

Positive Outcomes of Attachment toward Smartphone Applications

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Abstract

It is generally believed that people's strong attachment has positive effects on their brand support behaviors and life satisfaction. The positive effect of strong attachment on brand supportive behavior and life satisfaction has been well supported in academics in marketing and consumer research. Different from the existing studies, we expand our study to include those important consequence variables: (1) support behavior for parent brand, (2) attachment with smartphone itself that contains the applications, both as part of brand performance, and (3) stress relief as part of life satisfaction. To do so, a survey was conducted to college students and full-time employees who own smartphones in South Korea. The survey consisted of three types of applications (SNS and messenger, entertainment, education and information). We confirmed the results of previous studies, the positive effect of attachment with applications on brand supportive behaviour and life satisfaction through self-efficacy. Importantly, attachment with applications positively influences even parent brand supportive behaviour, encourages attachment with smartphone, and leads to life satisfaction through stress relief. Our study may provide contributions academically and practically in the area of mobile consumer behaviour and life satisfaction, since no existing studies have examined the relationships that the current study does.

※ Key Words: Brand attachment, smartphone applications, life-satisfaction, self-efficacy, stress relief

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1. Introduction

As smartphones become an everyday item people carry, the value of various smartphone applications also increases. As in the case of Facebook, iBooks, Kindle, and YouTube, people find significant value in terms of social connection, helpful contents, and entertainment, especially because the applications can be used anytime and anywhere they want. As a result, people establish strong attachment with their favourite applications.

It is generally believed that people's strong attachment has positive effects on their brand support behaviours and life satisfaction. For example, if people have strong emotional attachment with Facebook, then they not only are more likely to engage in support behaviours such as recommendation, loyalty, and so on, but also feel happier or more satisfied with life. The positive effect of strong attachment on brand supportive behaviour and life satisfaction has been well supported in academics in marketing and consumer research (Park et al., 2010; Batra et al., 2012). For example, recent studies empirically documented that attachment with mobile applications positively affect not only brand supportive behaviour for the mobile applications, but also self-efficacy for users, which in turn influences their life-satisfaction. Although these existing studies lay an important foundation

for the positive consequences of brand attachment, they did not examine several other interesting extended relationships that are related to brand attachment. In terms of brand performance and consumers' quality of life, a more comprehensive model that shows the extended outcomes of brand attachment needs to be investigated.

According to this limitation of the previous literature, our current study examines the positive effect of attachment on both brand support behaviour and life satisfaction. Different from the existing studies, however, we expand our study to include those important consequence variables: (1) support behaviour for parent brand, (2) attachment with smartphone itself that contains the applications, both as part of brand performance, and (3) stress relief as part of life satisfaction. Importantly, this study aims to explore whether the attachment to an application can extend to other related entities, such as the smartphone device itself and the manufacturer of the application. This investigation is crucial to understanding the broader impact of application attachment on consumer behavior and brand dynamics.

Our study makes significant contribution academically and practically in the area of mobile consumer behaviour and life satisfaction, since no existing studies have examined the relationships that the current study does. For example, although attachment toward applications is critically related to attachment to-

ward smartphone itself, there has been no study that addressed the important extended relationship. Our study is significant in that it formally examines how attachment with application is related to attachment with smartphone itself. Another significant contribution is that whereas the existing studies included only “the least difficult behaviour” such as support behaviour for the applications that holds strong attachment, our study includes also “the more difficult behaviour” such as support behaviour even for parent brand. More importantly, our study includes stress relief as a consequence variable, which in turn affects life satisfaction. Since many people use smartphones and their applications to relieve stress in the daily life, our study produces interesting implications for practitioners and academics as well.

We bring several relevant psychological theories about attachment, brand support behaviours, stress relief, and life satisfaction. The details about main hypotheses and their supporting theories are presented as follows.

