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Article

Relationship of Momentary Volition to Occupational Experience and Life Perspective in Undergraduate Students

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Abstract: Our lives are comprised of moment-to-moment activity experiences. According to the Model of Human Occupation (MOHO), our occupational experiences can be affected by volition, which consists of personal causation, values, and interests. This study investigated how momentary volition affected occupational satisfaction and mind-wandering while performing occupations. This study also examined the relationship between momentary volition and the overall life perspectives of life satisfaction and life balance. Undergraduate students participated in this cross-sectional study. The experience sampling method (ESM) was used to measure students' momentary states such as activity, volition, occupational satisfaction, and mind-wandering. After conducting the ESM, the participants' life satisfaction was measured using the Satisfaction With Life Scale (SWLS), and their life balance was measured by the Life Balance Inventory (LBI). Forty-two participants and 1,092 sampling data were included in the analysis. Momentary personal causation, values, and interests contributed to occupational satisfaction. Mind-wandering was predicted negatively by interests but positively by personal causation. Momentary interests were positively correlated with SWLS and LBI scores. This study demonstrated that momentary volition was associated with occupational satisfaction and engagement, as well as life satisfaction and balance, in undergraduate students.

Keywords: the model of human occupation; experience sampling method; occupational questionnaire; life balance; life satisfaction

1. Introduction

Human lives consist of occupations subjectively experienced by an individual. The Model of Human Occupation (MOHO) [1,2] explains how anticipating, choosing, experiencing, and interpreting one's activities are influenced by volition, which means motivation for occupation. The elements of volition are personal causation, values, and interests. Personal causation is the awareness of personal effectiveness, which includes a sense of personal capacity and self-efficacy. Values are personal convictions and a sense of obligation about what is meaningful to do, which is derived from culture. Interests are related to the pleasure of doing something and are reflected in a preference for certain activities over others. Volition is associated not only with occupational participation but also with life satisfaction and well-being [3-5].

The Occupational Questionnaire (OQ) [5] is a useful tool to identify an individual's activities and volition for activities. Previous studies using the OQ retrospectively surveyed the participants' volition on a typical day [6,7]. The OQ can provide unique information about how an individual perceives each activity. However, this retrospective report has a limitation in representing immediate experiences in real-time contexts.

To understand volition while performing activities in life, the present study applied an experience sampling method (ESM) [8]. The ESM measures humans' experiences in their actual life context by asking them to answer a series of questions at that moment. Since people report their current experiences, the ESM can provide information without memory distortion. The ESM has been used to study flow, which is the state of intense concentration on activities by intrinsic motivation [9-

11]. A person with high skills and challenges can experience flow, which means that the person can fully engages in the activity and enjoys it [12]. Flow was shown to correspond to experiences driven by volition [1,2].

Through the ESM, this study explored undergraduate students' occupation characteristics including mood, volition, occupational satisfaction, mind-wandering, and social context. With these momentary data, this study investigated how momentary personal causation, values, and interests contributed to momentary occupational satisfaction and engagement in undergraduate students. A previous study reported that high volition measured by the OQ was associated with high life satisfaction [5]. To closely observe the relationship between volition and satisfaction at the moment of performing an activity, the present study examined how momentary volition affected momentary occupational satisfaction. Because volition influences how deeply people engage in activities [1,2,13], there is a possibility that low volition can lead to mind-wandering, indicating that attention is detached from the current activity [14]. This study investigated how momentary volition affected mind-wandering. We hypothesized that higher momentary volition would lead to higher occupational satisfaction and less mind-wandering.

