Driven or Lacking Access: Introducing Integration Types as a Subdimension of the Affect Consciousness Construct.

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Submitted as cand.psychol. thesis, Department of Psychology

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Abstract

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Supervisor: Ole André Solbakken

Objective: The present study introduces the concept of *integration types* - prototypical modes of experiencing and expressing specific affects - as a subdimension to the affect consciousness construct to account for differences in how problems with affect integration are manifested. We propose that distinguishing between two integration types, i.e. being *driven* by and *lacking access* to discrete affects, will yield a more nuanced understanding of affective functioning and its relation to relevant psychological processes. In this study we investigate the inter-relations between integration types across various affects and interpersonal dysfunction. More specifically, the aim of this study is to: 1) test the validity of integration type scales across discrete affects as operationalized in the affect consciousness model, and 2) examine the associations between integration types and specific types of interpersonal problems.

Method: This study used archival data from a non-clinical sample (N=157) who completed a battery of tests including the Affect Integration Inventory (AII 2.0) and the Inventory of Interpersonal Problems - Circumplex Version (IIP-64). To examine the internal structure aspect of construct validity for the integration types across affects, confirmatory factor analyses (CFAs) were performed by Structural Equation Modelling (SEM). First, integration type scales for discrete affects were analysed separately. Then, the overall structure of integration type scales was analysed by testing and comparing four theoretically plausible, competing models using common indicators of model fit. External criterion validity was examined through systematic tests of patterns of hypothesized associations between integration types and specific types of interpersonal problems. Pearson's *r* correlations were computed, along with z-tests of the statistical significance of differences in correlation magnitudes, and goodness of fit with optimal cosine curve functions peaking in separate and expected octants of interpersonal space based on the circumplex structural summary model.

Results: The results supported the validity and reliability of the integration type subscales. CFAs of the different scales indicated acceptable fit. For the competing models, the model with specified integration types outperformed other models of affect integration and had acceptable overall model fit after some modification. External criterion validity was supported by the demonstration of theoretically predicted and consistent patterns of convergent and discriminant associations between integration type scores and specific kinds of interpersonal problems. Specifically, distinct sinusoidal patterns of correlations were found for integration types for the various affects examined. All correlation patterns had good fit (GoF $\geq$ .91), with significant differences in magnitude between peak and low point correlations.

Conclusion: Our findings support the validity and reliability of the integration types construct, with satisfactory and theoretically sound internal structure and associations with external criteria. Distinct patterns of associations with interpersonal problems for the two integration types suggest that integration types enable researchers to uncover more differentiated associations with other psychological phenomena. The present study provides a preliminary validation of integration types as valid and useful constructs that elaborate and increase the explanatory value of the affect consciousness framework.

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This year ended up being very different from what we expected. Lockdowns and restrictions have made it a challenging time for everyone, and the theme of our thesis turned out to be very relevant. Trying times elicit new reactions and provide fewer distractions than what one might experience under normal circumstances, and we both agree that we during this time have gained more insight to our affective processes than ever before.

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Content

Introduction

Affect integration is defined as the functional integration of affect in cognition, motivation and behaviour (Monsen et al., 1996; Monsen & Monsen, 1999; Solbakken, Hansen, & Monsen, 2011). It refers to the way we experience, relate to and manage our affects, and is considered an important factor for well-being, mental health, and psychological functioning. Affect integration is thought to be central to the ability to understand and make use of the adaptive signal function of affects, which in turn guides the individual towards adequate adjustment to the environment, both in intrapersonal and interpersonal situations.

In the Affect Consciousness Model (Monsen et al., 1996; Monsen & Monsen, 1999), affect integration is operationalized through the Affect Consciousness (AC) construct. Researchers have established that affect consciousness is associated with a number of psychological processes and phenomena, including interpersonal difficulties, psychological distress, psychiatric symptoms, severity of personality pathology, self-image/self-esteem, psychopathy and somatization (Choi-Kain & Gunderson, 2008; Holmqvist, 2008; Lech et al., 2008; Normann-Eide et al., 2013; Solbakken et al., 2011; 2012; 2017; Waller & Scheidt, 2004). Among these, the studies addressing interpersonal problems reveal that low levels of affect integration are related to higher levels of interpersonal problems, but also that the specific type of interpersonal problem differs depending on the affect in question.

When examining affect integration, researchers investigate whether individuals have high or low levels of affect consciousness for a given affect. However, problems characterized by experiencing too much of an affect are not differentiated from problems with experiencing too little of it, even though these problems differ significantly at the experiential and behavioural level. This study introduces a new subdimension of the affect consciousness construct to account for these differences in how low affect consciousness can be experienced: integration types. Using scales from the Affect Integration Inventory 2.0, we propose a model that distinguishes between being *driven* by and *lacking access* to specific affects. We believe that the differentiation between integration types will contribute to a more nuanced understanding of how individuals experience and relate to their affects, in addition to enabling researchers to uncover more differentiated associations between affect consciousness and other variables.

This study aims to examine these issues through (1) investigating the conceptual soundness of two integration types, Driven and Lack of Access, across discrete affects using

confirmatory factor analysis (CFA), and (2) examining the patterns of associations between integration types and specific interpersonal problems to assess external validity.

Concepts and Definitions

There is little consensus in the psychological literature on how and when to use the different terms affect, emotion and feeling. As this study builds on the Affect Consciousness Model, we will primarily use the term affect. Tomkins (1962, 1963, 1991) conceptualized affects as evolutionary-rooted biological responses with inherent adaptive functions. When activated, affects contain specific motor-response patterns that generate sensory feedback and prototypical action tendencies. When referring to other theorists and studies, their original terminology will be used.

Affect Theory

In the field of affect theory and research, theorists like Silvan Tomkins and Caroll Izard are of particular importance. Through the affect and script theories, Tomkins (Demos & Tomkins, 1995; Tomkins, 1962, 1963, 1991) argued that the affect system is evolutionary based and functions as our primary motivational system. Affects have developed as specific responses to the external environment, aiding in solving problems of both physical and social survival (Darwin & Prodger, 1998; Keltner & Haidt, 1999). We *feel* our affects; they have an impact on us, they inform us of what is important and of relevance in our surroundings, and they help us navigate and adjust to change. As such, affects are adaptive. In Izard's (1991; 2007) differential emotions theory, it's emphasized that each affect has its own informational value and motivates a specific kind of behaviour. In addition, affects are activated in specific scenes. Since each affect is considered to have its own characteristic signal and motivational properties, Izard pointed to the importance of differentiating between affect categories. Recognizing which emotion is activated at a given moment will guide the individual towards what they need in the situation.