II. Literature review and developing hypotheses

Our literature review and hypotheses are focused on the positive consequences of attachment with smartphone applications. The

positive consequences can occur at both brand performance and consumers’ quality of life. As noted above, previous studies empirically documented that strong attachment with applications can lead not only to users’ supportive behaviour for the application, but also to consumers’ life satisfaction through self-efficacy. This study aims to confirm the findings of existing studies and extend them by suggesting that attachment with applications can lead to parent brand supportive behaviour and attachment with smartphone as well, and more importantly, life satisfaction through stress relief. Therefore, our literature review and hypotheses focus on how attachment with applications positively influences the brand performance of the extended entities (i.e. support behaviour for parent brand, and attachment with smartphone device) and user’s quality of life especially through stress relief, which have not been examined in previous studies.

2.1 Effect of attachment with applications on brand performance

It is natural that when people establish emotional attachment or love to a certain object (person or brand), they are likely to have positive feeling also for its related objects (Olsen, 1995; Feeney, 2004). People who feel attached with iPhone, for example, tend to develop attachment also toward other Apple

products such as iPad or MacBook.

This is evidenced in previous studies. Feeney (2004) and Yeung and Wyer (2005) showed that emotional attachment can be transferred one object to another. Fedorikhin et al. (2008) suggested that positive feelings toward a certain brand are likely to transfer to affiliated brands because a person forms the desire to maintain or increase the scope of intentions with the brand. In this light, it can be expected that attachment with applications is transferred to the parent brand or the developer of the applications.

More formally, the attachment with the application can positively influence parent brand supportive behaviour. Brand supportive behaviour refers to the consumers' behaviour to support a particular brand, and its forms include word of mouth (WOM), repurchase, defending, paying premium, etc. (Keller, 2008; Aspara, 2009; Park et al., 2010). Previous studies support this view. For example, Park et al. (2010) documented that brand attachment, compared to brand attitude, has a strong significant effect on consumers' intention for difficult support behaviour such as WOM, promoting, and depending on behaviours for the brand.

In summary, based on discussions above, attachment with applications is likely to transfer to parent brand or maker of the applications, which in turn lead to parent brand supportive behaviours. Therefore, we propose

the following hypothesis:

H1: Attachment with applications has a positive effect on parent brand supportive behaviour

Consumers who feel attached with applications are likely to develop attachment towards the smartphone they use. Because smartphones enable consumers to use the applications they like, it is expected that attachment with applications can be readily transferred to smartphone. In the case of Samsung Galaxy Note series which have specialized handwriting note application, for example, consumers with attachment to the note application tend to build attachment to the Galaxy Note device. In addition, previous studies, as mentioned above, suggested that attachment with a certain object can be transferred to another (Feeney, 2004; Yeung and Wyer, 2005).

Consequently, on the basis of these considerations, we suppose that the attachment with applications positively influence the attachment with smartphone device. Therefore, we hypothesize the following:

H2: Attachment with applications has a positive effect on attachment with smartphone

The concept of secure attachment (Bowlby, 1982), has implications that extend beyond

interpersonal relationships and also apply to consumer behavior (Thomson et al., 2005; Fournier, 1998; Park et al., 2013). When individuals develop strong emotional connections with companies, similar to stable attachment relationships, they are more inclined to show loyalty towards those brands (Park et al., 2013). This commitment is defined by repeat purchases, positive word-of-mouth, and willingness to recommend the brand (Ahmadi and Ataei, 2024). Given the available evidence, we could develop the following hypothesis concerning the relationship between attachment to applications and supportive behavior in the field of consumer behavior.

H3: Attachment with applications has a positive effect on brand supportive behavior

2.2 Effect of attachment with applications on consumer' quality of life

It is expected that attachment with applications has a positive effect on stress relief. When people feel emotionally attached to a certain object, they experience positive emotions, which in turn help them get rid of negative feelings like stress (Bowlby, 1988; Schore, 2003). Stress refers to any threat, either real or perceived, to the well-being (Kumar, 2013). Hence, stress relief means relieving any threat to the one's well-being.