Moment-to-moment activity experiences comprise our lives, which implies that how we experience activities at that moment is linked to how we perceive our lives. In regard to life perspectives, life satisfaction and life balance would be related to momentary volition [5,15]. Life satisfaction is defined as "a global assessment of a person's quality of life according to his chosen criteria" [16]. Previous research showed that life satisfaction was positively correlated with volition [5,17]. Life balance, another life perspective, is defined as "a satisfying pattern of daily activity that is healthful, meaningful, and sustainable to an individual within the context of his or her current life circumstances" [15]. The concept of life balance includes components of volition such as competence (personal causation), enjoyment (interests), and meaning (values) [15,18,19]. Based on previous reports on the relationship of volition elements to life satisfaction and life balance, we investigated the association between momentary volition and life satisfaction measured by the Satisfaction With Life Scale (SWLS) [20] and life balance measured by the Life Balance Inventory (LBI) [21]. We hypothesized that students who experienced high momentary volition would be more likely to show high levels of life satisfaction and life balance.

2. Materials and Methods

2.1. Research Design

This study was the part of the larger study, 'the relationship between daily experience and well-being collected through smart phones.' Data were collected in September 2019. The project was approved by the Institutional Review Board of our university. Informed consent was obtained from all participants.

2.2. Participants

A total of 45 university students participated in the study. They were undergraduate students recruited by a convenience sampling method from a university located in Chungcheongbuk-do Province, Korea. The participants responded to the ESM using a smartphone for one week and then completed paper questionnaires on the SWLS and the LBI. Participants who were over 18 years of age, had a smartphone and completed the questionnaires were included. Three participants were excluded from the analysis due to missing data in the questionnaires. Valid data were collected from 42 participants. The sample size of this study was comparable to that of a previous study using the ESM [22]. All participants were compensated with a gift card (20,000 KRW ≈ 17 USD) for participating in the study.

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2.3. Measures

2.3.1. Experience Sampling Method

The experience sampling form (ESF) consisted of ten questions (Table 1) [5,14,21] on current mood (Q1), activity (Q2), activity type (Q3), volition including personal causation (Q4), values (Q5), interests (Q6), occupational satisfaction (Q7), mind-wandering (Q8), whether interacting with someone (Q9) and if yes, an interaction partner (Q10). The questions were translated and culturally adapted from English into Korean. Q2 included activity options from the LBI [21,23]. Some options were modified (from "eating nutritiously" to "eating", from "getting adequate sleep" to "getting sleep", and from "getting regular exercise" to "exercising") so that they adequately referred to current activities. Questions asking about activity type and volition (Q3-Q6) were from the OQ [5]. In the original scale of the OQ, a positive answer was given a low point (e.g., 1 = very well, 5 = very poor). However, this study reversed the scale to assign high points to positive answers (e.g., 1 = very poor, 5 = very well) corresponding to other measurement scales for intuitive interpretation. The ESF questions were made on the SurveyMonkey platform.

The URL of the ESF was sent to the participants via text message eight times a day, from 8 AM to 11 PM, at a random interval of about two hours. A total of 55 messages was sent to each participant from 2:00 PM on September 18th to 2:00 PM on September 25th in 2019. Through the URL in the message, the participants reported their momentary experiences using their smartphones. The participants were instructed to report their experiences at the time of notification as soon as possible.

2.3.2. Satisfaction With Life Scale

The SWLS measures an individual's overall perception of life satisfaction [20]. The SWLS includes five items (e.g., "In most ways my life is close to my ideal") rated on a 7-point Likert scale (1 = "strongly disagree", 7 = "strongly agree"). The study used the Korean-translated version of the SWLS [24], which showed validity and reliability comparable to the original SWLS [20].

2.3.3. Life Balance Inventory

The LBI measures how an individual perceives their time in terms of daily activities [21,23]. The LBI presents 53 activities (e.g., "taking care of personal hygiene and bathing," "doing things with friends", and "shopping") and asks the responder to check "yes" or "no" for whether he/she does or wants to do each activity. Next, for the activities checked with "yes", the responder compares the actual amount of time spent on each activity with the desired time. The options are "always less than I want" (1 point), "sometimes less than I want" (2 points), "about right for me" (3 points), "sometimes more than I want" (2 points), and "always more than I want" (1 point). The original LBI asked for activities in the past month, which was modified to the past week in this study to match the ESM period. This study used the Korean version of the LBI [25], which showed suitable psychometric properties.

