

The role of sensory experiences and emotions in craft practice.

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Abstract: Emotions have traditionally been overlooked in the practice of scientific research. In the field of design and craft research, too, personal feelings and emotions have been considered as interfering with the rigour and validation of the research. However, as a result of findings in neuroscience, a new understanding has emerged, providing emotions a central role in risk assessment and decision making processes. This has implications also for how we understand craft practice. In this practice-led research, a craft practitioner analysed five video-recordings of herself while throwing clay blindfolded. The researcher-practitioner specifically studied critical incidents in the throwing process and made a detailed analysis of how felt experiences and emotions guided her in her risk assessment, decision making and problem solving processes during the throwing sessions. The research suggests that sensory experiences and emotions moderate and guide the making process and are thus important factors in craft practice.

Keywords: Craft-practice, critical incidents, emotions, decision making

1. Introduction

Emotions and feelings have traditionally been overlooked in science (Damasio 1994; 1999; Niedderer & Townsend 2014) and thought of as interfering with logical thinking and an objective stance (Damasio 1999, p. 39). In the field of Design, too, it has been said that general accounts on experiential feelings are less interesting than the meaning of that experience, that is, the content (Biggs 2004, pp. 3-4). However, research work on the theory of somatic markers by neuroscientist Antonio Damasio (1994) in particular indicates that feelings, which arise in the body of the subject, are important in decision making processes (pp. 173-175). This aspect is also interesting from a design- and craft research perspective, as there are now several examples of research where emotions and feelings are elaborated



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on as contributors to knowledge in the field (Groth, Mäkelä & Seitamaa-Hakkarainen 2015; Niedderer & Townsend 2014; Seitamaa-Hakkarainen, Laamanen, Viitala & Mäkelä 2013; Mäkelä & Latva-Somppi 2011 etc).

Although it is natural to talk about emotions in an art context, and emotions are generally accepted in craft practice, the connection of emotions to the felt experience of a material are less elaborated on in design research. In user-experience tests and in co-design contexts, the felt feel and associations of the feeling of a product are considered important and well researched. However, in research on design and craft practice, the subjective sensory experiences of the maker are not recognised as important contributors to generalizable knowledge. Connecting emotions to decision making and problem solving in design and craft practice is perhaps elaborated on in general speech, in a studio setting, but not well documented in research. However, due to the relatively new possibilities for craftsmen to conduct research on their own practice in a systematic way, new knowledge now has an opportunity to emerge.

This present research investigates the role of emotions in the risk assessment and decision making process in clay throwing practice. The research questions were: 1) What are the emotions that arise from the tactual sensory experiences of a throwing event, especially during critical incidents? 2) How do these emotions, affect: **A** Risk assessment? **B** Decision making? **C** Problem solving? It is an analysis of the critical incidents (Flanagan 1954) occurring during five clay-throwing sessions, recorded during an earlier case study (Groth et al 2015).

The original case study was conducted in order to research the ways in which a crafts person *thinks through her hands* – in other words, aspects of embodied cognition in craft practice. The research design included blindfolding as a means to enhance the tactile aspects of the throwing experience. The idea for enhancing the tactile aspects and the whole research context is grounded in the author's basic doctoral research on tactile and embodied knowledge in crafts, and the related previous study on deafblind maker's ways of making sense through their enhanced tactile sensitivity (Groth, Mäkelä & Seitamaa-Hakkarainen 2013). This research is situated within a larger research project called *Handling Mind*, funded by the Academy of Finland, which aims to link together art- and craft research and neuroscience, focusing on the socio-emotional, embodied and brain-functional aspects of making with hands.

Methodologically, the study uses traditional methods for researching practice in design, such as activity sampling (Muukkonen, Hakkarainen, Inkinen, Lonka, & Salmela-Aro 2008), thinking aloud and protocol analysis (Ericsson & Simon 1993) and critical incidents (Flanagan 1954), coupled with less traditional and more experimental methods such as blindfolding. The use of video analysis software helped in studying the rapid progress of the throwing sessions and the thinking aloud accounts given by the researcher-practitioner during the events. By detecting the situations where emotions surfaced – the critical incidents – emotions connected to the felt experience of the material during the events were coded and

analysed in connection to risk assessment, decision making and problem solving. This research aims at exposing a fragment of this process and is seeking general aspects that could be applied to craft processes in a wider context. In the following, some theoretical starting points are first discussed and the general research setting and methods described. The data analysis is then discussed in greater detail, and, finally, the results are presented.