The positive effect of attachment on stress relief is theoretically supported by broaden-and-build theory in psychology (Fredrickson, 2001). The theory states that positive emotion broadens people's novel thought-action repertoires and builds enduring psychological resources such as resilience, hope, and optimism (Fredrickson, 2001). The psychological resources in turn help people manage their life more successfully. Applying the theory to the current context, attachment with applications enables users to feel positive emotions (Sternberg, 1986), which helps them build psychological resources. Therefore, the positive psychological resources enable people to control behaviour, environment, and feeling more successfully under stressful events. Another previous study also supports our argument. Kobak et al. (2006) suggested having attachment objects (applications in current context) enables people to regulate the stress more effectively.

Based on the discussions above, attachment with applications is expected to positively influence stress relief. Therefore, we propose the following hypothesis:

H4: Attachment with applications has a positive effect on stress relief

It is expected that stress relief in turn has a positive effect on life satisfaction. When people experience stressful event, they feel

distressed, which ultimately makes them dissatisfied with life. On the other hand, relieving stress can be helpful in enhancing one's satisfaction with life. Life satisfaction is defined as global assessment about a person's quality of life (Shin and Johnson, 1978). The positive effect of stress relief on life satisfaction is evidenced in previous studies.

Kostelecky and Lempers (1998) empirically documented that stressful events cause psychological distress such as depression, loneliness, and anxiety, resulting in decreased well-being that includes life satisfaction. Hence, relieving the psychological distress through stress relief can result in enhanced life satisfaction.

The above point can be also supported by the Fredrickson's (2001) broaden-and-build theory. According to the theory, positive emotion broadens people's novel thought-action repertoires and builds enduring psychological resources. Since relieving stress can generate positive emotions, stress relief is likely to build positive psychological resources such as resilience, hope, and optimism. Therefore, the psychological resources in turn help people live more fulfilling lives, which ultimately result in enhanced life satisfaction.

In sum, it is concluded that stress relief positively influences one's life satisfaction. Therefore, we hypothesize the following:

H5: Stress relief has a positive effect on

life satisfaction.

Self-efficacy is a concept used to refer to an individual's confidence in their abilities to carry out the actions required to achieve specified goals or performance outcomes (Bandura, 1997). It provides effect over individuals' cognition, emotions, and behavior. Individuals who have stable attachments typically experience an increase in self-esteem and confidence. This is because their early interactions with reliable providers cultivate feelings of security and competence (Mikulincer and Shaver, 2007). Having a good self-perception leads to increased self-efficacy, which allows individuals to have confidence in their ability to succeed in different tasks (Cassidy and Shaver, 2016). According to Cassidy and Shaver (2016), having a secure attachment is the basis for developing a strong belief in one's own abilities, known as self-efficacy. This, in turn, improves the ability to apply skills and information effectively. Individuals with secure attachment are likely to develop a strong sense of self-efficacy, believing in their ability to learn and apply new skills effectively. Therefore, we hypothesize the following:

H6: Attachment with applications has a positive effect on self-efficacy

Individuals with high self-efficacy apply effective coping mechanisms when faced with

stressors, resulting in improved emotional regulation and increased life satisfaction (Diener and Biswas-Dieker, 2005). Self-efficacy plays a crucial role in fostering a positive mindset and increasing happiness levels, both of which are essential factors in overall life satisfaction (Luszczynska et al., 2005). Increased self-efficacy improves an individual's capacity to accomplish objectives, handle difficulties, and sustain positive social connections (Fredrickson, 2001), all of which contribute to higher levels of life satisfaction. Therefore, we hypothesize the following:

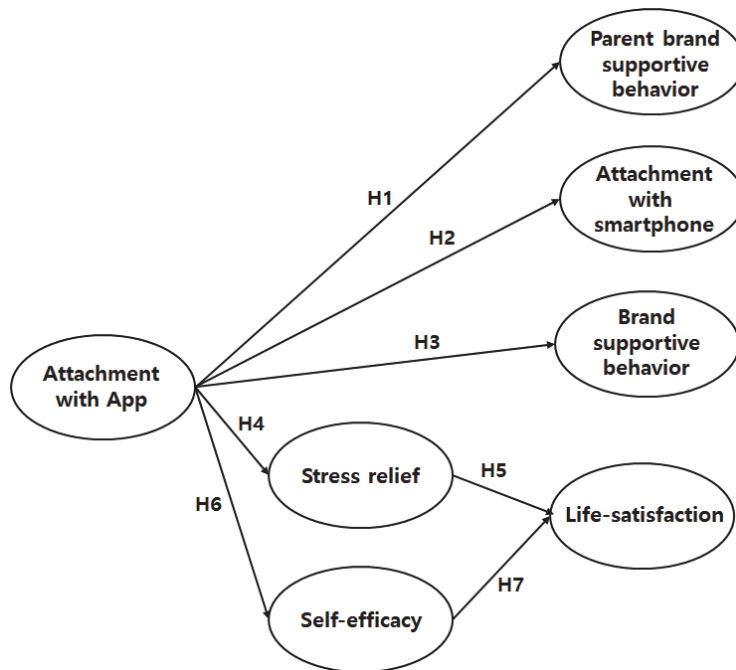
H7: self-efficacy has a positive effect on

life satisfaction.

2.3 Summary of hypotheses - research model

Based on hypothesis 1 through 7, we develop a research model as shown in Figure 1. The research model graphically shows that attachment with applications positively influences brand(application) supportive behavior, parent brand supportive behavior, attachment with smartphone, and life satisfaction through stress relief and self-efficacy. A distinct feature of the model is that it includes not only the variables of our hypotheses but also the variables of the existing model such as brand

〈Figure 1〉 Research model



supportive behaviour and self-efficacy.

By doing so, our research model can provide a more comprehensive view on the positive effects of attachment with applications on brand performance and quality of life. For example, our model shows that attachment with applications positively influences not only brand supportive behaviour, but also parent brand supportive behaviour and even attachment with smartphone. In terms of quality of life aspect, our model includes both self-efficacy, a long-lasting psychological capital, and stress relief, a temporal psychological effect, as consequences of attachment with applications. Interesting implications of the comprehensive view will be discussed later in more detail.

III. Research method

3.1 Data collection and sample characteristics

A survey was conducted to college students and full-time employees who own smartphones in South Korea. The survey consisted of three types of applications (SNS and messenger, entertainment, education and information) for the purpose of generalizability in terms of application categories.

Participants were randomly assigned to each type of questionnaire and were asked to write

down their favourite smartphone application in the given category. Given the choice of their favourite application, the participants were then asked to answer questions about attachment with application, brand supportive behaviour, parent brand supportive behaviour, attachment with smartphone, stress relief, self-efficacy, and life-satisfaction. All the questions used 7-point Likert scale ranging from 'strongly disagree' to 'strongly agree.'

As a result, the final sample consisted of 460 participants in total after removing 35 unusable samples. The summary of the survey of participants' demographics is as follows: 60.2% were male and 39.8% were female. Participants ranged in age from 18 to 59 years. 5% were teens, 71.3% were in their twenties, 12.6% in their thirties, 7.6% in their forties, and 3.5% in their fifties. By occupation, 65.2% were students, 31.2% were full-time employees, and 3.6% were unemployed. Ratio of the each type of application categories turned out that SNS and messenger is 34%, entertainment 33%, and education and information 33%.

3.2 Measurement

We based the measurements of constructs for this study on well-established studies as shown in Table 2. All of the constructs were measured with a multiple-item scale to preserve the richness of each construct. Detailed measures of each construct are presented in Table 1.