Experiences and interactions with significant others during our development contribute to form what Tomkins called *scripts* (Demos & Tomkins, 1995). These are generalized patterns of affective responses in the individual. They organize the way an individual reacts to, interprets and manages their affects, both implicitly and explicitly (Monsen & Solbakken, 2013). The shaping of these scripts is in large part dependent on childhood experiences with affect. Adequate emotional regulation from others in early development builds the foundation of the ability to self-regulate and to use emotions as informative signals and guides (Stolorow, 1987). Through others we learn how we "ought to" relate to and deal with our

affective states. This, in turn, is believed to be at the core of a sense of self, and how we see and interpret the world. It follows that a diminished ability to identify and express affects will make it harder to understand both oneself and the affects and intentions of other people (Keltner & Haidt, 1999).

A number of theories are concerned with the importance of managing and regulating affects for adequate functioning, both in intrapersonal and interpersonal terms (e.g. Greenberg, 2015; Gross, 2015; Monsen et al., 1996; Monsen & Monsen, 1999; Salovey & Mayer, 1990). One of these is The Affect Consciousness Model (Monsen et al., 1996; Monsen & Monsen, 1999), which integrates elements from Tomkins's affect- and script theory (Demos & Tomkins, 1995; Tomkins, 1962, 1963, 1991), Izard's differential emotions theory (Izard, 1991; Izard et al., 2011), and contemporary self-psychology (e.g. Stolorow, Brandchaft & Atwood, 1987). As the present study builds on the Affect Consciousness Model, its theoretical framework is presented in the following.

Affect Integration Theory and the Affect Consciousness Model

Affect integration refers to the individual's capacity to make use of the signal and motivational properties of different affects when interacting with the surrounding environment (Monsen et al., 1996). Whereas a sufficient level of affect integration means being able to use these signals in an adaptive and flexible way, *inadequate* affect integration for specific affects can inform us of what kinds of problems an individual is likely to encounter (Monsen & Solbakken, 2013; Solbakken et al., 2017).

As noted, the Affect Consciousness Model operationalizes affect integration through the affect consciousness construct (Monsen et al., 1996; Monsen & Monsen, 1999). Affect consciousness is defined as degrees of awareness, tolerance, non-verbal (emotional) and verbal expressivity for discrete affects. Awareness refers to whether the individual is able to recognize bodily and/or mental characteristics of an affect and use this to differentiate between affects. Tolerance refers to the ability to contain the affect and let it have an impact upon the self. Non-verbal expressivity refers to the individual's capability to acknowledge and show expressions of the affect in non-verbal behaviour, such as facial expressions, bodily posture and tone of voice. Verbal expressivity refers to the capacity to verbally articulate the affect through nuanced descriptions of the affective experience. Taken together, affect consciousness is thus the ability to recognize, tolerate, and adaptively communicate one's affects.

Integration types

The Affect Consciousness Model distinguishes between two prototypical modes in which affects can be maladaptively experienced and communicated: being *driven* by the affect and *lacking access* to it. These are called integration types and constitute prototypical, problematic ways of experiencing and expressing specific affects (e.g. being driven by anger). Being driven by an affect is characterized by being overwhelmed, including uncontrolled or unregulated acting on the impulses inherent in the affect. This is often displayed through words and actions that seem impulsive or uncontrolled. Lacking access to an affect denotes the opposite; the impulses and motivational elements of the affect are unavailable to the individual and are often converted to other (often maladaptive) experiences in which the intensity or information in the affect become distorted. For instance, anger and sadness may turn into resignation and hopelessness, shame may convert to self-loathing or confusion. Typically, if a person states that they never experience a specific affect or feeling, this may suggest that the access to the affect is diminished.

The integration types are comparable to other concepts in the psychological literature. Theoretically independent terms like over-regulation and under-regulation are frequently used to describe dysfunctional ways of managing affect and resemble the concepts of lacking access to and being driven by affects in the Affect Consciousness Model. In the latest revisions of the diagnostic systems ICD-11 (World Health Organization, 2020) and DSM-5 (American Psychiatric Association, 2013), these terms are used in the descriptions of various diagnoses. For instance, a core component of affective dysfunction in patients with personality disorder is the tendency to be under-reactive and/or over-reactive (Bach & First, 2018).

In the Window of Tolerance framework (Siegel, 2012) the two strategies are depicted through the idea that each of us has an optimal zone of activation. Being outside of the window of tolerance implies that one is either below or above the optimal zone of activation (hypoactivation vs. hyperactivation). In light of affect integration theory, hypoactivation would correspond to lacking access to an affect, while hyperactivation would correspond to being driven by an affect. When the affect is well-integrated, i.e. recognized, tolerated and adequately expressed, the individual would be within his or her window of tolerance for that affect.

Emotion regulation (Gross, 2015; Gross & John, 2002) also resembles the concept of integration types, as it describes different ways of dealing with affects. Emotion regulation strategies such as “distraction” and “suppression” describe behaviour that would be

categorized as degrees of lacking access to an affect in the affect consciousness model. As for being driven by an affect, examples of emotion regulation strategies include “rumination” or simply a lack of regulation. Though somewhat conceptually similar, an important difference between emotion regulation strategies and integration types is that emotion regulation theory presumes that individuals recognize their affects. Recognition is an important part of the affect integration process, but failure to recognize and correctly label one’s affect is not covered by emotion regulation theory. In this regard, emotion regulation is a narrower concept that describes aspects of affect consciousness, but in a more limited way than integration types.

Another partially overlapping construct is alexithymia (Bagby et al., 1994; Lesser, 1981). It has been described as the absence of affect consciousness (Choi-Kain & Gunderson, 2008) and involves difficulties with identifying, differentiating and describing emotional experiences. Both alexithymia and integration types thus represent descriptions of low affect consciousness. However, alexithymia is operationalized so that it closely relates to lacking access to affects. As such, alexithymia mainly captures this aspect of low affect integration.