2. Embodied cognition and somatic markers

In design and craft practice, a great portion of knowledge making happens in the contact between body and material. In order to research this space, we need a theoretical frame that includes the body as a provider of information in this context. Phenomenology and embodied cognition theory introduce the body as a contributor to knowledge making. According to embodied cognition theory, we are a psychophysical whole, and all our knowing is reflected in and by our sensory experiences (Merleau Ponty 2013; Lakoff & Johnson 2003; 1999; Johnson 1987).

The philosophical strand of neuroscience that has embraced this idea is called Enactivism (Varela, Thompson & Rosch 1991). Enactivism applies the embodiment theory and explains that a person learns in action and accumulates knowledge through her embodied experiences with her surrounding environment (Varela et. al 1991; Noë 2009). This also means that without our body we cannot have any experiences; thus, the body is integral in all knowing (Johnson 1987; Varela et. al 1991; Noë 2009; Lakoff & Johnson 2003).

Emotions are enacted through the body, in, for example, facial gestures and body positions. Emotions are also felt in the body as cognitive neuroscientists Nummenmaa, Glerean, Hari, Hietanen (2014) have displayed in their seminal research on where in the body we feel different emotions. According to neuroscientist Antonio Damasio, emotions also arise in the body (1994, 1999). Feelings and emotions might be confused of being the same, but they are rather related and causal: emotions leads to feelings (Damasio 1999, pp. 31 & 36). Damasio is a researcher often referred to in embodied cognition theory as he also speaks for the embodied mind. He and his wife Hanna Damasio showed that decision making is connected to emotions in their article on Phineas Gage (Damasio, Grabowski, Frank, Galaburda, Damasio 1994).

Phineas was hit by a metal rod, which injured his front lobe, and could not make decisions after his injury. Damasio et al. (ibid) made a reconstruction of Phineas' injury and through research on subjects with similar injuries today, found that emotions were affected or even absent in these subjects, subsequently their ability to make even simple choices were complicated (ibid. pp. 44-45). This fact gave reason to believe that emotions are crucial in decision making processes and gave us a new understanding of the role of emotions within rational thought (Damasio 1999, p. 41). One of Damasio's central claims is also that bodily experiences generate emotions (gut feelings) that guide us in intuitive decision making, especially when the problem is closely related to our personal or social space (Damasio

1994, p. 169). Damasio calls this the 'Theory of Somatic Markers' (ibid, p. 165) and he explains it as follows:

In short, somatic markers are a special instance of feelings generated from secondary emotions. Those emotions and feelings have been connected, by learning, to predict future outcomes of certain scenarios. When a negative somatic marker is juxtaposed to a particular future outcome the combination functions as an alarm bell. When a positive somatic marker is juxtaposed instead, it becomes a beacon of incentive. (Damasio 1994, p. 174, italics in the original)

Somatic markers (Soma means body in Greek language) are important in the study at hand, because it seems that those experiences that are felt in the body of the maker are closely connected with the emotions that guide the maker in her risk assessment and decision making process and thus help her solve problems in her practice. This is not to claim that sensory experience and emotions are the same, but that they are closely linked and affect each other. Previously such knowledge, related to subjective bodily or sensory experiences and emotions during craft practice, has been out of the scope of research in the crafts.

Recently, due to the inclusion of art schools in the academic realm, craft practitioners themselves have also had the opportunity to research the tactile and tacit aspects of their profession in a practice-led setting. Some examples are Almevik, Jarefjäll, Samuelsson (2013) a research group who researched the tacit knowledge of craftsmen in the 1970s through enacting their actions in a documentary video. Erin O'Connor (2007) made an auto-ethnographic study on glass blowing by starting her apprenticeship in a glass blowing studio and reflecting on her experiences learning the craft. A practice-led self-study research setting (Pedgley 2007; Ellis & Bochner 2000; Pinnegar & Hamilton 2009) provides valuable new insights into what matters in craft, including emotions, sensory experiences and experiential knowledge.

