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**Structural Equation Modeling of Adaptive Functioning Based on  
Negative Emotions and Causal Attribution Following  
Guilt-Provoking Experiences in university students**

by

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# **Structural Equation Modeling of Adaptive Functioning Based on Negative Emotions and Causal Attribution Following Guilt-Provoking Experiences in university students**

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## **Abstract**

Adaptive functions following a guilt-provoking experience were investigated. An open ended questionnaire inquired about the most guilt provoking experiences in two conditions, personal interactions and breach of rules, from Japanese undergraduate participants. Then, their decision-making style and negative emotions soon after the experience and in the present (guilt, shame, and regret), causal attribution (self or other), and psychological (self-searching or rationalizing), as well as behavioral (apologizing, hiding) coping methods were assessed in each type of guilt provoking situation by completing a questionnaire. The data were analyzed using structural equation modeling. Participants more often reported guilt about something they had done in the past than guilt about something they had not done. The resulting model showed that causal attribution mediated by regret, affected the use of positive and negative psychological and behavioral coping methods. The coping methods influenced current negative emotions about the experience and improved behavior. Results suggest the necessity not only to feel regret for misbehaviors and failures, but also to attribute the cause to the self in order to reduce negative emotions and to improve behavior.

Key words: Guilt, Regret, Causal attribution, Coping method, Structural equation modeling

## **Introduction**

Most people feel negative emotions (guilt, regret, or shame) when they have done something wrong or something that turns out badly in their daily lives. Guilt, one of the most powerful negative emotions, is a moral emotion that arises from discrepancies between individuals' behaviors and their social or moral standards (e.g., Tangney, 1990; Tangney, Wagner, Fletcher, & Gramzow, 1992). Guilt is caused by immoral actions or antisocial

behaviors and the negative assessment of an individual's own behavior. For example, most people feel guilt when they have broken promises they had made to their friends, told lies, or shoplifted. Guilt is inseparably related with regret and shame (Tangney, 1990; Tangney, Wagener, Fletcher, & Gramzow, 1992). Regret is a negative emotion associated with counterfactual thinking that choosing a different option would have resulted in a better outcome (e.g., Epstude & Roese, 2008; Gilovich & Medvec, 1995; Gilovich, Medvec, & Kahneman, 1998; Kahneman & Miller, 1986; Zeelenberg, van Dijk, van der Pligt, Manstead, van Empelen, & Reinderman, 1998; Zeelenberg & Pieters, 2004). Shame is the tendency to feel bad about the self, as if being blamed by an imaginary or real person (Lewis, 1992; Tangney, 1995).

The negative emotions of guilt, regret and shame may facilitate adaptive functions for establishing, maintaining, or disrupting relationships between people and with the environment (e.g., Campos, Campos, & Barrett, 1989). For example, regret facilitates adaptive functions which prompt individuals to reflect on their conduct, and then make behavioral changes to prevent similar outcomes (e.g., Epstude & Roese, 2008; Zeelenberg, 1999). Guilt is associated with adaptive functions such as reflecting on and apologizing for an individual's behavior, whereas shame may lead to non-adaptive functions such as escaping or trying not to think about the experience (e.g., Baumeister, Stillwell, & Heatherron, 1994; Tangney, 1995).

Other adaptive functions may help individuals cope with the negative emotions themselves. For example, the psychological coping method of rationalization may help an individual reduce regret at a later time (Ueichi & Kusumi, 2004). Stress coping methods such as reflection and apologizing (Folkman & Lazarus, 1980) or changing behavior for the future (Ueichi & Kusumi, 2004) are other positive psychological and behavioral adaptive functions for coping with negative emotions.

One of the most important factors to activate adaptive functions for coping with negative emotions is causal attribution. It is necessary to acknowledge the cause of the negative emotions and to introspect and reflect on the role of the individual's behavior. Negative emotions such as regret and shame are related to causal attribution (e.g., Weiner, 1985; Zeelenberg, et al., 1998). Another factor affecting adaptive functions is decision-making style. Ueichi and Kusumi (2004) reported that people who make decisions after thinking deliberately tended to rationalize their experiences of failure and to change their behavior after failure.

Previous research has studied the relationships among negative emotions (e.g., Tangney, 1990; Tangney, et al., 1992), between a negative emotion and adaptive functions (e.g., Campos, et al., 1989), between negative emotions and causal attribution (e.g., Weiner, 1985; Zeelenberg, et al., 1998), between decision-making style, a negative emotion, and coping methods (e.g., Ueichi & Kusumi, 2004). However, the relationships among all of these factors have not been elucidated for experiences where people experience actual guilt: the relationships between decision-making style, negative emotions immediately after an experience and at the present time, causal attribution, and adaptive functions such as negative-emotion coping methods and improving behaviors. The purpose of this study is to examine negative-emotion coping processes following guilt-provoking experiences by using structural equation modeling.