Table 1. Questions and options on the experience sampling form.

	Questions	Option of answer (coding)
Q1	How is your mood now?	Very good (5) Good (4) Neutral (3) Bad (2) Very bad (1)
Q2	What are you doing now?	Fifty-three activities of the Life Balance Inventory Other (description:)
Q3	I consider this activity to be:	Work

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Q4	I do this:	Daily living task Recreation Rest Very well (5) Well (4) About average (3) Poorly (2) Very poorly (1)
Q5	For me, this activity is:	Extremely important (5) Important (4) Take it or leave it (3) Rather not do it (2) Total waste of time (1)
Q6	How much do you like this activity?	Like it very much (5) Like it (4) Neither like it nor dislike it (3) Dislike it (2) Strongly dislike it (1)
Q7	How much are you satisfied with this activity?	Very satisfied (5) Quite satisfied (4) Somewhat satisfied (3) A little bit satisfied (2) Not at all satisfied (1)
Q8	Are you thinking about something irrelevant to the activity that you are currently engaging in?	Yes (1) No (0)
Q9	Are you interacting with someone right now?	Yes (1) No (0)
Q10	With whom are you interacting right now?	Friend Romantic partner Co-worker/classmate Senior at university Junior at university Professor Boss Sibling/relative Parent Other (description:)

2.3. Data Analysis

In the ESM, sampling data obtained within 15 minutes of notification were selected. Among the responses to the "other" option in the activity question (Q2), homework was frequently described by the participants so it was coded as a specific activity. Descriptive statistics were used to present summaries of the ESM and the questionnaires. The mean and standard deviation or number and percentage were calculated for the overall ESM data. Descriptive statistics were then performed for each activity to understand the participants' volition for a specific activity.

To examine the effect of volition on occupational satisfaction and mind-wandering at the moment, a hierarchical regression analysis was performed using the ESM data. For occupational satisfaction, the regression analysis included mood as a control variable in the first step. Personal causation, values, and interests were input in the second step. Likewise, on mind-wandering, we entered personal causation, values, and interests as independent variables after controlling for mood.

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By controlling for mood, the genuine effect of volition on occupational satisfaction and mind-wandering was analyzed.

ESM data were summarized for each participant. Using these individual data, correlation analysis was performed to examine how momentary volition was related to life satisfaction and life balance measured by the SWLS and the LBI, respectively.

MATLAB (MathWorks, 2021) was used for sorting the data. All statistical analyses were conducted using SPSS version 25 (Armonk, NY, USA). The significance level was set at $p < .05$.

3. Results

3.1. Participants and Samplings

This study included 42 undergraduate students (13 males and 29 females; mean age = 21.24 years, SD = 1.41, range from 18 to 26 years). A total of 1,641 sampling data was collected. The mean number of responses was 39.07 (SD = 10.88, 71%). Data from 549 samplings were excluded because responses were not completed within 15 minutes after the notification. The final analysis included 1,092 sampling data. The average valid response per participant was 26.00 (SD = 8.68, 47%). The mean completion time was 3.83 minutes (SD = 3.72).

3.2. Descriptive Statistics

Descriptive statistics of the measurements are presented in Table 2 and Figure 1. Regarding the proportion of activity type, work (33%) was the most frequently reported activity type, followed by daily living work (31%, Figure 1a). Time alone (49%) was the most frequent, followed by time with a friend (23%, Figure 1b).

Table 2. Descriptive statistics of measurements by the experience sampling method, the Satisfaction With Life Scale, and the Life Balance Inventory.