3. Methods

This research analyses data collected during my practice-led, self-study research event performed in my studio as a researcher-practitioner. Over the course of five days, I threw 12-24 kg of clay, each day, on my potters' wheel, blindfolded. This was done in order to test the augmentation of my tactile sensibility and ability to control the clay throwing process entirely without eyesight, as visual input distracts awareness of tactile experiences (Gallace 2012). To further enhance the challenge of the task, and thus to highlight the expertise and amount of embodied knowledge needed to master the task, the clay chosen was specifically difficult to handle and the amount of clay was unusually large. I used a multi-method for collecting data during the event, including video-recordings with thinking aloud accounts, diary notes and a contextual activity sampling system (Cass Q), as described in a previous article (Groth et. al, 2015).

In the act of observing and reflecting on an activity, whether it is another person's or one's own, there are more and less important events mixed over time. It may be challenging to pay proper attention to the relevant issues: the incidents that change the situation or the course of the event. These events are called critical incidents, and the technique for studying critical incidents in human experience was developed by John C. Flanagan (1954). The technique consists of ways to identify incidents that have either a positive or a negative effect on the experience or on the outcome of an event. In the research at hand, the focus is placed on critical incidents that were producing a negative effect, as in the specific process of throwing the positive effects go quite unnoticed and do not create a researchable event as described above.

The *Interact* video analysis software was used and it allowed for the critical incidents to be indicated, and connected to the risk assessment and decision making activities. The video material from the five-day throwing event, 10h of 5 x 2h sessions of throwing clay was used. The part of the process where the clay was centred on the throwing board was omitted, due to there being no critical incidents detected, leaving only 5 x 1h sessions to analyse. From these videos, the critical incidents were separated and categorised into severity grades of 1-3.

4. Data analysis

When analysing the videos, it became clear that the critical incidents had different severities. Some were less severe, and the problems were solved easily, while others were of a more serious kind. The incidents were also either expected or unexpected, some started abruptly and some developed over time. The critical incidents were coded as following;

- Slow or Quick.
- Unexpected or Expected.
- Severity 1, 2 or 3.

The tactile experiences that were found in the analysis of the critical incidents were to do with the density of the clay material, that is, how hard or soft it was, and the wetness of the surface, that is, the stickiness of the clay at different times during the throwing process. Further, the position of the clay on the wheel, whether centred or not, was a clear factor in the critical incidents that would affect emotions in a negative or positive way. When it came to emotions, the most central involved confidence, stress levels or spirits. The activities of risk assessment, decision making and problem solving were known to play a part in the throwing process from the previous study of the same case (Groth et. al 2015).

The analysis process was helped by the frequent thinking aloud accounts. Emotions were also re-lived through the tactual memory that I had in connection to the events and knowledge of similar events in the past. Stress was physically experienced during the analysis process, and I went through the emotions of the events multiple times during the analysis process while tagging the codes to the video clip.

Video and spoken accounts have been analysed simultaneously as they affected the coding during the video-analysis, but spoken accounts or thinking aloud accounts have also been noted separately. The thinking aloud accounts were useful especially in the analysis of decision making, risk assessment and problem solving activities. They naturally occurred at different intensities and simultaneously throughout the whole process, but in the analysis conscious effort was made to separate them into order of intensity. The thinking aloud accounts helped in differentiating which activity was noted as the strongest of the three at any specific moment. These verbal accounts also spelt out what the immediate problems were and gave suggestions on dealing with them. The codes used in the analysis process were thus as shown in Table 1.

| |
|---|
| <p>Class: Tactual feel of clay: Density</p> <ul style="list-style-type: none"> •Code hard density •Code medium density •Code soft density |
| <p>Class: Tactual feel of clay: Stickiness</p> <ul style="list-style-type: none"> •Code dry surface •Code Semi dry surface •Code Wet surface |
| <p>Class: Tactual feel of clay: Position</p> <ul style="list-style-type: none"> •Code centred •Code almost centred •Code un-centred |
| <p>Class: Emotions: Confident</p> <ul style="list-style-type: none"> •Code confident •Code un-confident |
| <p>Class: Emotions: Spirits</p> <ul style="list-style-type: none"> •Code low spirits •Code high spirits |
| <p>Class: Emotions: Stress</p> <ul style="list-style-type: none"> •Code stressed •Code relaxed |
| <p>Class: Activity</p> <ul style="list-style-type: none"> •Code risk-assessment - notes on what risks were present and why •Code decision-making - notes on what decisions were made •Code problem-solving - notes on how it was solved |

Table 1: List of classes and codes used in analysis of video data.

