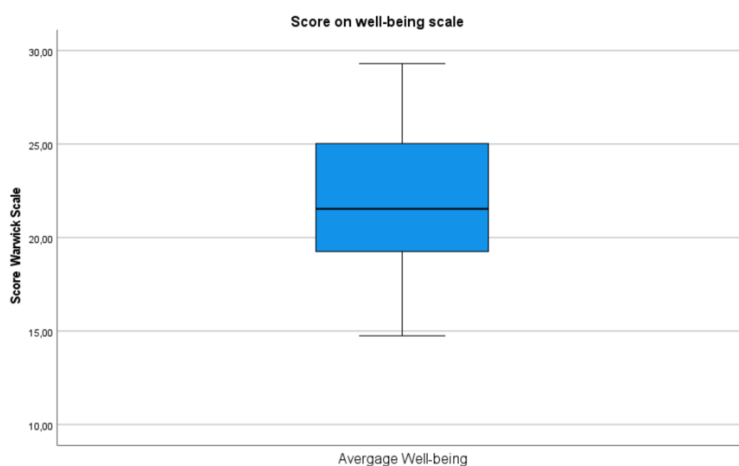
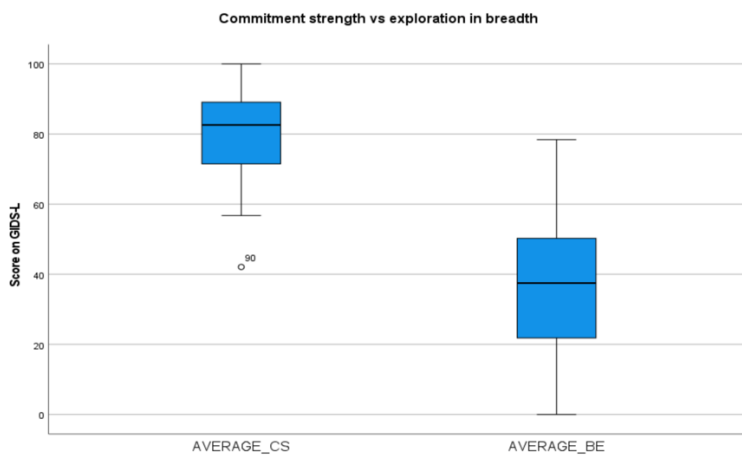


Figure 2

Averages commitment strength and exploration in breadth



There was a significant weak positive correlation between commitment strength and well-being $r(90) = .31, p < .01$. Additionally, a significant weak positive correlation was observed between commitment strength and exploration in breadth ($r(90) = .40, p < .01$). However, exploration in breadth was not correlated with well-being ($r(90) = .17, p = 0.40$).

Table 1

Pearson's correlation between the three variables

| Model | | | Well-being | Commitment strength | Exploration in Breadth |
|-------|------------------------|-------------|------------|---------------------|------------------------|
| 1 | Well-being | Pearson's r | - | | |
| | | p-value | - | | |
| | Commitment strength | Pearson's r | 0.31 | - | |
| | | p-value | < .01 | - | |
| | Exploration in Breadth | Pearson's r | 0.17 | 0.40 | - |
| | | p-value | 0.11 | <.01 | - |

Assumptions

For the current analysis, the assumptions for multiple linear regression had to be met. The graphs for these assumptions can be seen in appendix A. The linearity and normality assumption were examined via a P-P plot and via a histogram. These assumptions were met, as can be seen in appendix A. The autocorrelation was tested with the Durbin-Watson statistic, which yielded a 1.970, meaning that this assumption was met. Multicollinearity was tested via the VIF-score. Both analyses scored well below a 5, so this assumption also was not violated.

Main analysis

The first hypothesis was that commitment strength predicted well-being. A linear regression analysis was performed, which can be seen in table 1. The analysis found a significant positive relationship between commitment strength and well-being ($R^2 = .31$, $F(1, 89) = 9,576$, $p = .003$). This indicates that stronger commitments contribute to a higher well-being.

Table 1

Linear regression analysis for commitment strength predicting well-being.