Measurements	Mean/n	SD/%
Experience Sampling (n = 1092)		
Mood	3.29	0.98
Volition		
Personal causation	3.79	0.87
Values	4.15	0.82
Interests	3.71	1.02
Occupational satisfaction	3.43	1.13
Mind-wandering (n, %)	469	43%
Interaction (n, %)	559	51%
Questionnaires (n = 42)		
Satisfaction With Life Scale	18.45	6.34
Life Balance Inventory	2.26	0.35

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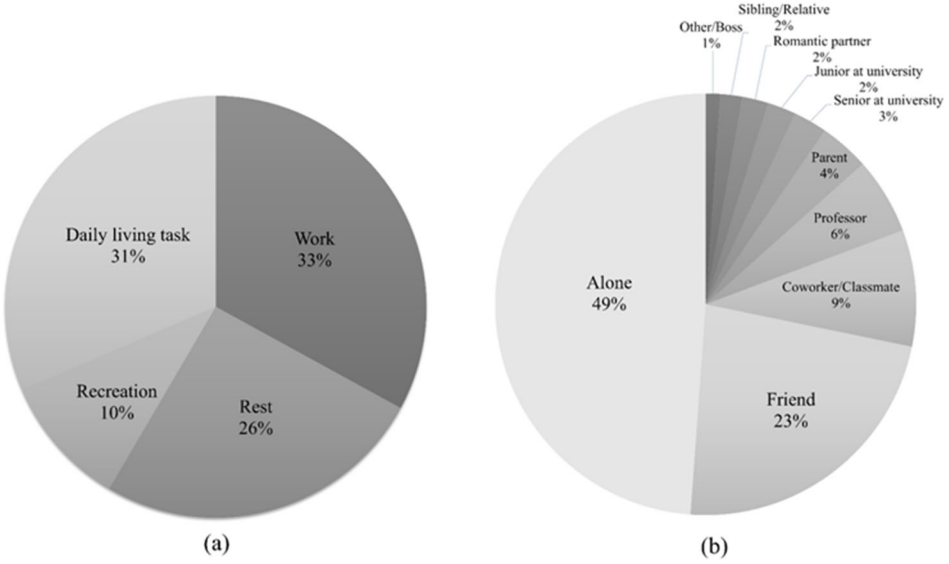

Figure 1. Activity type (a) and the person with whom the participant interacted (b).

Table 3. illustrates the results of the ESM including response count and volition in specific activities with ten and more responses. Relaxing was the most frequently reported activity (17%), followed by eating (12%) and taking the bus (12%). Watching TV, doing things with a spouse/significant other, and relaxing had high scores for personal causation, values, and interests, respectively.

Table 3. Descriptive statistics of response counts and volition in specific activities with ten and more responses from the experience sampling method.

Activity	Response count		Volition					
			Personal causation		Values		Interests	
	n	%	Mean	SD	Mean	SD	Mean	SD
Relaxing	182	17%	3.90	0.87	4.44	0.66	4.47	0.55
Eating	131	12%	4.19	0.83	4.47	0.61	4.40	0.59
Taking the bus	131	12%	3.80	0.85	3.68	1.15	2.70	1.01
Participating in educational opportunities	99	9%	3.23	0.73	3.92	0.68	3.10	0.58
Doing homework	68	6%	3.04	0.56	4.29	0.62	2.62	0.91
Doing things with friends	60	5%	3.92	0.81	4.17	0.69	4.12	0.76
Taking care of personal hygiene and bathing	42	4%	4.05	0.76	4.52	0.55	3.62	0.73
Watching TV	38	3%	4.32	0.70	3.92	0.78	4.32	0.57
Getting sleep	36	3%	4.19	0.95	4.58	0.50	4.39	0.60
Participating in groups	36	3%	3.58	0.91	3.86	1.02	3.44	0.91
Taking care of my appearance	34	3%	3.68	0.73	3.94	0.74	3.35	0.60
Working for pay	31	3%	4.00	0.58	4.32	0.65	3.00	1.06
Going to restaurants/bars	24	2%	4.04	0.62	4.13	0.80	4.17	0.70
Surfing the internet	19	2%	4.00	0.75	3.79	0.71	4.05	0.78
Playing games of skill	19	2%	4.05	0.62	3.79	0.86	4.42	0.61
Gaining competence in my job	17	2%	3.06	0.75	4.35	0.79	2.88	0.78
Doing things with family members	13	1%	4.31	0.85	4.46	0.66	4.46	0.52
Exercising	12	1%	3.67	0.89	3.92	0.79	3.83	0.83
Driving	11	1%	4.09	0.70	4.09	0.54	4.27	0.47