## Method

### *Participants*

Participants were 138 Japanese undergraduates (91 males, 45 females, and 2 individuals who did not indicate their gender) who completed a questionnaire in October 2007. The participants were between 18 and 23 years old.

### *Procedure*

The questionnaire comprised of items to assess the predisposition for decision-making and open-ended questions about the most guilt provoking experience of the participants, as well as other questions about their experience, associated feelings, and coping methods. Behaviors and experience in which the participants felt the most guilt, as well as the other variables were assessed for situations involving personal interactions and for situation involving a breach of rules, based on Ishikawa and Uchiyama (2002). Each item was rated on a 5-point scale such that 1 = (*strongly disagree*) and 5 = (*strongly agree*).

### *Questionnaire*

*Decision-making style.* The decision-making style is a predisposition. The questionnaire items measured the degree to which the participants thought deliberately, or intuitively when making decisions. The author constructed the items based on the decision-making styles described by Janis and Mann (1977) and Ueichi and Kusumi (2004): deliberate or intuitive decision-making styles. The items for deliberate style were, “I make a decision after thinking deliberately about the future” and “I think carefully and decide on my own”; for intuitive style, “I make a decision immediately and intuitively” and “I make a decision by putting myself first”. After assessing the decision-making style, the following open-ended questions were used to assess related variables in each situation.

*Description of guilt-provoking experiences.* The questionnaire used open-ended questions to ask participants about their behaviors and experience at the time they felt the most guilt in the two guilt-provoking situations. They were also asked when the experience occurred and included (1) situations involving personal interactions that caused problems to others (e.g., I told a lie, I broke my promise, or I injured my friend) and (2) situations involving a breach of rules (e.g., I shoplifted, I broke a law, or I breached a school rule). The open-ended questions in the situation involving personal interactions were: “I’d like to ask you about the most guilt that you experienced, which was caused by troubling others (e.g., I broke a promise, or I injured a friend). Please describe the content of this guilt, as well as how and when it happened.” In situations involving a breach of rules, “I’d like to ask you about the most guilt that you experienced, which was caused by breaking rules or laws (e.g., I shoplifted). Please describe the content of this guilt, as well as how and when it happened.”

*Negative emotions immediately after the experience.* These items in each situation assessed the intensity of the three negative emotions (guilt, shame, and regret) which participants felt immediately after each reported experience. Each negative emotion was measured by two items: regarding guilt immediately after having done the behavior, “I felt guilt for my behavior” and “I blamed myself and felt self-disgust”; regarding shame, “I felt shame about my behavior” and “I felt disgraceful about myself”; regarding regret, “I felt regret for my behavior” and “I thought that I should have done other behaviors”.

*Causal attribution.* Three items in each situation assessed causal attribution, the degree to which participants attributed the cause of their negative emotions to internal and external factors after each experience. The items were constructed by the author based on attribution theory (e.g., Weiner, 1985). The three items were: regarding internal factors “I attributed it to myself”; regarding external factors “I attributed it to someone else’s fault” and “I attributed it to bad luck”.

*Methods for coping with negative emotions.* These items in each situation referred to participants’ relatively short-term adaptive functions to deal with the negative emotions (guilt, shame, regret) they felt. The items were constructed based on the concept of stress coping strategies (Folkman & Lazarus, 1980) and adaptive functions

(e.g., Tangney, 1995; Zeelenberg, 1999). The scale comprised two dimensions: a positive-negative dimension (i.e., accept sincerely what happened or minimize the experience) and a psychological-behavioral dimension (i.e., control and change thoughts or take any actions). The positive-psychological sub-scale assessed rationalization (“I thought that the experience might be beneficial for me in my later life”) and self-searching (“I introspected with regard to what I did or did not do”). The negative-psychological sub-scale assessed self-justification (“I felt like I could not have acted in any other way and that the situation was unavoidable”) and escapism (“I tried not to think about my failure”). The positive-behavioral sub-scale assessed apologizing (“I apologized for the trouble I had caused”). The negative-behavioral sub-scale assessed hiding (“I hid what I did, or did not do, from others, as I did not want anyone to know about it”) and doing nothing (“I did nothing special to cope with negative emotions”). Each sub-scale was composed of one item for each experience. However, apologizing for experiences involving a breach of rules was not measured because there may be no people to apologize to. The total number of items was seven in situation involving personal interaction and six in situation involving breach of rules (except apology).