〈Table 1〉 Measurement

Constructs	Measurements	References
Attachment with smartphone application	I would be sad if I can no longer use this app.	Thomson (2006)
	I would feel down if this app disappears.	
	I would be upset if this app stops its service.	
Attachment with smartphone	I would be sad if I can no longer use a smartphone.	Thomson (2006)
	I would be upset if my smartphone was permanently gone from my life.	
	I would panic if I lose my smartphone.	
Brand supportive behaviour for smartphone application	I am willing to recommend this app to others.	Zeithaml, Berry, and Parasuraman (1996)
	I will speak positively of this app to others.	
	I will continue to use this app even if a competing company releases a similar one.	
Parent brand supportive behaviour for smartphone application	I am willing to recommend this app's parent company to others.	Zeithaml, Berry, and Parasuraman (1996)
	I will speak positively of the parent brand of this app to others.	
	I am willing to use other apps from this app's parent company over those from competing companies.	
	I am willing to support this app's parent company over the internet by leaving positive comments on it.	
Stress relief	Using this app helps me deal with the feelings of irritation or anger.	Cohen et al. (1983)
	Using this app helps me deal with nervousness and stress.	
	Using this app helps me deal with the feelings of discomfort and fear.	
Self-efficacy	I am confident that I can deal efficiently with an unexpected event.	Bandura (1977)
	It is easy for me to stick to my aims and accomplish my goals.	
	If someone opposes me, I can find the means and ways to get what I want.	
	I can always manage to solve difficult problems if I try hard enough.	
Life-satisfaction	If I could live my life over, I would change almost nothing.	Diener et al. (1985)
	I am satisfied with my life.	
	In most ways my life is close to my ideal vision.	
	The conditions of my life are excellent.	

3.3 Reliability and validity

We first conducted Cronbach's Alpha analysis, Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA) to test the reliability and validity. Major results of the reliability and validity tests are summarized in Table 2 and Table 3.

3.3.1 Reliability test

As shown in Table 2, all Cronbach's Alpha values of each construct were above 0.8, indicating that the measures have strong confidence and internal consistency. Generally, we assume high reliability if the Alpha value is above 0.6 (Nunnally, 1978). Then, to more formally test reliability, the composite reli-

〈Table 2〉 Result of confirmatory factor analysis

Constructs	Cronbach's α	EFA		CFA		
		Factor loading	Estimate (t-value)	Composite reliability	AVE	
Attachment with application	.931	1	.829	.877	.946	.884
		2	.885	.987(32.880)		
		3	.845	.874(26.851)		
Attachment with smartphone	.881	1	.850	.815	.965	.906
		2	.880	.875(20.364)		
		3	.872	.840(19.728)		
Brand supportive behaviour	.878	1	.693	.717	.977	.952
		2	.754	.936(19.281)		
		3	.711	.896(18.694)		
Parent brand supportive behaviour	.946	1	.862	.836	.960	.728
		2	.870	.911(26.085)		
		3	.850	.945(27.879)		
		4	.831	.917(26.404)		
Stress relief	.959	1	.899	.959	.912	.804
		2	.916	.962(47.773)		
		3	.901	.904(37.066)		
Self-efficacy	.922	1	.863	.855	.956	.798
		2	.855	.885(24.823)		
		3	.876	.883(24.744)		
		4	.884	.834(22.462)		
Life-satisfaction	.897	1	.831	.790	.976	.831
		2	.885	.806(18.560)		
		3	.848	.879(20.538)		
		4	.843	.840(19.520)		

(Table 3) Correlation, square of correlation between variables, and AVE

	1	2	3	4	5	6	7
Attachment with application	.884	.198	.581	.238	.152	.033	.013
Attachment with smartphone	.445**	.906	.112	.076	.074	.015	.006
Brand supportive behaviour	.581**	.334**	.952	.483	.145	.116	.027
Parent brand supportive behaviour	.488**	.276**	.695**	.728	.242	.061	.022
Stress relief	.390**	.272**	.380**	.492**	.804	.002	.032
Self-efficacy	.182**	.122**	.340**	.246**	.043	.798	.162
Life-satisfaction	.112*	.077	.163**	.159**	.180**	.402**	.831

Diagonal: AVE, below diagonal: correlation between variables, above diagonal: square of correlation between variables
* $p < .05$, ** $p < .01$

ability and Average Variance Extracted (AVE) were calculated using the results of CFA. As shown in Table 2, all values of composite reliability and AVE exceed the required value of 0.6. Therefore, we confirmed that the measures used in this study are reliable and representative.