All codes were provided with a code key that included a description for when the code would be applied. Also the coding of the video material was aided by the thinking aloud accounts that verbally described emotions and events as well as exclamations when things were either not working out as expected or when a problem had been solved. In the examples below, the types of critical incidents and some notes and quotes are displayed.

4.1 Examples of critical incidents on day one, two and five.

Day 1, 12 kg

Incident nr 2) Starting at 00:32:06, lasting for 1:12 min.

A slow starting, unexpected, severity level 2 critical incident.

Notes: The clay is too wet and soft to handle, it has gone soft while being centred and should have been harder to begin with. The pot is moving too quickly from side to side in an uncontrolled manner while being thrown and the clay is already losing its plasticity, giving me only a short time to work it. I stabilise the clay shape into a cylinder and solve the immediate risk of it collapsing but conditions are not good.

Quote at 00:33:54 "This is the point where I have to start working quickly, because the water, which I have to add quite a lot now, will make the clay so soft that I soon cannot work with it anymore. So, this is the critical moment I would say."

Incident nr 4) Starting at 00:33:56 lasting for 2:50 min.

A slow starting, expected, severity level 3 critical incident.

Notes: The clay is now so soft and un-plastic that it cannot adjust to my pushing at all.

Quote at 00:34:45 "The next actions will determine whether it is going to fail or succeed, because it's already quite an ugly pot."



Figure 1: Screen shot, day one, collapsing clay wall.

Notes: One side of the clay pot stretches out (see Figure 1) due to the centrifugal power from the spinning wheel, and I turn down the speed to be more in control, but it is too late. The clay starts tilting down on one side, the piece is lost and the process is interrupted.

Day two 12 kg

Incident nr 5) Starting at 01:19:52, lasting for 5 min.

A quick starting, expected, severity level 3 critical incident

Notes: Learning from yesterday's mistake of using too soft clay, I had wedged today's clay on a plasterboard to make it dryer and harder. Now this clay is much stiffer to work with and considerable pressure has to be applied to the clay to be able to move it. This affected the throwing board, making it loosen its grip from the actual wheel head and the whole board and clay piece became un-centred (Figure 2). I managed to push the board back into place and to press down on the whole piece to try to fasten the board again. Although this incident happened quickly it was expected as the clay that keeps the board attached to the wheel head has been drying overnight and the weight of the clay is very heavy.



Figure 2: Screen shot, day two, feeling the condition of the clay.

Day five 24 kg

Incident nr 18) Starting at 00:16:36, lasting for 1:10 min

A quick starting, unexpected, severity level 3 critical incident.

Notes: The board is not very well stuck on the throwing wheel, and the area of the thrown piece goes outside the area of the wheel head, so when throwing on the edge of the wheel the board tilted heavily, making the whole board and 24 kg of clay jump. Luckily, it did not move far out of place, and I solved the problem by pressing the clay down and avoiding pressing from the sides.

Quote at 00:16:43 "That was so scary. The board almost tilted. The clay is now a little bit un-centred, but... That was a major critical point. I definitely should be more aware of pressing from above at the same time as moving the clay sideways, otherwise that will happen again."

Incident nr 20) Starting at 00:37:06, lasting for 1.20 min

A slow starting, expected, severity level 1 critical incident.

Notes: The edge of the pot was becoming uneven due to the slightly un-centred position of the clay, but, more importantly, the edge was also becoming a bit too thin. I wanted to keep the edge thick so that the rim of the pot would not get a weak look. To solve this problem, I needed to cut off the edge, because pushing it further down just made it more uneven, it

being un-centred. Looking for the needle with which I could cut it took a while, but cutting the rim was easy (Figure 3) and did not create any further problems.