*Negative emotions at the present time.* These six items in each situation measured the intensity of the negative emotions which participants felt at the present regarding their past experience. Each emotion was measured by two items: regarding guilt, “I feel guilt about my behavior” and “I blame myself and feel self-disgust”; regarding shame, “I feel shame about my behavior” and “I feel disgraceful”; regarding regret, “I feel regret for my behavior” and “I think that I should have done other behaviors”.

*Improving behavior.* Improving behavior refers to participants’ long-term adaptive behaviors. The two items in each situation assessed the degree to which the participants improved their own behavior to avoid the same types of experiences. The scale was composed of two items: “I will avoid repeating the same mistakes” and “I will change my own behavior if I get into the same situation where I have failed”.

## Results

### *Classification of guilt-producing experience in each situation*

Table 1 indicates the number of respondents reporting each type of experience of guilt and their age range at the time of experiencing each situation. The author and another person classified the experiences. For experiences in situation involving personal interaction, 22 of the 138 respondents (15.9%) reported that their experience of greatest guilt involved someone becoming “injured (I injured someone at play, during sports, and in accidents)”, 14 (10.1%) reported “bullied (I bullied my classmate at school)”, 14 (10.1%) reported “broke promises (I broke a promise I had made to my friends and parents)”, 13 (9.4%) reported “quarreled (I quarreled with my friend and parents)”, 10 (7.2%) reported “love (I separated from my lover and I went out with person I don’t like very much)”, 9 (6.5%) reported “made trouble (I bothered someone because of my mistakes)”, 7 (5.0%) reported “told lies (I told a lie to my friends and parents)”, and 21 (15.2%) gave other responses. Non-respondents, including respondents whose answers we could not classify, were 28 (20.3%).

For experiences in situation involving a breach of rules, 36 of the 138 respondents (26.1%) reported that the greatest guilt they experienced was when they “broke the law” (30 of the 36 answered stole or shoplifted), 15 (10.9%) reported “breached rules (I breached school rules and social conventions, e.g., going to school with cell phone and littering)”, 10 (7.2%) reported “traffic offenses (I jumped a red light and speeded)”, and 13 (9.4%) gave other responses. Non-respondents, including respondents whose answers we could not classify, were 64 (46.4%).

Many respondents reported more guilt when they did something that they should not have done such as “break a law,” “injured,” “bullied,” and “quarreled” than when they omitted to do something, such as “broke a promise.” Relatively more respondents reported “broke a law in elementary school” (13.8%) and “injured someone in elementary school” (10.1%), suggesting that in comparison to guilt related to omissions, guilt about commissions remained over time.

Table 1. *Number and Age of Respondents for Reported Guilt Experiences (N=138)*

<u>Experiences in situations involving personal interactions</u>						
<u>Content:</u>	<u>Age 6-12</u>	<u>Age 13-15</u>	<u>Age 16-18</u>	<u>Over 18</u>	<u>Unknown</u>	<u>Total (%)</u>
Injured	14	4	1	2		22 (15.9)
Bullied	5	8	1			14 (10.1)
Broke promises	3	1	3	7		14 (10.1)
Quarreled	2	4	5	2		13 (9.4)
Love		2	3	5		10 (7.2)
Made trouble		2	2	4	1	9 (6.5)
Told lies	3		3		1	7 (5.0)
Other responses	7	2	7	4	1	21 (15.2)
Non-respondents	-	-	-	-	-	28 (20.3)
<u>Experiences in situation involving breach of rules</u>						
<u>Content:</u>	<u>Age 6-12</u>	<u>Age 13-15</u>	<u>Age 16-18</u>	<u>Over 18</u>	<u>Unknown</u>	<u>Total (%)</u>
Broke law	19	6	6	5		36 (26.1)
Breach of rules	2	5	4	4		15 (10.9)
Traffic offense		2	2	6		10 (7.2)
Other responses	2	3	2	5	1	13 (9.4)
Non-respondents	-	-	-	-	-	64 (46.4)