Further, what separates the concept of integration types from other similar concepts is the emphasis in affect integration theory on the importance of differentiating between affects. Even though there is more or less consensus that different affects motivate specific interpersonal behaviour (see e.g. Izard, 1991), the differentiation between affects in scientific research has gained remarkably little attention. The studies that have been conducted, however, show that differentiating between affects yields more nuanced findings, and report this approach as an advantageous focus for future research (Augustine & Hemenover, 2009; Rivers et al., 2007; Vishkin et al., 2019; Webb et al., 2012). As such, the explicit focus on distinct affects in the affect consciousness model makes integration types a concept we believe is better suited to access the nuances of affective processes than other related concepts.

Measuring Affect Consciousness

Three measures have been developed to assess an individual’s level of affect integration: the Affect Consciousness Interview (ACI; Monsen et al., 1996, 2008), the self-report questionnaire the Affect Integration Inventory (AII 2.0; Solbakken & Monsen, 2013) and recently the short form version of the Affect Integration Inventory (AII-SF-42; Solbakken & Monsen, 2021). In this study, the AII 2.0 will be used. This instrument targets affect integration across nine discrete affects: interest, joy, fear, anger, shame, sadness, jealousy, guilt and tenderness. It also yields scores for the two integration types for a subset of the

affects, which will be the focus for this study. These include one or both integration types for the following five affects: anger, guilt, shame, interest and jealousy.

Interpersonal Problems

Interpersonal theory brings attention to the importance of social context in the development and maintenance of psychopathology. It is usually stated that interpersonal behaviours can be organized along two orthogonal dimensions, forming a two-dimensional space – a circumplex (e.g. Leary, 1957; Wiggins, 1991). In the circumplex model, interpersonal behaviour is viewed as a function of a vertical axis, commonly called "agency", and a horizontal axis, commonly called "communion" (Horowitz & Vitkus, 1986). The agency axis is considered a control dimension, characterizing behaviours ranging from domination to submissiveness. The communion axis is considered an affiliation dimension, comprising behaviours ranging from friendliness to hostility. Horowitz et al. (1988) developed the 64-item Inventory of Interpersonal Problems (IIP-64) as a means to measure problems arising in interpersonal interactions (later revised by Alden et al., 1990). In the IIP-64, the circumplex is divided into eight octants, each representing a different type of interpersonal problem. The closer the octants (and corresponding interpersonal problems) are to one another in interpersonal space, the more conceptually and statistically associated they are. Diametrically opposite octants are the least associated. The circumplex model makes it possible to derive what interpersonal problems are most prominent for a given individual.

According to Horowitz et al., (1988), interpersonal problems are among the most common complaints that patients bring to psychotherapy. This is evident both in clinical practice and in scientific research. For instance, the general criteria required to diagnose a personality disorder emphasize that the difficulties must be experienced in social situations, and that ways of relating to others is somehow impaired (World Health Organization, 1993). Further, interventions that target interpersonal skills and how to deal with affects are thought to be beneficial in preventing depression, indicating the important role of relational functioning in affective disorders (Christ et al., 2019).

Affects and Interpersonal Problems

A long line of literature has argued that affects influence and regulate social interaction (Darwin & Prodger, 1998; De Rivera & Grinkis, 1986; Frijda & Mesquita, 1994; Keltner & Haidt, 1999; Oatley & Jenkins, 1992). Smith and Weihs (2019) note that emotions convey

specific social information and that social processes are systematically related to emotional responses, thereby illuminating the intertwined and reciprocal relationship between emotions and interpersonal functioning. The way we experience and express our emotions are consequently important factors for efficient communication and social coordination (Van Kleef, 2016). Affect integration theory is concerned with how well the individual labels, copes with, and expresses affects. Adequately tolerating and communicating these will thus have a positive influence on the social environment and one's interpersonal relationships. Indeed, research on patients with affective and/or personality disorders support that focusing on affect consciousness in therapy is related to significant improvement in interpersonal functioning (Monsen et al., 1995; Solbakken et al., 2012).

Research on Affect Integration and Interpersonal Problems

To date, seven studies have examined the relationship between affect integration and interpersonal problems, as measured with the IIP-64 and the ACI or AII 2.0 (Lech et al., 2008; Normann-Eide et al., 2013, 2015; Solbakken et al., 2011; 2012; 2017; Solbakken & Monsen, 2021). Overall, these studies indicate that a) low affect integration is strongly related to higher levels of interpersonal problems, and b) the nature and type of interpersonal problems differ depending on which affect one examines. However, none of these studies have taken into consideration that affect integration can be divided into integration types. Instead, they have studied affect integration as a singular concept within and between affects, i.e. considering either high or low levels of affect consciousness for a given affect.

Studies have also been conducted on constructs similar to integration types and their relation to interpersonal function. Results from the aforementioned studies on affect integration mirror findings from the emotion regulation literature demonstrating that emotion dysregulation is associated with interpersonal problems and acts as a mediator between various psychological phenomena (such as psychiatric symptoms, attachment and adverse childhood experiences) and interpersonal problems (Adrian et al., 2011; Akyunus et al., 2020; Besharat et al., 2014; Graling, 2013; Herr et al., 2013; Keating et al., 2018; Poole et al., 2018; Wei et al., 2005). Some of these studies have focused on specific regulation strategies that resemble the integration types examined in this study. For instance, Keating et al. (2018) found that changes in the ability to clarify and describe one's affects (an aspect of the lack of access integration type) mediated the association between changes in attachment and changes

in interpersonal problems. Wei et al. (2005) found that emotional reactivity (resembling the driven integration type) and emotional cut-off (to some degree resembling lack of access) each mediated the association between specific attachment dimensions (attachment anxiety and avoidance, respectively) and interpersonal problems and negative mood.

Beames et al. (2019) reviewed research on different emotion regulation strategies on anger in interpersonal contexts. Two of the regulation strategies examined were suppression and angry rumination, which conceptually resemble aspects of the lack of access and driven integration types, respectively. They concluded that angry rumination increases anger and aggression towards others. The results for suppression were mixed, and there were limited data examining this regulation strategy. One study reported no effect of trait suppression on anger reactivity following provocation, in contrast to trait reappraisal (Memedovic et al., 2010). Another study reported manipulated suppression and rumination, and found that participants in the reappraisal group were less aggressive than those in the suppression group (Scott et al., 2015).