Model Summary

| Model | R | R ² | Adjusted R ² | SE |
|-------|------------------|----------------|-------------------------|------|
| 1 | .31 ^a | .09 | .88 | 3.59 |

a. Predictors: (Constant) CS, Dependent Well-Being

Anova

| Model | | Sum of | | Mean | F | p |
|-------|------------|---------|----|--------|------|-------------------|
| | | Squares | df | Square | | |
| 1 | Regression | 124,05 | 1 | 124,05 | 9,58 | <.01 ^b |
| | Residual | 1139,73 | 88 | 12,951 | | |
| | Total | 1263,76 | 89 | | | |

a. Dependent variable: Well-being

b. Predictor: (Constant), Commitment strength

Coefficients

| Model | | Unstandardized | | Standardized | t | p |
|-------|---------------------|----------------|------|--------------|------|------|
| | | Coefficients | | Coefficients | | |
| | | B | SE | B | | |
| 1 | (Constant) | 13,79 | 2,69 | | 5,12 | <.01 |
| | Commitment strength | 0,10 | 0,03 | .31 | 3.09 | <.01 |

Dependent variable: well-being

The second hypothesis was that the relationship mentioned above was moderated by exploration in breadth. To test this hypothesis, the moderation analysis was performed using the *PROCESS Macro* extension. The conducted analysis did not find a moderating effect of exploration in breadth ($p = 0.93$). This means that exploration in breadth does not have an influence on the relationship between well-being and commitment strength.

Table 2*PROCESS Macro for Moderation Analysis**Model Summary*

| Model | R | R ² | F | p |
|-------|-----|----------------|------|-----|
| 1 | .39 | .15 | 5.02 | .00 |

a. Predictors: (Constant) CS, Dependent Well-Being

PROCESS Model

| | Coefficients | Standard Error | t | p |
|------------------------|--------------|----------------|------|------|
| Constant | 19.66 | 7.04 | 2.79 | 0.01 |
| Commitment Strength | .06 | .08 | .68 | .50 |
| Exploration in breadth | -.07 | .14 | -.47 | .64 |
| Interaction | .00 | .00 | .09 | .93 |

Product terms key: Interaction: Commitment strength x Exploration in breadth

Discussion

The current study investigated whether exploration in breadth moderated the relationship between commitment strength and well-being, involving important aspects of identity formation and mental health. In this context, exploration in breadth refers to the process of exploring multiple different identity alternatives and weighing up various options before making a choice. Commitment strength portrays the degree of attachment to certain commitments an individual made regarding their identity. Previous research has inspected the individual relations between commitment strength and exploration in breadth to well-being and suggested that both processes worked interactively (Marcia, 1966). However, the

mediating role of exploration in breadth remains relatively unexplored. Understanding this moderation effect has both theoretical and practical significance. These results can provide a better insight into the process of identity formation and psychological adjustment. Moreover, interventions based on promoting identity formation and enhancing well-being.

Findings

The first hypothesis was that commitment strength positively predicts well-being, this aligns with the results of the present study. We found that commitment strength significantly predicted well-being. Meaning that individuals who have stronger commitments, have an overall better well-being. This is similar to previously discussed research. (Karaś et al., 2015), (Lise et al., 2023). Karaś et al., (2015) suggested that firm commitment and active exploration lead to increased well-being. However, if an individual doubted their current commitment, this could lead to a decrease in well-being. This was due to the uncertainty and instability. The study by Luckyx et al., (2006) suggested that exploration in breadth is also associated with uncertainty and the experience of crisis, thus leading to a decrease in well-being. They found that exploration in breadth was related to distress and depressive symptoms. However, in the current study we find that exploration in breadth does significantly predict well-being. Meaning that exploration in breadth is of importance for well-being, which is in line with the identity statuses mentioned earlier (Marcia, 1966).

The second hypothesis was that exploration in breadth moderates the relationship between commitment strength and well-being, but was not supported by our findings. Meaning that the relationship between commitment strength and well-being is not being moderated by exploration in breadth. Previous research has not been done on this specific question. However, multiple theories suggest an interactive relationship between commitment strength and exploration in breadth. (Marcia, 1966) (Verschueren et al., 2017) (Lise et al., 2023).

Implications

Following the introduction, there are a couple of findings contradicting the theory of Marcia (1966). In the introduction it was mentioned that both exploration and commitment play a role in someone's well-being. As seen in the results, both of these processes do play a role, but in a different way than previously suggested. In preceding research it was mentioned that exploration and commitment interact with each other. (Marcia, 1966) (Lise et al., 2023) (Crocetti, 2017). These studies suggested that both exploration and commitment were intertwined processes, leading to a higher well-being. However, the current study showed that the relationship between commitment strength and well-being was not moderated by exploration in breadth. Meaning that exploration in breadth does not influence or alter the strength or direction of the relationship between commitment strength and well-being. This could suggest one of two things. The absence of the moderation effect could mean that that commitment strength operates independently in the relationship with well-being. However, in this study of Waterman et al. (2007) it was shown that exploration was an important factor for well-being. This could suggest that exploration and commitment do not operate interactively. The results showed that both exploration in breadth and commitment strength predict well-being. It could mean that the processes work separately. Exploration in breadth might be the start of the formation of identity, followed up by the making of commitments. These commitments will then be reviewed, via in-depth exploration, after which the commitment can be valued. The commitments to which an individual holds value and dedication will have a higher commitment strength. This example could explain the individual contribution of the processes to well-being.