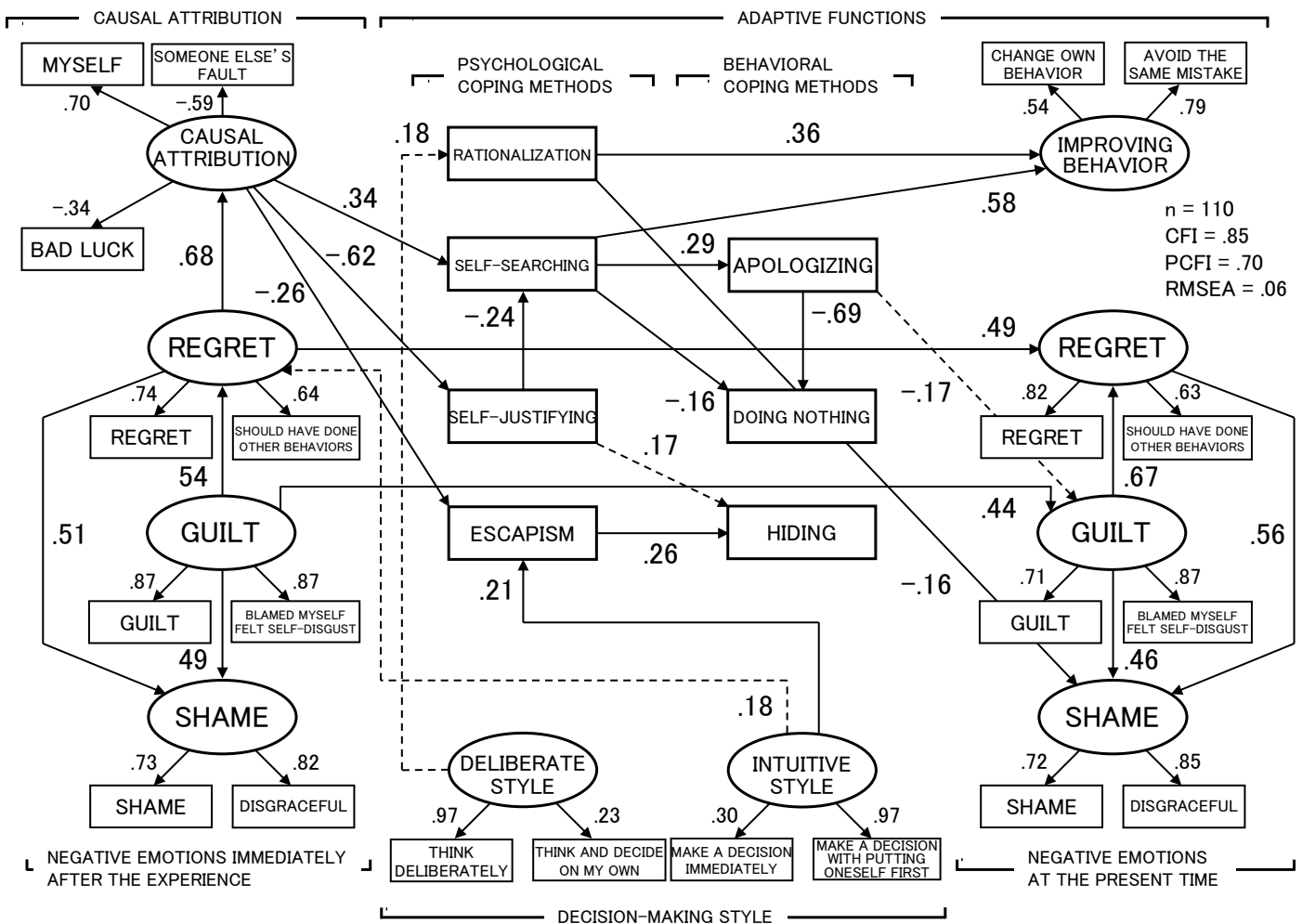
### *Negative emotion coping processes*

The following assumptions were made with regard to determining the relationships among decision-making style, negative emotions (guilt, shame, regret) immediately after the experience and at the present, causal attribution, negative emotion coping methods, and improving behavior. It is assumed that negative emotions immediately after the experience affect negative emotions in the present, and improving behavior is mediated by causal attribution and negative emotion coping methods. This is a general assumption based on psychological processes used to cope with emotion (e.g., Tangney, 1995; Zeelenberg, et al., 1998). Especially regarding relationships between negative emotions and causal attribution, it is assumed that negative emotions immediately after an experience affect causal attribution, because causal attribution in this research was assessed from participants' thoughts only after they felt negative emotions. In addition, regarding relationships between causal attribution and negative emotion coping methods, it is assumed that causal attribution affects behavioral coping mediated by psychological coping because psychological coping involves more concrete thoughts or attitudes than causal attribution and behavioral coping involves behaviors but not thoughts and

attitudes. For the relationships among negative emotions, it is assumed that guilt affects regret and shame because participants were asked about incidents where they felt the greatest guilt.