Figure 3: Screen shot, day five, cutting the rim of the clay pot.

Incident nr 23) Starting at 00:57:21, lasting for 1:16 min

A slow starting, expected, severity level 3 critical incident.

Notes: The clay is too soft to be thrown anymore (Figure 4). The wall of the pot is starting to sway from side to side, and the centrifugal force can easily bring the pot down if I continue to touch the clay. I make a last widening of the base to adjust the shape of the pot so that it becomes more cylinder-like.



Figure 4: Screen shot, day five, making decisions.

Quote at 00:58:33 “I think that’s all I dare to do.”

5. Results

The throwing process usually consists of the agenda of throwing a pot that includes the different stages from centring the clay, making a hole in the top of the clay, widening the form and shaping the base and then throwing the sides of the pot upwards. Critical incidents of differing severity occur within this process, and if these incidents are not too severe they may be dealt with and solved so that the process may continue until the next critical incident occurs. Some critical incidents are severe enough to affect the conditions of the process over the long term, even though the immediate problem is solved, thus making the following process prone to more frequent critical incidents.

The average critical incident during the measured period of five days, was slow, expected and rate 1. It was coupled by a relaxed and confident state of mind and problems were being solved in good (high) spirits. The clay was mostly soft and wet, and the clay was almost centred. It was only in the more severe critical incidents, of rate 2 or 3, where stress emerged and confidence was lost. My reflection is that the 1 or 2 level critical incidents are critical enough to affect a novice’s process, perhaps even to terminate it. The more severe level 3 incident may threaten the success of the throwing process of even a more advanced thrower.

The general rule was that if the critical incident started quickly, it was also unexpected, and if it started slowly it was expected. Only one case was slow starting but unexpected, and that was when the clay was too wet on the first day, and it had gone soft while being centred as it should have been harder to begin with. Similarly, only in one case did the critical incident

start quickly but remain expected, and that was when the board came loose, and the whole piece became un-centred. A quote from that incident: "I kind of expected this".

Out of the 23 detected critical incidents:

- 14 were expected
- 9 were un-expected
- 14 were slow
- 9 were quick
- 15 were severity class 1
- 3 were severity class 2
- 5 were severity class 3

In this table below (Table 2), the progress and coding of a level 3 critical incident is shown from beginning (left) to the end (right), displaying both the tactile experiences and emotions together with related actions. Stress, un-confidence and low spirits go hand in hand with risk assessment, followed by decision making and the attempt to solve the problem. In this incident, the problem is solved and spirits are recovered.

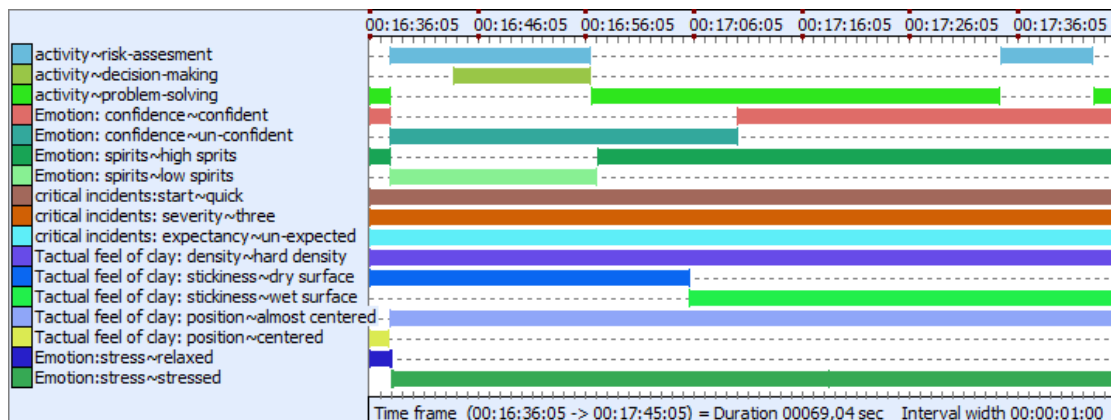


Table 2: Visualisation of concurrence of tactual feel, emotions and problem solving activities during a critical incident, day 5, incident 2.