3.3.2 Validity test

To test the validity of the constructs, we first conducted an EFA. A principal component analysis and Varimax rotation were carried out to extract primary features. As shown in Table 2, all measures have high scores of factor loadings, indicating that each construct has validity. Then, we conducted a CFA using AMOS to more formally test convergent and

discriminant validity. The model fits (CMIN/DF = 2.244, CFI = .971, NFI = .949, RFI = .933, IFI = .971, TLI = .962, and RMSEA = .052) generally satisfy the required level. The results of CFA are shown in Table 2. As to convergent validity, all the factor loadings of CFA turned out to be significant ($t \geq 1.96$) (Bagozzi et al., 1991). As to discriminant validity, as shown in Table 3, all the values of AVE exceed the squared correlations between all pairs of constructs (Fornell and Larcker, 1981). Therefore, we confirmed that the degree of validity for all constructs is sufficient.

In summary, our results of analysis indicated that our measures of the constructs are reliable and valid to investigate the proposed study. Therefore, we proceeded to the main

analysis with confidence.

IV. Major results and hypotheses test

4.1 Fit of research model

With confidence in measures of the constructs, we conducted structural equation modelling (SEM) analysis using AMOS to test our hypothesized research model. The model generally showed good fit with the data: CMIN/DF = 3.239, CFI = .944, NFI = .921, IFI = .944, TLI = .931, RMSEA = .070. Therefore, it is concluded that the proposed research model is acceptable to test our hypotheses.

4.2 Overall results of the model

Major results of our analysis are reported in Figure 2. As expected, the results revealed that attachment with application has a positive effect on brand supportive behaviour and life satisfaction through self-efficacy. In addition, as we hypothesized in this study, attachment with application has positive effects on parent brand supportive behaviour and attachment with smartphone. Also, it yields life satisfaction through stress relief.

Before we go to the hypothesis test, we briefly review our results in terms of the positive effect of attachment with applications suggested

by existing model. The attachment with applications has a significant positive effect on brand supportive behaviour ($\beta = .644$, $t = 14.228$) and self-efficacy ($\beta = .205$, $t = 4.144$). Self-efficacy has a significant positive effect on life satisfaction ($\beta = .427$, $t = 8.634$). Therefore, the results suggest that attachment with applications leads to brand supportive behaviour and enhanced life satisfaction through a sense of self-efficacy, which confirms the previous study.

4.3 Hypotheses test

Our hypotheses were tested based on the results of the structural equation model analysis. Results of the analysis are presented in Table 4.

Hypothesis 1 proposes that attachment with smartphone applications has a positive effect on parent brand supportive behaviour. As shown in Table 4, the effect of attachment with applications on parent brand supportive behaviour is supported by the data ($\beta = .539$, $p < .01$). That is, the more people feel attached with applications, the more they would recommend the parent brand (or the developer) to others and try other applications from the same parent brand as well.

Hypothesis 2 proposes that attachment with smartphone applications has a positive effect on attachment with smartphone. The path shows significant positive relationship ($\beta =$

487, $p < .01$), in support of H2. This means that people who feel attached with that application also tend to build attachment with smartphone that enables them to use the application.

Hypothesis 3, which has been revealed in previous literature, proposes that attachment with application has a positive effect on brand supportive behavior. The path between attachment and brand supportive behavior shows a very significant positive relationship ($\beta = .644$, $p < .01$), in support of H3.

Hypothesis 4 proposes that attachment with application has a positive effect on stress relief. The path between attachment and stress relief shows a very significant positive relationship ($\beta = .422$, $p < .01$), in support of H4. That is, people feel their stress is relieved when attached to applications.

Hypothesis 5 proposes that stress relief has a positive effect on life-satisfaction. The path

between stress relief and life-satisfaction shows a significant positive relationship ($\beta = .176$, $p < .01$), in support of H5. This means that people feel relieving stress can increase their satisfaction with life. The results of H4 and H5, combined together, imply that attachment with applications leads to stress relief, which in turn enhances life satisfaction.