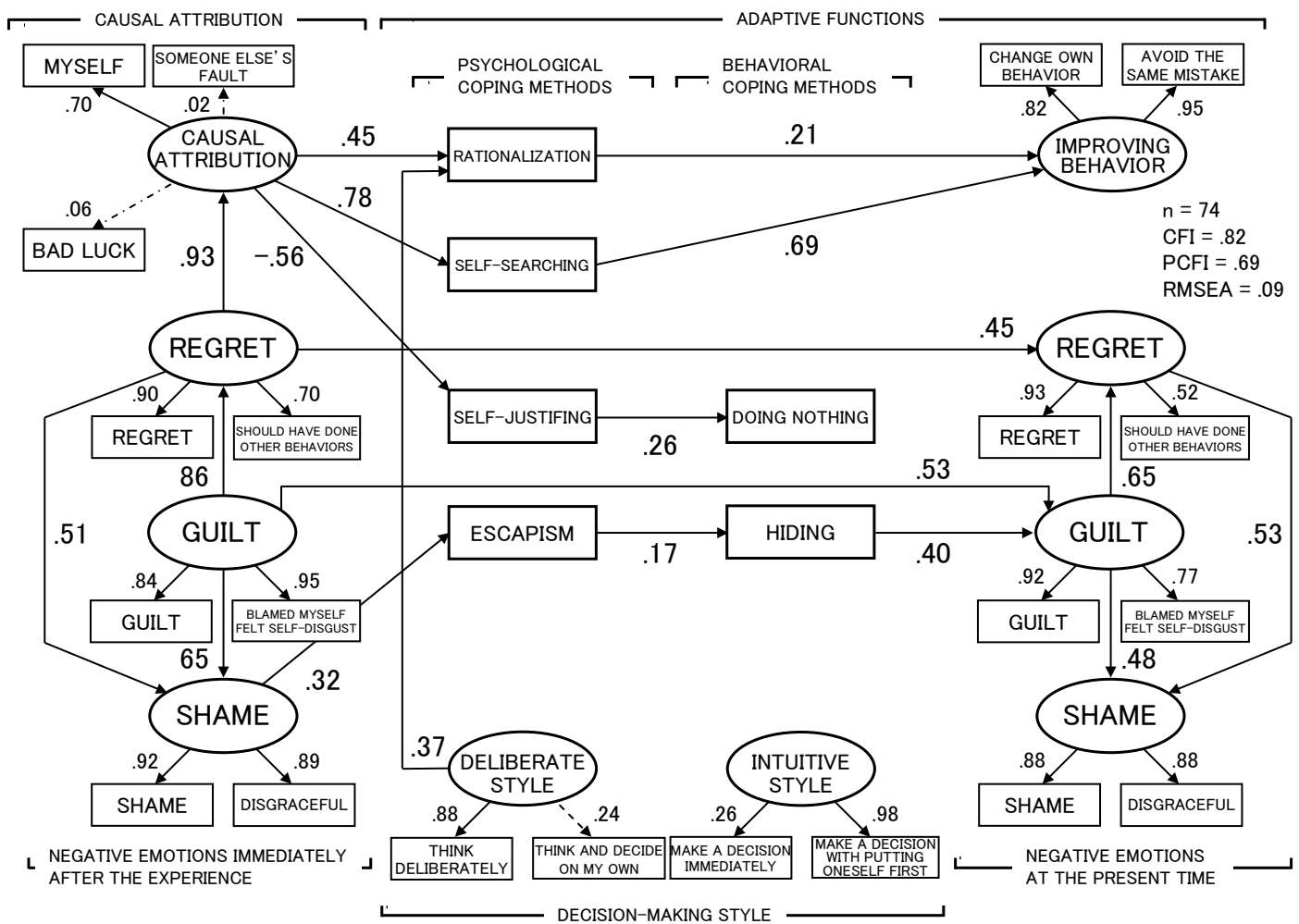
The data (excluding non-respondents) were analyzed using structural equation modeling (Bollen, 1989) based on the above assumptions about guilt following experiences involving personal interaction and experiences involving breach of rules ( $n = 110$  and  $74$ , respectively). Figures 1 and 2 depict the relationships between the different factors (Amos 7.0 statistical software package). In the figures, the explicit variables are indicated by rectangles and the implicit variables by ovals. The standardized path coefficients between variables with solid lines are significant at  $p < .05$  and the coefficients with broken lines are marginally significant at  $p < .10$ , except for the coefficients between causal attribution and the explicit variables in Figure 2 which are not significant. The error variables with explicit and implicit variables are not indicated in the figures. It assumed that the correlations between the error variables are 0.

Figure 1. Structural equation model for experience in situations involving personal interaction



Note: The ovals represent latent variables and the rectangles represent observed variables. Every error variable that affects latent and observed variables in the figure has not been provided. Each path coefficient is standardized. Path coefficients with solid lines are significant at  $p < .05$ . Path coefficients with broken lines are marginally significant at  $p < .10$ .

Figure 2. Structural equation model for experience in situation involving the breach of rules



Note: Path coefficients with broken lines between causal attribution and the explicit variables are not significant.