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Doing things with spouse/ significant other	10	1%	4.00	1.15	4.60	0.52	4.40	1.26

3.3. Effect of Momentary Volition on Occupational Satisfaction and Mind-wandering

Hierarchical regression was performed to analyse the effect of momentary volition on momentary occupational satisfaction and mind-wandering after controlling for the effect of mood. To examine the contribution of variables to occupational satisfaction, the regression analysis included mood as a predictor variable in the first step. Personal causation, values, and interests were added in the second step. In the first step involving mood, regression explained 28% of the variance ($F [1, 1090] = 432.55$, $p < 0.001$). Mood significantly predicted occupational satisfaction ($\beta = 0.53$, $p < 0.001$). After adding personal causation, values, and interests in the second step, the model explained 61% of the variance, showing a variance change of 33% (F change [3, 1087] = 311.85, $p < 0.001$). All predictors, including mood ($\beta = 0.18$, $p < 0.001$), personal causation ($\beta = 0.18$, $p < 0.001$), values ($\beta = 0.08$, $p < 0.001$), and interests ($\beta = 0.53$, $p < 0.001$), were significant. Thus, volition had a unique contribution to occupational satisfaction.

In another regression analysis on mind-wandering, mood was likewise entered in the first step and personal causation, values, and interests were added in the second step. In the first step involving mood, regression explained 2% of the variance ($F [1, 1090] = 23.24$, $p < 0.001$). Mood significantly predicted mind-wandering ($\beta = -0.14$, $p < 0.001$). In the second step adding personal causation, values, and interests, the model explained 5% of the variance, which changed the variance by 3% (F change [3, 1087] = 11.37, $p < 0.001$). Mood ($\beta = -0.08$, $p = 0.03$), personal causation ($\beta = 0.08$, $p = 0.02$), and interests ($\beta = -0.22$, $p < 0.001$) were significant predictors, but values were not significant ($\beta = 0.03$, $p = 0.36$). Mind-wandering was negatively affected by interests but positively correlated with personal causation.

3.2. Relationship of Momentary Volition to Life Satisfaction and Life Balance

This study analysed the correlation between momentary volition measured through the ESM and life perspective assessed by questionnaires on an individual level. Momentary interests were positively correlated with SWLS ($r = 0.45$, $p = 0.003$) and LBI scores ($r = 0.31$, $p = 0.046$). Personal causation showed a marginally significant positive correlation with LBI scores ($r = 0.28$, $p = 0.08$). Other correlations were not significant ($rs < 0.26$, $ps > 0.10$). These results indicate that momentary interests were associated with the participants' perceptions of how their lives were satisfied and balanced.

4. Discussion

This study demonstrated undergraduate students' occupational characteristics using the ESM. Students' momentary volition affected occupational satisfaction and mind-wandering at that moment. In addition, momentary volition was related to overall life satisfaction and balance. Based on ecologically valid information, these findings provide evidence supporting that volition is linked to occupational experiences and life perspectives [1,2,26].

This study found that personal causation, values, and interests all contributed to occupational satisfaction, providing converging evidence for the relationship between volition and satisfaction [5]. A previous study reported on overall volition and life satisfaction in elderly people, whereas the current findings showed the effect of volition on the occupational satisfaction of undergraduate students at each moment. Furthermore, this study demonstrated that volition uniquely contributed to satisfaction with daily activities by controlling for the effect of mood.