As noted, out of the two integration types, alexithymia can be considered an equivalent to lacking access to one's affects. Some researchers have investigated the relation between alexithymia and specific interpersonal problems. They have demonstrated that high levels of alexithymia are related to interpersonal functioning characterized by vindictiveness, coldness and non-assertiveness in samples of psychiatric patients and students (Inslegers et al., 2012; Spitzer et al., 2005; Vanheule et al., 2007; 2010). However, the studies on alexithymia do not differentiate between affect categories, nor do they address the phenomena of over- and under-regulation.

Discrete Affects and Interpersonal Problems

In affect integration theory, each of the affects is posited to have its own unique signal- and informational value, both for the individual experiencing them, and for the surrounding social environment. Hence a thorough discussion of these issues is necessary for understanding the relationship between the affects we investigate in this study and relational functioning. In this section, the phenomenology, as well as the adaptive and motivational properties of the five discrete affects (anger, guilt, shame, interest and jealousy), are addressed. Additionally, the different affects are discussed in terms of what interpersonal problems are believed to arise in relation to the two integration types *driven* and *lack of access.*

Anger

Anger is considered by most emotion theorists to be one of the primary affects. A common assumption regarding the main function of anger is that it helps us survive and protect ourselves and our loved ones, and is hence closely connected to self-preservation (Damasio, 1999; Ekman, 2004; Tomkins, 1991). It mobilizes energy and strength for physical, as well as psychological self-defence. According to Ekman (2004), anger gives us power to prevent ourselves from being exploited or invaded. Anger is also central when we feel violated or unfairly treated (Izard, 1991; Solbakken, 2013). As such, one can argue that anger plays an important role in regulating our sense of self and whether we consider ourselves worth fighting for (Normann-Eide, 2020).

Another way to understand anger is as a response to encountering physical or psychological obstacles, i.e. being blocked from a desired course of action or from obtaining a goal (Izard, 1991). Used in an appropriate way, anger assists us in being assertive and communicating boundaries when needed. If our repertoire of anger regulation strategies is flexible, chances are higher that we are able to maintain good social and relational functioning (Bonanno et al., 2004). Furthermore, heightened anger activation and suppression of anger over time may have a physiological impact that in turn contributes to emotional and/or physical health problems (Gunnar & Quevedo, 2007; Normann-Eide, 2020).

Earlier studies on discrete affects and relational problems have shown that a low level of general anger integration is associated with relational non-assertiveness (Normann-Eide et al., 2013; Solbakken et al., 2017). This corresponds well with what is theoretically expected for lacking access to anger. *Lacking access to anger* would leave the individual out of touch with his or her need to protect, stand up for, and/or fight for him- or herself, resulting in a tendency for submissive interpersonal behaviour.

Being *driven by anger*, on the other hand, would be theoretically expected to yield another, separate pattern of interpersonal behaviour. It's likely that this integration type will generate problems with controlling one's anger, possibly scaring others or at least making others anxious or cautious. Additionally, too much anger is theoretically parallel to too much self-assuredness, resulting in difficulties accepting normal social and relational restrictions. Thus, we hypothesize that being driven by anger will most strongly relate to domineering or controlling relational functioning.

Guilt

The principal cause of guilt is wrongdoing, usually in the sense of violation of ethical, moral or religious standards. Izard (1991) considered guilt as the key emotion in terms of

development of personal and social responsibility, and the phenomenon of conscience. The feeling of responsibility is central in facilitating behaviour that helps us minimize guilt, and this responsibility is believed to foster greater psychological maturity (Izard, 1991).

Unlike most affects, guilt doesn't have evidently distinctive facial expressions or body language, but is more commonly characterized through words and actions (Normann-Eide, 2020).

According to Baumeister et al. (1994), the function of guilt is relationship-enhancing, reflecting our need for social relationships and emotional bonds. The interpersonal functions of guilt, they argue, consist of eliciting signs of commitment and caring, and reducing emotional distress within the relationship. Additionally, inducing guilt in others can be used to exert influence over them. Guilt plays an important role in maintaining adequate relational functioning as it motivates us to rectify wrongdoings, to apologize and to restore the emotional bonds to the ones that have been wronged. It is further posited that guilt is adaptive and helps the development of empathic responses and caring for the well-being of others (Carnì et al., 2013). This is supported by research showing that a disposition towards guilt is related to empathy and consideration for others (Song & Shi, 2017).

Accordingly, different and distinct patterns of interpersonal behaviour can be expected for the two integration types of guilt. *Lack of access to guilt* is likely to result in a lack of consideration for others and a tendency for not taking responsibility for one's actions (Solbakken, 2013). The informational value of the affect would go unrecognized, unnoticed, or be disregarded by the individual, making it unclear to the self that one's actions have a negative impact on other people. The willingness to apologize and make amends will be diminished, along with the ability to show consideration and empathy. We therefore hypothesize that lacking access to guilt will be most strongly associated with interpersonal problems of cold dominance or vindictiveness.

Low integration in terms of being *driven by guilt*, on the other hand, is expected to have another set of behavioural outcomes. Excessive feelings of guilt would give an internal signal to the individual that they are responsible for even minor transgressions, also in situations where that is not the case. This would likely contribute to difficulties with asserting the self, speaking up or confronting others when necessary, as the individual would tend to feel as though he or she is guilty and principally responsible for what has transpired. In turn, a pattern of submissiveness, passivity and social withdrawal is likely to emerge. One can further speculate that too much guilt may leave the individual in need of constant reassurance, rendering him or her as needy or dependent. A guilt-prone person would

probably also be vulnerable to exploitation because of uneven understandings of transgressions or acceptable actions (Baumeister et al., 1994).

Shame

Shame is considered a highly painful affect, often accompanied by an intense sense of ineptitude. It involves a heightened consciousness about the self, or a specific aspect of the self (Izard, 1991). Worthlessness, social defeat, loss of dignity and respect are central aspects of this affect. The expression of shame is characterized by a lowered head, an averted gaze and the face turned away, sometimes accompanied by blushing (Darwin & Prodger, 1998). It sends a signal inward that increases our self-awareness, along with a signal outward communicating that we don't believe we are better than others (Normann-Eide, 2020). One may say that if guilt is about *doing* wrong, then shame is about *being* wrong: guilt is local, shame is global. With shame, the ability to think rationally often diminishes, and one's concerns about social evaluation and what impression one makes increases (Izard, 1991). We feel exposed; we want to hide and make ourselves invisible. Where guilt motivates reparation, shame often motivates withdrawal (Eisenberg, 2000).