Figure 1 depicts the relationship between all the factors for experiences involving personal interaction. The indices of goodness of fit are as follows: CFI = .85, PCFI = .70, and RMSEA = .06. Appendix 1 gives the means and standard deviations of each item and the correlation coefficient matrix. Figure 2 depicts the relationships between all the factors for experiences involving breach of rules. The indices of goodness of fit are as follows: CFI = .82, PCFI = .69, and RMSEA = .09. Appendix 2 gives the means and standard deviations of each item and the correlation coefficient matrix. The results indicate that the relationships among the factors for experiences involving breach of rules are basically the same as the relationships for experiences involving personal interaction.

With regard to relationships between negative emotions immediately after the experience and causal attribution, guilt affected causal attribution mediated by regret. This means that people who felt guilt tended to feel regret and they tended to attribute responsibility for what they had done and the reasons why they had felt negative emotions to themselves, and not to other people or to bad luck.

For relationships between causal attribution, negative emotion coping methods, negative emotions in the present, and improving behavior, causal attribution affected negative emotions in the present and improving behavior which were mediated by negative emotion coping methods. This suggests that people who attributed the cause and the fault to themselves tended to reflect on what they had done, but without justifying themselves. People who reflected on or rationalized about their past guilt experiences tended not to repeat the same mistakes and tried to improve their behaviors. People who reflected on their conduct tended to have reduced shame in the present. In addition, people who reflected tended to apologize to other people who were damaged by their behavior, which reduced their present level of guilt.

Regarding relationships between decision-making style and other factors, people with an intuitive decision-making style tended not to think about their failures. People with a deliberate decision-making style tended to think that their experience may be beneficial for them in their later lives.

Finally, with regard to the causal models, the indices of goodness of fit were not as good as they might be because the author placed the most emphasis on clarifying the relationships between all the factors, which involved using many implicit and explicit variables, rather than seeking causal models with higher indices of goodness of fit by eliminating factors. Nevertheless, the overall results supported the hypothesis of this research because the indices of goodness of fit were better than for other causal models. For example, using the assumption that causal attributes affect negative emotions immediately after an experience involving personal interaction, the indices are CFI=.83, PCFI=.69, RMSEA=.07, and AIC=689.50. In comparison, for this research assumption the indices are CFI=.85, PCFI=.70, RMSEA=.06, and AIC=676.81. Therefore, it seems that the causal models which were developed in this study have validity.

## Discussion

This research clarifies in a comprehensive and systematic fashion the coping processes dealing with various negative emotions. With regard to the relationships between decision-making style, negative emotions, causal attribution, negative emotion coping methods, and improving behavior in two situations of guilt-provoking experiences, the following results were obtained. Negative emotions immediately after an experience affected negative emotions in the present and improving behavior, mediated by causal attribution and negative emotion coping methods. This means that by attributing the causes of the felt negative emotions to the self, negative emotion coping methods work, and then negative emotions are reduced and behaviors are improved.

In addition, the present research indicated that attributing failures to the self is affected by the strength of regret, which is affected by guilt. Epstude and Roses (2008) and Zeelenberg (1999) suggested that counterfactual thinking elicited by regret prompts people to reflect on their conduct and to improve their behavior. Tangney (1995, 2003) suggested that guilt may facilitate adaptive functions such as apologizing, while shame may facilitate non-adaptive functions such as escaping and hiding. The present research clarifies these relationships; guilt does not directly promote adaptive functions such as positive coping methods. Regret is affected by guilt and causal attribution affects negative emotion coping methods. Then these coping methods reduce negative emotions and lead to improved behaviors. Shame promotes negative coping, such as escaping and hiding, and these coping behaviors increase shame in the present.

With regard to decision-making style, a deliberate decision-making style influenced positive coping methods, such as rationalization. This is consistent with the results of Ueichi and Kusumi (2004).

Thus it appears that it is necessary to feel guilt and regret about misbehavior, and then to attribute the

misbehavior to one's own faults, in order to reduce negative emotions, to cope well with failure, and not to repeat the same behaviors.

Future research could examine the effects of negative emotion coping methods on negative emotions in the present, and whether these differ between experiences involving personal interaction or breach of rules. Such a difference might be due to self-efficacy (e.g., Bandura, 1986; Bandura & Cervone, 1983). For experiences involving personal interaction, the guilty party knows other people who were hurt or troubled. Therefore, it may be feasible to identify the effects of positive coping methods, such as self-reflection and apologizing which reduce negative emotions. For experiences involving breach of rules, it may be hard for the guilty party to comprehend the effects of the behavior because the other parties who suffer damages are not identified. Therefore, the effects of positive coping methods for reducing negative emotions in the present might be relatively small.