Hypotheses 6 and 7 have been previously identified in other studies. In the current research, we replicate these relationships to demonstrate the comprehensive mechanism of the effect of brand attachment on consumer quality of life. Hypothesis 6 proposes that attachment with application has a positive effect on self-efficacy. As expected, the path between attachment and self-efficacy shows a very significant positive relationship ($\beta = .205$, $p < .01$), in support of H6. That is, people feel enhanced their self-efficacy when attached to applications. Hypothesis 7 proposes

〈Table 4〉 Results of hypothesis testing

<i>Hypothesis (path)</i>	<i>Path coefficient</i>	<i>p-value</i>	<i>Accept or not^a</i>
H1: Attachment with app → Parent brand supportive behaviour	.539	***	Accept
H2: Attachment with app → Attachment with smartphone	.487	***	Accept
H3: Attachment with app → Brand supportive behaviour	.644	***	Accept
H4: Attachment with app → Stress relief	.422	***	Accept
H5: Stress relief → Life satisfaction	.176	***	Accept
H6: Attachment with app → Self-efficacy	.205	***	Accept
H7: Self-efficacy → Life satisfaction	.427	***	Accept

*** $p < .01$

^a Hypotheses were tested at 5% level of significance.

that self-efficacy has a positive effect on life-satisfaction. The path between self-efficacy and life-satisfaction shows a significant positive relationship ($\beta = .427, p < .01$), in support of H7. This means that people who feel enhanced self-efficacy can experience increased life satisfaction

In summary, our hypotheses test confirms the proposed positive consequences of attachment with applications on brand performance and quality of life. According to the result of this study, attachment with application leads to parent brand supportive behaviour and attachment with smartphone as well and, more importantly, life-satisfaction through stress relief.

V. Summary and conclusion

5.1 Major findings and academic contribution

This study focused on positive consequences of attachment with applications on brand performance and the consumers' quality of life. More specifically, we confirmed the results of previous studies, the positive effect of attachment with applications on brand supportive behaviour and life satisfaction through self-efficacy. Importantly, the current study revealed that attachment with applications positively influences even parent brand sup-

portive behaviour, encourages attachment with smartphone, and more importantly, leads to life satisfaction through stress relief.

There are significant academic contributions made by this study. First, this study extends existing research in terms of brand performance and consumer quality of life. Specifically, we demonstrate that attachment to applications leads to supportive behavior for the parent brand, encourages attachment to the smartphone itself, and improves life satisfaction through stress relief. By doing so, this study contributes to building a more comprehensive model that explains the positive consequences of application attachment on both brand performance and quality of life. Importantly, in terms of brand performance, we reveal that brand attachment can transfer to extended entities related to the focal brand or product.

In addition, research on brand attachment has mainly focused on the brand performance such as consumer engagement and satisfaction behaviors (Choi et al, 2024; Guru et al, 2024). However, this study brought to mobile studies psychological theories and perspectives such as attachment theory, broaden-and-build theory, stress relief, and well-being. As a result of this study, it is visible that attachment with applications not only positively influences self-efficacy, but also yields stress relief. While self-efficacy is considered a long-lasting psychological capital, stress relief is considered a temporal psychological effect. Therefore,

interestingly, the current study empirically showed attachment with applications positively affects the quality of life through both long-lasting and temporal psychological effects. This psychological aspect of this study adds more richness to existing mobile literature.

5.2 Managerial implications

The current study also provides significant managerial implications for smartphone brands and application developers. The fact that attachment with applications leads to attachment with smartphone suggests that smartphone brands such as Apple, Samsung, and others should consider developing specialized applications for their own smartphone products. In the case of iPhone, for example, many consumers feel attached to iPhone because there are many applications they like that can be used only with iPhone. Samsung Galaxy Note series is another example. Since Galaxy Note series have specialized handwriting note applications, consumers who feel attached to the note application also build attachment to Galaxy Note series. Especially under the current circumstances with the smartphone technology being standardized, it becomes difficult for smartphone brands to differentiate their smartphone device from others. In this sense, the result of this study suggests that developing specialized powerful applications can be the key to success for smartphone brands.