According to Izard (1991) there are two main adaptive functions of shame. The first is social conformity, in the sense that being sensitive to others' opinions is a protection against exclusion from the group. The second is that it is a central motivational factor in the development of intellectual, social or practical competencies needed for the group to survive (as it would be considered shameful not to be able to contribute to the tribe). Along these lines, well-integrated shame can play an important role in both developing, maintaining and improving our self-concept and personal identity (Izard, 1991). It can inform us of our social position and guide future behaviour. Furthermore, Schore, (2012) argues that the withdrawal and passive coping mechanisms of shame contribute to energy conservation and restitution.

Having too much shame, or none at all, thus diminishes the informational value of the affect. Accordingly, the two integration types would have different implications for interpersonal problems. For *lacking access to shame*, several outcomes have been suggested. These include reduced sensitivity to social cues, loss of respect for the boundaries of others or low capability (or willingness) to conform (Solbakken, 2013). Accordingly, we would expect intrusive and possibly domineering behaviour as the main relational problem areas for this integration type. Being *driven by shame*, on the other hand, would make the individual vulnerable to feelings of worthlessness and overly concerned about social evaluation. It follows that interpersonal problems of withdrawal from, inhibition in, and avoidance of social encounters would be expected.

Earlier studies on relational functioning and affect integration have shown that low integration of shame in general is associated with social avoidance/inhibition (Solbakken et al., 2017). We believe that this pattern represents the interpersonal behaviour also characteristic of being driven by shame specifically, as the items measuring integration of shame in the AII 2.0 primarily describe problems that are characterized as the driven integration type.

Interest

Interest plays an important part in determining the content of our experience by directing our attention. In our everyday lives there is an abundance of stimuli we can attend to. Interest guides us through the landscape of these stimuli and helps us prioritize which ones to focus on (Izard, 1991). It also enables us to stay focused on an idea or a task we are interested in; without interest, sustained attention is difficult. Interest provides both the motivation and the focused attention required for acquiring skills and learning new things, and fosters intelligence and creativity. This is a vital part of how we lead our lives and has been important for our survival in evolutionary terms (Pinker, 2010). Interest also plays a role in our sense of self and identity, as we often identify with our interests. As Tomkins (1962) puts it: "I am, above all, what excites me." (p. 347).

Interest also plays an important part in early development. From infancy we are interested in novelty, change and other human beings (Izard, 1991). Cognitive abilities develop over time when a person persistently observes and interacts with the world around them. Interest spurs this type of interaction. It is essential for play, which is important for cognitive-linguistic and social-affective development (Fisher, 1992). The fact that human beings show a specific interest for other humans is very important for social development. It lays the groundwork for attachment, communication and relationships with other people, which is important both for survival in evolutionary terms and for each individual's health and well-being.

In psychopathology, interest appears to be involved in manic episodes of bipolar affective disorder (where it would represent the driven integration type) and in depression (similar to lack of access). These might portray extreme versions of the integration types of interest. Being *driven by interest* can involve being so caught up in an idea that an individual's judgement of the idea is impaired, and they don't sense that other people might not find it as interesting as they do. This can be perceived by others as a sign that the individual is only interested in their own opinions and is disinterested in other people's views, interests or even other people entirely. Being driven by interest may also manifest as persistently contact-

seeking behaviour that the individual fails to perceive as unwanted by the other person. As such, interpersonal problems of intrusive and domineering nature would be expected. *Lacking access to interest*, on the other hand, would involve passiveness, impaired ability to share one's own interest and excitement with others and possibly impaired sensitivity to other people's excitement and interest. A previous study has found that low affect integration of interest is associated with being socially avoidant (Solbakken et al., 2017). We expect a similar pattern for lack of access to interest in this study, since the AII 2.0 primarily focuses more on problems pertaining to lacking access to interest rather than to being driven by interest.

Jealousy

Jealousy can be defined as an emotional state resulting from a threat of loss of an attachment figure, particularly a relationship that is important to one's sense of self (Parrott & Smith, 1993). The threat can be either real or imagined, and in regard to the past, present or future. The jealous individual may feel paranoid and suspicious, have difficulties concentrating, have a heightened thought activity and fantasies about the significant others' thoughts and actions (Normann-Eide, 2020). It is common for jealousy to be regarded as a combination of other more basic affects, such as fear and anger. Elements of sadness and shame are also known to be part of the jealousy experience. Despite the co-occurrence of these other affects, Chung and Harris (2018) argue that jealousy also can be understood as a separate emotion, as it has its own specific characteristics, triggers, and action tendencies. In other words, jealousy is believed to have important adaptive functions that differ from its more basic affect components. Leahy (2018) posits that jealousy communicates that the other is of significant importance to us. Jealousy serves as a motivation to fight or work for our relationships and prevents a threatening liaison between a rival and a loved one (Chung & Harris, 2018; Solbakken, 2013). As such, well-integrated jealousy gives us the ability to protect our position and attachment bonds by keeping potential rivals away.

With this theoretical understanding of jealousy in mind, it is possible to postulate different interpersonal consequences depending on whether one is being driven by the affect or lacking access to it. For *lacking access to jealousy* it is posited that the individual has a heightened risk of being exploited (Normann-Eide, 2020). For instance, showing great amounts of affection without demanding reciprocity would make one vulnerable to being taken advantage of, or one may have difficulties recognizing when a relationship is threatened and in turn run a heightened risk of being replaced. Being *driven by jealousy*, on the other hand, can be expected to involve an increased need for control, possibly by threatening the

significant other (verbally or physically) to remain in the relationship, or acting hostile towards those considered rivals. Impulsivity and diminished ability to mentalize might also be plausible. Being driven by jealousy may also manifest through being overly emotionally dependent on the other. Paradoxically, all these action tendencies of low integration of jealousy may contribute to push the significant other away. Earlier studies on affect integration and interpersonal problems have shown that low integration of jealousy in general is most strongly associated with vindictiveness (Solbakken et al., 2017). As issues with being driven by jealousy are more common than lacking access, the AII 2.0 primarily addresses problems with the driven integration type.