It is likely that the effectiveness of coping methods for reduction of negative emotions depend on not only quantity (extent of use) but also quality (situational or heart-felt) and the time frame for using them. For example, in a case where people reflected briefly in a makeshift manner after they misbehaved and felt guilt, the reflection may have only a minor effect in reducing guilt. Therefore guilt might increase again, although guilt may have decreased temporarily. In a case where people have been reflecting intensively and genuinely after they made a mistake and felt regret, their reflection may have a big effect reducing their regret at that time. However, by continuing to reflect on what they had done, some of them may be increasing their regret over time. On the other hand, this research indicates that negative psychological coping methods, such as escaping, increase guilt. However, when individuals have been trying not to think about their faults for a considerable length of time, their negative emotions might disappear. Additional research would be helpful to clarify the effects of the quality of coping methods and the time of their use for the reduction of negative emotions and improving behavior.

Finally, it is possible that the questionnaire items for negative emotions immediately after the experience, causal attribution, and negative emotion coping methods were not accurately measuring the feelings or thoughts at that time because they were assessed by recall. For each factor, a few typical and abstract items were used for measurement because it is too costly to make concrete items which apply to all types of guilt-eliciting experiences. The causal models were not demonstrated for all different specific contents of guilt (e.g., injured, broke promises, shoplifting, or traffic offenses) or for all age groups. Therefore, it is necessary to examine negative emotion coping processes using empirical approaches and longitudinal investigations (e.g., follow-up research) with many items to measure the factors related to more specific content or types of guilt for all age groups. In addition, there may be dual negative emotion coping processes: a conscious and subconscious coping process. The conscious coping process may manage negative emotions by controlling each factor, for example by changing or improving one's thoughts (e.g., change causal attribution to own failure from external to internal). The subconscious coping process could involve cognitive dissonance reduction (e.g., Festinger, 1957). The present research only focused on conscious processes.

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## Appendix

*Means and standard deviations of each item and correlation coefficient matrix for experience in situation involving personal interaction (n = 110)*

Item	Mean	SD	Item 1	2	3	4	5
Decision-making style (predisposition)							
Deliberate style							
1. Think deliberately	3.77	1.03					
2. Decide on one's own	3.61	1.13	<b>.23</b>				
Intuitive style							
3. Make a decision immediately	3.30	1.24	-.05	.16			
4. Decide with putting oneself first	3.58	1.10	.09	.16	<b>.29</b>		
Negative emotions immediately after the experience							
Guilt							
5. Felt guilt	4.30	1.04	-.14	<b>-.22</b>	.59	.04	
6. Blamed the self and felt self-disgust	4.06	1.15	-.14	-.03	.05	-.02	<b>.67</b>
Shame							
7. Felt shame	3.92	1.31	-.07	-.08	.08	.11	<b>.39</b>
8. Felt disgraceful	4.04	1.18	-.11	-.18	.05	-.03	<b>.40</b>
Regret							
9. Felt regret	4.25	1.14	.06	-.08	.08	<b>.21</b>	<b>.28</b>
10. Should have done other behaviors	3.96	1.29	-.02	-.03	-.04	.12	<b>.32</b>
Causal attribution							
11. Attribute to self	4.19	1.12	-.03	-.08	.01	.04	.18
12. Attribute to someone else's fault	2.12	1.35	.03	-.13	.10	-.10	.00
13. Attribute to bad luck	2.23	1.39	-.02	.03	<b>.20</b>	.05	-.01
Negative emotion coping methods							
Positive-psychological coping							
14. Rationalization	3.75	1.29	.17	.00	-.07	.04	-.10
15. Self-searching	4.22	1.10	.11	-.02	-.06	.02	<b>.24</b>
Negative-psychological coping							
16. Self-justification	2.10	1.28	-.03	-.12	.10	.00	-.15
17. Escapism	3.07	1.43	-.03	-.02	<b>.19</b>	.18	.01
Positive-behavioral coping							

18. Apologizing	3.17	1.71	-.06	-.08	-.01	-.12	.02
Negative-behavioral coping							
19. Hiding	2.42	1.45	.10	-.12	.04	.06	-.04
20. Doing nothing	2.88	1.59	-.08	-.04	.10	.05	-.00
Negative emotions at the present time							
Guilt							
21. Feel guilt	3.31	1.41	-.09	<b>-.21</b>	.05	.07	<b>.41</b>
22. Blame the self and feel self-disgust	2.97	1.46	-.10	-.09	.09	.16	<b>.30</b>
Shame							
23. Feel shame	2.90	1.37	-.16	-.10	.16	<b>.27</b>	.17
24. Feel disgraceful	3.28	1.41	-.10	-.17	<b>.20</b>	.11	<b>.25</b>
Regret							
25. Feel regret	3.05	1.45	-.08	<b>-.23</b>	.06	.12	<b>.35</b>
26. Should have done other behaviors	3.52	1.43	-.12	-.17	.07	.01	<b>.32</b>
Improving behavior							
27. Change own behavior	4.05	1.21	.18	-.02	-.07	.04	.12
28. Avoid the same mistake	4.30	.93	.03	-.02	-.05	.01	.18