In this table 3, another level 3 critical incident is presented. However, this particular incident is so disruptive that the making process is stopped.

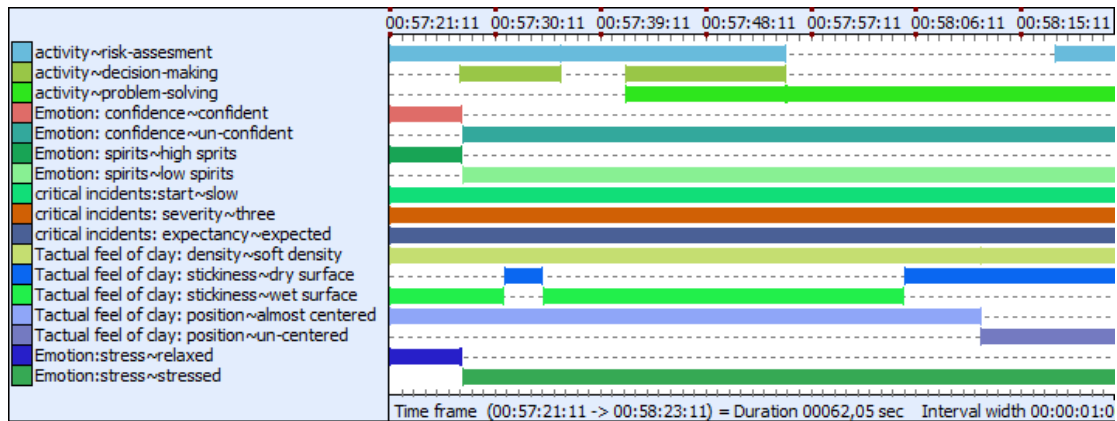


Table 3: Visualisation of concurrence of tactual feel, emotions and problem solving activities during a critical incident, day 5, incident 7.

6 Discussion

Generally, the felt experiences, emotions and activities followed a pattern: stress was almost always connected with low spirits and un-confidence, and these were present during the start of the critical incidents, especially so in the unexpected incidents and to a greater degree as the severity of the incident was higher, that is severity 2 or 3. In some of the expected and less severe incidents, the problems were solved without stress and in confidence and high spirits.

At the beginning of an incident, risk assessment was coupled with either decision making and / or problem solving. As the incident proceeded, more of problem solving and occasional risk assessment occurred. Risk assessment was generally combined with stress and un-confidence, but problem solving also appeared together with confidence and high spirits. During risk assessment, a slowing down of activities was observed. After a period of risk assessment, the decision making and problem solving face generally took over in a more active manner. Risk assessment continued occurring simultaneously with the problem solving process; the author reflects over this as a way to ensure that the decisions and problem solving strategies were still accurate and appropriate for the situation.

Generally, it was found that when the clay is centred, of a hard to semi-hard density and the surface is wet, conditions are optimal and small incidents are not experienced as severe. When conditions are the reverse, the activation of stress is closer at hand as a high risk of re-occurring critical incidents was expected. Previous critical incidents also work as a background reminder in a form of enhanced readiness and vigilance to avoid new incidents and to respect the conditions and the material. One example is this quote: “The tilting of the board really made me much more focused, and much more careful. Which reminded me of having to respect the conditions and the materials more.”

Low spirits were accompanying risk assessment and problem solving but could be understood to reflect the serious intent that I had to solve the problem, and reflect the

worry and stress that was experienced until the problem was solved. Although negative emotions, they helped me to concentrate and to make a proper effort in order to solve the problem and to avoid further risks. A quote from day four runs as follows: "I just have to be really careful and not make any mistakes".

It is not surprising that we use the same word "feeling" for both tactile sensations and emotions as they are very closely linked. The way something feels (tactile) affects the way we feel (emotional). This is an important aspect in the field of design and craft, and sensitive practitioners use this aspect in their careful selection of materials (Groth & Mäkelä 2014). We have many shared notions of the feel of materials that are triggered as mental images even when only mentioned in speech, such as velvet, skin or wet clay.