Aims of the Study

In summary, different affects are believed to have distinct informational and motivational properties, guiding humans towards adaptive behaviour. The prototypical ways in which affects can be experienced and expressed, being *driven* and *lacking access*, are thought to yield different behavioural patterns. However, research on affect integration to date does not differentiate between these two representations of low affect integration. Whereas associations between affect integration in general and other psychological phenomena, including interpersonal problems, are well-documented, the specific integration types and how they relate to interpersonal problems have hitherto not been investigated. Accordingly, this is the first study seeking to validate the integration type concept. Two main issues are addressed: (1) the conceptual soundness of the two integration types Driven and Lack of Access across discrete affects, and (2) the patterns of associations between integration types and specific interpersonal problems.

Specific research hypotheses are presented below.

Research Hypotheses

Structural Validity: Factor Analysis

Internal validity is examined by performing confirmatory factor analyses of each of the integration type scales in the AII 2.0, as well as comparing four competing models of affect integration. The four competing models are all theoretically plausible models of the internal structure of scales from the AII 2.0. The models differ in how they propose that affect consciousness is structured; as global affect consciousness (one construct measuring affective functioning across all affects), as broad integration types (integration types that are not coupled with specific affects), as affect specific (affect consciousness for each affect

separately) or as integration types as theoretically outlined in this study (integration types coupled with specific affects).

We hypothesize that the models of integration type scales will have adequate model fit, and we expect the scales to have adequate internal consistency. We also predict that the model with integration types as outlined in this study will outperform the other three competing models of affect integration.

External Criterion Validity: Patterns of Association Between Integration Types and Interpersonal Problems

The hypotheses for testing external validity are divided in two. First, we predict associations between scores on integration type for discrete affects and overall level of interpersonal problems. Second, we hypothesize specific patterns of associations between the integration type of a given affect and different types of interpersonal problems. Based partly on previous studies and partly on the theoretical presentation above, we postulate hypotheses about the specific manifestation of these associations.

Associations with Overall Level of Interpersonal Problems. We expect that the overall level of interpersonal problems will be positively associated with integration type scales across affects. As such, we predict that being driven by a given affect will be positively associated with interpersonal problems in general (i.e. the higher tendency to be driven by an affect, the higher the level of interpersonal problems). We believe the same will be the case for lacking access to an affect (i.e. the higher the score on the Lack of Access scales, the higher the level of interpersonal problems).

Convergent and Discriminant Associations with Specific Types of Interpersonal Problems. The circular and circumplex composition of the IIP-64 makes it possible to test specific hypotheses about convergent and discriminant validity of the integration type scales. Specifically, we can predict individual sinusoidal patterns of correlations and expect these to peak in distinct and theoretically predicted octants (see e.g. Solbakken et al., 2011; 2017; Solbakken & Monsen, 2021). Assumptions can thus be made about what types of interpersonal problems are most and least strongly related to being driven by an affect and to lacking access to an affect. Substantial and significant associations with predicted and separate octant scores for the respective integration type of an affect will serve as support for convergent validity. Conversely, small and non-significant associations with opposing octants, together with the theoretically expected rank order of correlations, will serve as support for the discriminant validity of the construct. Systematic variation between the

patterns of associations for the two integration types will serve as further support for discriminant validity.

Due to the nature of the current version of AII 2.0, not all of the affects have data regarding both integration types. For those affects, we present the hypotheses of the patterns of the integration type available. For anger and guilt, both integration types are investigated. For interest, *lack of access* will be investigated. For shame and jealousy, being *driven* will be examined.

Anger. *Driven by Anger* is expected to have a correlation pattern peaking in the dominant (PA)[1] octant, with gradually lower correlations having a low point in the non-assertive (HI) octant. Lack of Access to Anger is expected to have a correlation pattern peaking in the non-assertive (HI) octant, with gradually lower correlations having a low point in the dominant (PA) octant.

Guilt. *Lack of Access* to Guilt is expected to have a correlation pattern peaking in the vindictive (BC) octant, with gradually lower correlations having a low point in the exploitable (JK) octant. Being Driven by Guilt is expected to have a correlation pattern peaking in the non-assertive (HI) octant, with gradually lower correlations having a low point in the dominant (PA) octant.

Shame. *Driven by Shame* is expected to yield a correlation pattern peaking in the socially avoidant (FG) octant, with gradually lower correlations having a low point in the intrusive (NO) octant.

Jealousy. *Driven by Jealousy* is expected to form a correlation pattern peaking in the vindictive (BC) octant, with gradually lower correlations having a low point in the exploitable octant (JK).

Interest. *Lack of Access to Interest* is expected to have a correlation pattern peaking in the socially avoidant (FG) octant, with gradually lower correlations having a low point in the intrusive (NO) octant.

[1] The interpersonal circumplex is commonly divided into eight octants and denoted in a counterclockwise fashion starting from the upper part of the agency axis with the abbreviations PA, BC, DE, FG, HI, JK, LM, and NO.

Method

Participants and Procedures

The data were collected at the University of Oslo and have previously been used in studies validating "The Affect Integration Inventory version 2.0" and linking it to interpersonal problems and somatic symptoms (Lødrup & Rauk, 2015; Solbakken et al., 2017; Solbakken & Monsen, 2021; Solem, 2015). A total of 157 participants from a community sample anonymously completed a questionnaire comprising a number of psychological measures, either at lectures or in their own home. The sample consisted of 71.2% females, the majority of which were students. Mean age was 27.4 years (range = 16-90; SD = 15). The participants had completed an average of 14.4 years of education, including primary school, secondary school, high school, and college/university level.

The Affect Integration Inventory (AII)

The AII 2.0 is a self-report instrument designed to assess affect integration in an efficient, cost-effective way. The inventory was developed by Solbakken and Monsen (2013) and is based on the Affect Consciousness Interview (ACI) (Monsen et al., 1996, 2008). It consists of 112 items selected to estimate the integration of nine discrete affects: 1. Interest/Excitement; 2. Enjoyment/Joy; 3. Fear/Panic; 4. Anger/Rage; 5. Shame/Humiliation; 6. Sadness/Despair; 7. Jealousy/Possessiveness; 8. Guilt/Remorse; and 9. Tenderness/Care. Each item is rated on a 10-point Likert scale, ranging from *doesn't fit at all* (0) to *fits perfectly* (9). High scores are indicative of higher levels of affect integration.