A possible explanation might involve the cycle model. (Crocetti et al., 2008). In this study the processes of exploration in breadth and commitment making are in a cycle of forming an identity. It could mean that a different variable may be more influential in

forming the relationship. The current study focused on exploration in breadth moderating the relationship, but without a significant effect. Future research might look at a possible moderating effect of exploration in depth on the relationship between commitment strength and well-being.

Strengths and Limitations

This study exhibits several notable strengths. First, the study makes use of a survey to collect quantitative data. The use of a survey offers multiple benefits in collecting the data. The present had a large sample size of 90 students, which provides us with a broad range of data to analyse. Due to this large sample size, the data is more likely to represent the population from first-year psychology students.

Despite these strengths, the study is subject to some limitations. Firstly, due to the cross-sectional design of the study we're limited to establish the causality of certain findings. The survey was published during the exam period, and only measured the variables at one moment, which in this case could be a stressful period for our first-year participants. The stressful period might have had a negative impact on the well-being of the participants, due to the fact they all had to study and did not have time for doing other things (Lise et al., 2023). The stress in combination with lower levels of well-being could also result in people changing the way they look at themselves, which can influence answers on the questions. When performing this study during the summer break, results might differ, due to higher levels of well-being and a, for most individuals, a stress-free period. A second limitation could be the case of self-reports. Since we measured our participants via a survey, there are certain contextual factors that we can not control. The fact the people can fill this survey anonymously without someone checking their answers could lead to certain biases. The response bias for example, people tend to score surveys differently compared to when the questions are being asked in person (Wetzel et al., 2016). The participants might worry about

who gets to read their scores, or they change their answers to be more socially acceptable. However, the use of a survey can yield a lot more participants compared to interviewing individuals.

Future research

Future research could investigate the formation of identity processes with a longitudinal study to gain a better insight on the relationships between commitment strength, exploration in breadth and well-being. The use of a longitudinal study can examine how changes in commitment strength and exploration in breadth influence the well-being of individuals. This could attain understanding in the causal relationships, underlying the interplay between identity formation and well-being. Future research could also investigate the relationship between exploration in depth, compared to exploration in breadth. The present study did not find a moderation effect of exploration in breadth, however previous research has shown that exploration is of importance on well-being. Instead of exploration in breadth, exploration in depth might have an influence on the relationship between commitment strength and well-being.

Conclusion

The current study shows a lot of similar results with previous studies, but also contradicts a couple earlier findings. First of all, both commitment strength and exploration in breadth are of importance to an individual's well-being. The finding on the relationship between commitment strength and well-being is supported by previous studies, however the finding on exploration in breadth yields new ideas. Previous studies on exploration in breadth were mixed. Exploration in breadth was related to depressive symptoms, and substance abuse, but was also related to openness and curiosity. (Luyckx et al., 2006). Our study showed that exploration in breadth was positively associated with well-being, indicating that it does contribute to higher levels of well-being. Exploration in breadth, however, does not

moderate the relationship between commitment strength and well-being, possibly suggesting that exploration in breadth and commitment strength operate individually instead of interactively. Further research should investigate both processes as individual processes, to see if one of the two might be of bigger importance to well-being.

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Appendix A Assumptions

Figure 1

Assumption test Normality

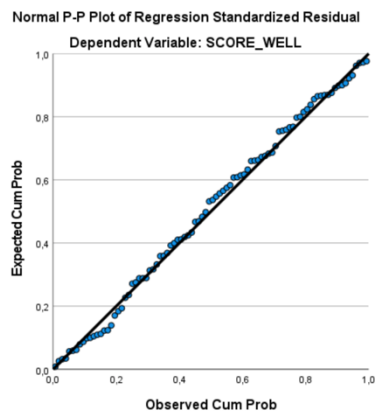


Figure 2

Assumption test Normality

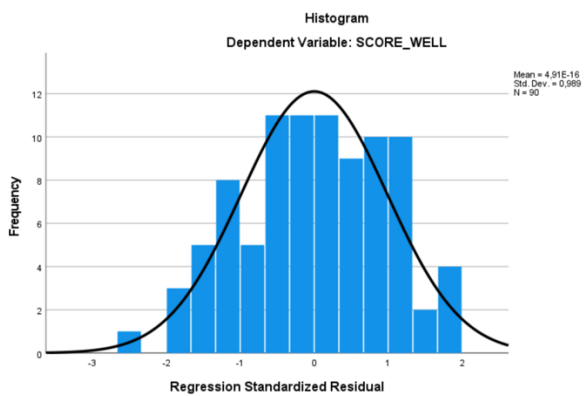


Figure 3

Assumption test for Homoscedasticity