Another important managerial implication is the fact that attachment with applications leads to parent brand supportive behaviour. This means building strong relationship like attachment with consumers can be critical for success of application developers. Because consumers who feel attached to an application are likely to evaluate positively other applications of same developer, the developer is advantageous when launching new applications, as exemplified in Facebook recently.

As mentioned above, having consumer to build attachment with applications is significant for both smartphone brands and application developers. However, attachment is built upon long-term relationships and emotional bond with consumers. This means that companies need to make great effort to build the relationships such as updating the application on a regular basis and communicating with consumers frequently. Through this, the companies can guide the consumers to feel closer emotionally to the application to the point that they eventually become attached to it. As shown in our study, the company will benefit from the customers' attachment because people will recommend not only the specific application they like, but also the parent brand and its other products.

5.3 Limitations and future research

Although this study makes academic and

managerial contributions, it has limitations which further studies need to address. First, this study used the survey method. Further studies may want to use the experimental method or the qualitative research method. Especially, qualitative research such as in-depth interview will help further studies understand how attachment with application influences consumers' quality of life more deeply.

Second, this study demonstrated that attachment with applications positively influence brand performance and life satisfaction through stress relief. Finding other positive consequences of attachment with applications would make great further studies.

Third, as our study as well as previous studies suggested the significance of attachment with applications, a search for what builds the attachment will also be an interesting future direction. In this sense, a previous study suggested self-connection and social-connection as antecedents of the attachment. Therefore, finding other antecedents that lead consumers to build attachment with applications will add more richness to existing literatures.

Finally, despite all the positive effects, there are possibilities that attachment with application can cause negative outcomes for consumers. Many parents, for example, worry that their children are addicted to entertainment or SNS applications as a result of strong attachment. Therefore, a future study addressing this negative phenomenon would be

fascinating.

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스마트폰 애플리케이션에 대한 애착과 긍정적 결과

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요 약

선행 연구를 통해 사람들이 가지고 있는 애착은 브랜드 지지 행동과 삶의 만족도에 긍정적인 영향을 미치는 것으로 알려져 있다. 특히, 강한 애착이 브랜드 지지 행동과 삶의 만족도에 미치는 긍정적인 영향은 마케팅 및 소비자 연구 분야에서 많은 연구가 되어 왔다. 본 연구는 기존 문헌에 근거하여 1) 모 브랜드에 대한 지지 행동, 2) 브랜드 성과 측면에서의 애플리케이션이 포함된 스마트폰 자체에 대한 애착, 3) 삶의 만족 측면에서의 스트레스 해소라는 중요한 결과 변수를 연구 모형에 포함하여 기존의 연구를 확장했다. 이를 위해, 국내의 스마트폰 사용자인 대학생과 직장인을 대상으로 설문조사를 실시했다. 설문은 애플리케이션(SNS 및 메신저, 엔터테인먼트, 교육 및 정보) 종류에 따라 세 가지 유형 구성하였다. 연구 결과, 애플리케이션에 대한 애착이 브랜드 지지 행동과 자아 효능감을 통한 삶의 만족도에 긍정적인 영향을 미친다는 기존 연구 결과를 확인했다. 또한, 애플리케이션 애착이 모 브랜드 지지 행동에 긍정적인 영향을 미치고, 스마트폰 애착을 촉진하며, 스트레스 해소를 통한 삶의 만족도로 이어진다는 점을 발견하였다. 본 연구를 통해 모바일 사용을 통한 소비자 행동이 삶의 만족도 영역으로 확장될 수 있음을 확인하여, 연구 결과를 학문적, 실무적으로 적용할 수 있을 것으로 기대한다.

※ 주제어: 브랜드 애착, 스마트폰 애플리케이션, 삶의 만족도, 자기효능감, 스트레스 해소

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