Item	6	7	8	9	10	11	12	13	14	15	16
7.	<b>.53</b>										
8.	<b>.48</b>	<b>.56</b>									
9.	<b>.36</b>	<b>.39</b>	<b>.44</b>								
10.	<b>.22</b>	<b>.22</b>	<b>.45</b>	<b>.44</b>							
11.	<b>.21</b>	<b>.28</b>	<b>.39</b>	<b>.41</b>	<b>.28</b>						
12.	<b>-.07</b>	<b>-.23</b>	<b>-.30</b>	<b>-.24</b>	<b>-.24</b>	<b>-.39</b>					
13.	-.02	-.3	-.15	.02	-.08	<b>-.21</b>	<b>.25</b>				
14.	-.10	-.13	-.03	-.05	.05	-.01	-.01	-.16			
15.	.22	.15	.19	<b>.42</b>	<b>.22</b>	<b>.34</b>	<b>-.21</b>	-.08	-.11		
16.	<b>-.20</b>	<b>-.24</b>	-.16	<b>-.38</b>	<b>-.16</b>	<b>-.40</b>	<b>.37</b>	<b>.36</b>	-.05	<b>-.45</b>	
17.	-.06	-.00	-.07	.14	-.10	-.15	<b>.25</b>	.18	-.11	-.14	.12
18.	.01	-.05	.03	.09	-.03	.12	<b>-.21</b>	.02	.07	<b>.29</b>	-.04
19.	-.11	.02	-.03	-.04	-.09	.02	.08	.13	.02	-.11	<b>.21</b>
20.	-.07	-.04	-.3	-.16	-.07	-.11	<b>.28</b>	.06	-.17	<b>-.36</b>	.15
21.	<b>.32</b>	<b>.20</b>	<b>.32</b>	<b>.27</b>	<b>.24</b>	.16	-.13	<b>-.24</b>	.02	.18	-.15
22.	<b>.27</b>	.05	<b>.19</b>	.10	.16	.18	-.10	<b>-.27</b>	-.11	.12	-.16
23.	.19	<b>.25</b>	<b>.24</b>	<b>.19</b>	.18	.16	.01	-.06	<b>-.20</b>	.15	-.13
24.	<b>.22</b>	<b>.20</b>	<b>.41</b>	<b>.31</b>	<b>.32</b>	<b>.30</b>	<b>-.27</b>	-.18	-.15	<b>.26</b>	-.16
25.	<b>.31</b>	<b>.25</b>	<b>.41</b>	<b>.36</b>	<b>.33</b>	<b>.31</b>	-.11	<b>-.20</b>	.00	<b>.21</b>	-.19
26.	.14	.16	<b>.23</b>	<b>.26</b>	<b>.58</b>	<b>.21</b>	<b>-.20</b>	-.10	.04	<b>.33</b>	<b>-.22</b>
27.	-.03	.10	.19	<b>.37</b>	<b>.35</b>	.07	-.12	-.10	<b>.22</b>	<b>.26</b>	<b>-.22</b>
28.	.16	.16	.18	<b>.33</b>	<b>.30</b>	.04	<b>-.20</b>	<b>-.24</b>	<b>.22</b>	<b>.45</b>	<b>-.36</b>

Item	17	18	19	20	21	22	23	24	25	26	27
18.	-.05										
19.	<b>.28</b>	-.13									
20.	.13	<b>-.73</b>	.18								
21.	-.05	-.02	-.11	.05							
22.	-.06	<b>-.20</b>	-.13	.12	<b>.58</b>						
23.	.04	<b>-.26</b>	-.04	<b>.24</b>	<b>.47</b>	<b>.64</b>					
24.	-.15	-.03	-.18	.05	<b>.54</b>	<b>.66</b>	<b>.65</b>				
25.	-.11	.01	-.09	-.02	<b>.62</b>	<b>.52</b>	<b>.56</b>	<b>.65</b>			
26.	-.14	-.02	-.09	.01	<b>.40</b>	<b>.36</b>	<b>.38</b>	<b>.49</b>	<b>.50</b>		
27.	-.09	.16	-.07	<b>-.19</b>	.16	.05	.14	<b>.19</b>	<b>.24</b>	<b>.36</b>	
28.	-.10	<b>.21</b>	-.13	<b>-.25</b>	<b>.22</b>	.06	.00	.14	.14	<b>.30</b>	<b>.41</b>

Note. Minimum score = 1 and maximum score = 5. Correlation coefficients with  $|r| \geq .19$ , rounded off to two decimal places. Those presented in bold type are significant at  $p < .05$ .