We may even feel the expected sensation in our bodies as we imagine what those materials feel like, because we have embodied this knowledge through previous experiences of these materials. Similarly, the feel of the material as it is actually touched give us both the tactile feel and emotion, and thus also the understanding of what this material has to offer us. For an experienced ceramist, the density of a bit of clay immediately gives an idea of what its possible uses are, together with an either positive or negative background feeling simultaneously. If the clay is too hard it is not good, it cannot be easily handed and needs to be soaked. If the clay is too wet it is also not good and it needs to be dried until workable. A perfectly smooth and dense bit of clay gives a good forecast for any project, and it is therefore experienced with positive emotions. This kind of notion may be linked to the theory of somatic markers and it was found that strong emotions connected to the possibilities of the material were experienced throughout the whole throwing process.

6.1 Emotions in the making

When conditions turned bad in the critical incidents, negative emotions and stress emerged, prompting actions to put things right again. The author here makes a connection to the theory that emotions are important in risk assessment as they help survival (Damasio 1999, p. 42). According to Damasio, feelings and emotions guide us in order to make us choose wisely, in life (ibid.). On a larger scale, this is a life-saving ability that we have as humans, and something we also share with other organisms. In craft, it is not that serious, but in a similar way emotions are adjusted to the threat of losing a piece that one has invested time and effort in. Survival in this context is to be able to continue the process and the success of the piece that is being manufactured. A quote from day five gives an example of this:

"So, it seems like I'm a bit braver now than before. Maybe I have lost respect for what I am doing. I should maybe take it easy and concentrate more, otherwise I will start making mistakes. I don't want to lose this piece now after centring it for... I don't know how long. It would be such a waste".

Quite often claims of fear emerged in the spoken accounts. The actual *fear* emotion was not coded in this analysis as it was considered to be included in the stress and notions of low confidence and perhaps too strong in expression. However, the words “I’m afraid” or “that was scary” appeared frequently – especially when an incident was sudden and severe. Further, the balance of being brave and careful was elaborated on frequently in the spoken accounts, as exemplified in an account from day five: “It’s difficult to be somewhere in between brave and careful. But that just what it’s about. Brave can all of a sudden be too brave, and careful needs to be not too scared.”

7. Conclusion

This research at hand has explored the role of emotions connected to tactual experiences and how they affect decision making and problem solving during a craft practice. The research was made possible by the practice-led self-study research setting, which opened up the experiential knowledge and possible expertise of the researcher-practitioner. Traditional methods coupled with more experimental ones provided new insights into the clay-throwing process, which, despite its long history, has been researched relatively little in depth. The results reveal that especially during critical incidents, emotions guide the practitioner in risk assessment and consequently aid the practitioner in the decision making and problem solving processes. The inclusion of emotions and subjective and bodily sensory experiences are thus highlighted as informants in the knowledge making process.

In short, the emotions that became the points for analysis were to do with confidence, spiritedness and stress levels. These emotions affected A) Risk assessment in the way senses were alerted and caution was implemented when encountering a critical incident. *Fear*, during un-confidence and stress, was found useful in the way it facilitated the problem solving and decision making process through a heightened vigilance and when successfully managing the situation, enabled a continuation of the making process. Emotions also affected B) Decision making in the way the “gut feeling” grounded in previous experiences gave intuitive reflections on how to act in this particular instance. Making the accurate (successful) decisions felt good. Finally, emotions affected C) problem solving by the slowing down of actions in order to give time for the proper movements needed for the particular situation. The actions for solving problems were grounded in previous experiences of similar events and their successful implementation in a new situation felt good.

As a result of this research, the author claims that emotions are important in risk assessment and decision making, and consequently also in problem solving in a making process. It is proposed that sensory experiences and emotions be given a new status when it comes to contributing to knowledge in design and craft research. The emotions involved in craft practice are not always as pleasant as often assumed. The challenge of mastering a complicated process can include fear of failure, stress, and disappointment as much as pleasure and satisfaction. The study of how the body, sensory experiences and the emotions that arise from a making situation affect the practice, is new in craft research. The theory of

somatic markers is a useful reference in this field as it supports the idea that emotions are valid informants. Through the inclusion of design and craft practitioners in the academic arena, there is an opportunity to access this aspect through the use of self-study or practice-led enquiry. It would be interesting to see a comparative study in a separate domain of making.

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