The AII 2.0 is usually analysed in terms of scores on three separate levels (Solbakken et al., 2017):

1. **Global affect integration** (overall score across all items)
2. **Affect experience** (mean score for capacity for experience across affects) and **affect expression** (mean score for capacity for expression across affects)
3. **Integration of each discrete affect** (e.g., mean score for integration of Interest/Excitement, Enjoyment/Joy, etc.)

Of the 112 items, 82 items represent capacity for experience and the remaining 32 represent capacity for expression[2]. Capacity for experience assesses one's capability to be

[2] The difference in number of items is a result of a greater variation in statements related to experience compared to statements related to expression (Solbakken et al., 2017).

aware of and identify affective reactions, as well as to tolerate and deal with the affect in an adaptive manner. Capacity for expression measures the ability to express affects in an accurate and nuanced way, both verbally and nonverbally.

Examples of items assessing capacity for experience are: “When something sad happens, I can cry and feel relieved afterwards”; “When I feel joy and contentment, it is easy for me to hold on to the feeling”; and “It is difficult for me to allow myself to feel angry – even when I have good reason to do so” (reverse coded). As for capacity for expression, relevant examples are: “When I feel guilty about something, I am able to express it directly and clearly”; “I don't want anyone to know that I feel jealous” (reverse coded); and “I don't want anyone to see that I feel ashamed or embarrassed” (reverse coded).

Integration Type Subscales

In addition to the three levels of scores detailed above, the AII also produces scores on a fourth level: *integration types* or *prototypical modes of experience*. The scores on this level, however, were not tested in the initial validation of the instrument and are not traditionally available in other procedures for assessing affect integration. Notably, scores at this level describe the prototypical manner in which individuals relate to various discrete affects, including how they experience and express them. The two integration types operationalized in the AII are *Driven* and *Lack of Access*, and the scales link each integration type to a discrete affect (e.g. Driven by Anger*)*.

The scales were created by selecting items from the AII 2.0 that theoretically correspond to the relevant integration types. For some affects, there is as little as one item tapping either Lack of Access or Driven, whereas for others there are up to five. Also, not all of the affects have items representing both integration types. As such, the scales proposed to measure the integration types are still somewhat preliminary and vary in conceptual soundness. Affects with only one item tapping a given integration type were excluded, while those with two or more items were accepted for inclusion. Hence, the scales included in our analyses were the following:

1. Driven by Anger.
2. Lack of Access to Anger.
3. Driven by Guilt.
4. Lack of Access to Guilt.
5. Driven by Shame.
6. Lack of Access to Interest.

7. Driven by Jealousy.

As the scales were developed to measure the broader concept of affect integration, high scores traditionally reflect adaptive functioning and high affect integration. However, as noted, the integration types reflect prototypically problematic ways of experiencing affect. Thus, for ease of reading and interpretation, scores have been organized so that high scores on these particular scales are reflective of increased problem load.

Inventory of Interpersonal Problems (IIP-64)

The IIP-64 measures typical problems arising in interpersonal interactions (Horowitz et al., 1988). In this study the 64-item IIP-circumplex version was used (Alden et al., 1990; Horowitz et al., 2000).

The IIP-64 is divided into two sections. The first section consists of 39 items starting with the phrase "It is hard for me to...", while the second section consists of 25 items starting with "These are things I do too much." Each respondent is to rate each item on a five-point Likert scale, ranging from not at all (0) to very much (4).

The circumplex structure of the IIP-64 is a result of interpersonal problems being organized along two orthogonal dimensions: agency (non-assertive vs. domineering/controlling) and communion (over-nurturing vs. cold/distant). Taken together, scores on items associated with these two dimensions produce eight subscores (octants in circular space) consisting of eight items each indicating specific problems with being: domineering/controlling (PA), vindictive/self-centered (BC), cold/distant (DE), socially inhibited (FG), non-assertive (HI), overly accommodating (JK), self-sacrificing (LM), and intrusive/needy (NO). The IIP-64 yields a score for each octant. Also, through computing the mean across all 64 items, a score for the overall level of interpersonal problems (IIP-global) is generated.

The present study used a Norwegian version of the IIP-64 translated in 1994 by Stiles and Høglend. This version has been reported to have excellent psychometric properties, comparable to those of the original English version (Monsen et al., 2006). In the present study sample, both the global score and the respective interpersonal subtypes have satisfactory reliability (α=.74 or higher).

Statistical Analyses

Descriptive Statistics and Internal Consistency

Means, standard deviations, ranges and estimates of reliability of the different scores are computed. Cronbach's alpha is used to assess internal consistency reliability. Based on

DeVellis (2012), we consider the alpha values either unacceptable (<.6), acceptable (.6-.7), satisfying (>.7) or excellent (>.8).

Structural Validity: Confirmatory Factor Analysis

In the first part of the study, we employ Structural Equation Modelling (SEM) to conduct confirmatory factor analyses (CFAs) using IBM SPSS Amos to examine whether it is empirically justifiable to distinguish between integration types as outlined by Solbakken and Monsen (2013). We do this by creating and reviewing models for the two integration types for each affect individually, as well as four different competing models of affect integration.

Model Specification. In the models of the integration type scale**s** an integration type is defined as the latent factor (e.g. Driven by Anger, Lack of Access to Guilt). The indicators are the items in the corresponding AII 2.0 integration type subscale. Some of the integration type subscales consist of only two items, and CFA is not conducted due to inherent model under-identification (i.e. fewer known parameters than freely estimated parameters; Brown, 2015). These include the models for the integration types Driven by Anger, Driven by Guilt, and Driven by Shame.

When investigating the overall internal structure of integration type scales, we compare four competing models of affect integration:

- Model A: A general affect integration model with "affect integration" as a factor loading on all items.
- Model B: An affect independent integration type model with the integration types "Driven" and "Lack of Access" as factors loading on items in corresponding integration type subscales (indicating integration types that generalize across affects).
- Model C: An affect dependent model with factors for each affect loading on the items for that affect (indicating that affect integration is specific to discrete affects).
- Model D: An affect dependent integration type model with affect specific integration types (e.g. Driven by Anger) as factors loading on the items in the corresponding integration type subscale (indicating integration types that are specific for discrete affects).