This study showed that momentary volition was related to overall life perspective. High occupational interests were associated with high life satisfaction and balance, consistent with a previous finding that momentary pleasure was related to well-being [27]. Personal causation showed a marginally significant correlation with life balance. The participants who perceived themselves as competent tended to live a more balanced life. This finding supports the life balance model, which

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describes that satisfying patterns of life consist of met needs for interests and competence [19]. The relationship between volition and life balance suggests that moment-by-moment experiences of occupational quality (interests and personal causation) are associated with subjectivity regarding occupational quantity (the amount of time). High volition may influence the perception that time was spent meaningfully, resulting in a good life balance. Alternatively, an appropriate allocation of time for daily activities could increase volition.

This study showed that each volition element had a different relationship with occupational experiences and life perspectives. Interests were most consistently and strongly related to occupational satisfaction and engagement, as well as overall life satisfaction and balance. Personal causation was a positive predictor of occupational satisfaction. It could also lead to mind-wandering. Values showed a significant relationship with occupational satisfaction. Taken together, volition, especially interests, needs to be considered to improve undergraduate students' occupations and life.

A recent study that explored university students' activities using the ESM [22] revealed that students evaluated a moment positively when they participated in productive occupations, felt enjoyment during occupations, or were at home or with others. However, that study did not demonstrate individual differences in overall life perspectives according to momentary experiences. In the present study, by sorting ESM data into individuals, we found that students who reported high momentary volition, especially interests, showed high life satisfaction and life balance.

The study findings showed how undergraduate students experienced what they were doing at the momentary level. The mean values of mood, personal causation, values, interests, and occupational satisfaction were above the midpoint of the scale, indicating that students reported positive rather than negative experiences. Participants reported mind-wandering at 43% of the sampling moment, which was similar to 46.9% reported in a previous study [28].

Mind-wandering could be explained by volition. Interests negatively predicted mind-wandering, meaning that when participants enjoyed an activity, they were less likely to think about things unrelated to the activity. This finding was consistent with previous findings that mind-wandering was related to an unhappy mind [14,28]. By focusing on volition rather than general states, this study showed that interests in an activity kept an individual's mind in the activity. In contrast to interests, personal causation positively predicted mind-wandering. In other words, high competence in an activity was related to high mind-wandering during the activity. This result could be plausible if there were more low-challenge activities than high-challenge activities. In low-challenge activities, people with high skills may experience boredom rather than concentration [12]. This speculation needs to be addressed in a further study that measures both skills and challenges [29,30].

This study has several limitations. First, because the participants were recruited from a specific university, care should be taken when generalizing the results to other populations. Second, the results might be underestimated due to the relatively small sample size. Therefore, a further study with more participants is needed to provide more solid findings. Third, a question on mind-wandering can reflect whether a person's mind is in an activity or not, but not how deeply it is involved [31]. In a further study, a more precise measurement of the attention state could expand our understanding of the association between involvement and occupation.

The current study provides implications for occupational therapy practitioners. The results offer further evidence that volition is related to occupational experiences and life perspectives. Among volition, interests were a strong element linked to the perception of occupation and life. The research findings suggest that momentary interests need to be considered in occupational therapy interventions for the satisfactory occupation participation of undergraduate students.

5. Conclusions

This study demonstrated that momentary volition affected occupational satisfaction and engagement, and was related to life satisfaction and balance of undergraduate students. We measured momentary personal causation, values, and interests while performing occupations by using the ESM. Momentary volition, especially interests, contributed to positive occupational experiences and life perspectives, which implies that occupational therapy practitioners need to

consider momentary interests to provide occupation-centred interventions for undergraduate students.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Soonchunhyang University (no. 1040875-201808-SB-033 and October 17, 2018).

Informed Consent Statement: Informed consent was obtained from all participants involved in the study.

Data Availability Statement: The data used to support the findings of this study are available from the corresponding author upon request.

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Conflicts of Interest: The authors declare no conflict of interest.

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