We use the items included in the integration type subscales, but not the remaining items in the AII, as this allows for optimally realistic comparison of the models.

Model Selection. The models of the integration type scales are evaluated based on the "absolute fit" approach: consulting goodness of fit indices produced by Amos to determine

how well the model fits the data. Following Brown's (2015, p. 70) recommendation, different goodness of fit indices are used, as they provide different information about model fit (absolute fit, parsimony correction and comparative fit). Based on Brown's (2015, p. 74-75) recommendations the following fit indices are used with their corresponding criteria: a standardized root mean square (SRMR) close to or below .08 (absolute fit); a root mean square error of approximation (RMSEA) close to or below .08 (parsimony correction); a comparative fit index (CFI) and a Tucker-Lewis Index (TLI) close to or greater than .90 (comparative fit).

When evaluating the general models, the absolute fit approach is used, as well as a comparative approach where the models are compared to see which of the models has the best fit. Model fit is also evaluated in all models by examining factor loadings and inspecting the standardized residual covariances to check for localized areas of strain. Standardized residual covariances larger than 2 (or smaller than -2) is considered indicative of localized areas of strain.

Management of Missing Data and Model Revision. Missing data are handled by using direct ML in Amos. This allows Amos to present modification indices with suggestions to improve the models. The suggestions are inspected to see if there are theoretical grounds for adding them to the model. Model revisions are done in cases where the modifications suggested are theoretically sound and considerably improves the model. The general models are compared without model revisions, but model revisions are done in the general model that has the best comparative fit.

Analyses of External Criterion Related Validity

The mathematical and geometric properties of IIP-64 make it suitable as an external criterion measure to test the convergent and discriminant validity of scores from the AII-integration type scales. Since the IIP-model produces a near-perfect circumplex space of scores, theorems from the mathematics of circle geometry apply. Consequently, distinct sinusoidal patterns of correlations can be predicted with peaks and low points in different and theoretically specified and expected octants, thereby clarifying the relationship between different types of interpersonal problems and being driven by or lacking access to the various affects.

First, overall convergent validity of AII integration type scales is tested through investigating associations between scores on integration type for discrete affects and overall level of interpersonal problems (IIP-64 global score). Second, convergent and discriminant validity of AII integration type scales is examined through testing correspondences between

expected and obtained patterns of associations with theoretically specified and systematically interrelated external criteria (IIP-64 octant-scale scores). For this purpose, patterns of Pearson's correlation coefficients (Pearson's *r*) are computed. Results are significant if two-tailed t-tests have *p*-values <.05. We report the correlations as weak (.10-29), moderate (.30-.49) or strong (.50-1), in line with Cohen (1988). Applying Gurtman and Balakrishnan's (1998) structural summary method and related goodness of fit-index (GoF), sinusoidal structure and fit of the different patterns of correlations between integration types and IIP-subscores are tested. GoF >.08 is considered good fit (Gurtman & Pincus, 2003). Z-tests are conducted as a means of assessing the statistical significance of differences in correlation magnitude between the peaks and low points in the respective correlation patterns. The comparisons are estimated by using an Excel Spreadsheet calculator created by DeCoster and Iselin (2009), based on Steiger (1980).

Profiles of interpersonal problems are commonly depicted in a circular order (Bjerke et al., 2011). In accordance with recommendations for research and for using Gurtman and Balakrishnan's structural summary method, interpersonal problem profiles will be presented in rectangular plots (Gurtman, 1994; Gurtman & Balakrishnan, 1998).

Results

In the following, we present a summary of the descriptive statistics relating to the instruments used. Second, the results of confirmatory factor analyses are presented. Finally, we present results addressing hypotheses of the relationships between the integration types and relational problems.

Descriptive Statistics

Table 1 shows a summary of means, standard deviations, ranges and estimates of reliability (Cronbach's alpha) of the different scores derived from the AII and used in the present study. All Cronbach's alpha estimates for integration type scales indicated satisfactory internal consistency (range: α=.67-.89, median: α=.78). Descriptive statistics for IIP-64 can be found in the Appendix (Table 1).

Table 1

AII, descriptive data and estimates of reliability

Level of AII	M	SD	Range[a]	α
Global mean score[b]				
Global Integration aspects[c]	5.72	.97	3.14 - 7.85	.96
Experience	5.73	.97	3.06 – 8.16	.94
Expression	5.67	1.22	2.30 – 8.17	.91
Integration type				
Driven by				
Anger	3.03	2.25	0.0 – 8.50	.73
Guilt	4.35	2.80	0.0 – 9.00	.89
Shame	3.02	2.34	0.0 – 9.00	.67
Jealousy	2.46	2.05	0.0 – 8.20	.86
Lack of Access to				
Anger	5.43	1.63	0.75 – 9.00	.75
Guilt	6.34	1.46	2.20 – 9.00	.78
Interest	5.86	1.70	1.00 – 9.00	.80

Note. n = 156-157, α = Cronbach's alpha

[a]Potential range: 0-9, [b]Mean score across integration aspects and affects. [c]Mean scores for each integration aspects across all affects. [d]Mean scores for each affect across integration aspects.

Structural Validity: Confirmatory Factor Analysis

Results for confirmatory factor analyses are presented separately for the models of the integration type scales and the four competing models of affect integration. The overall findings demonstrated that the models of the integration type scales had acceptable fit based on high factor loadings and acceptable goodness of fit indices. Of the competing models, model D (the model with integration types) had the best relative fit.

Models of the Specific Integration type scales

The separately conducted CFAs of the models of the integration type scales revealed that the Lack of Access to Anger and Driven by Jealousy models had satisfactory model fit according to all goodness of fit indices. The models of Lack of Access to Guilt and Lack of Access to Interest had satisfactory model fit according to some, but not all goodness of fit indices. The modification indices presented by Amos suggested adding correlations between error terms in both models, suggesting that the items in question had shared variance not explained by the factor. These modifications did not meaningfully change the theory the models were based on, and were thus judged to be theoretically sound. The resulting correlations between error terms were of varying sizes (.20, .38 and .53).

After modification, all the models of the integration type scales[3] had satisfactory goodness of fit according to the goodness of fit indices (see Table 2). Factor loadings were generally high, though with some variation, and are presented in Table 3. All factor loadings were above .30. Inspection of the standardized residual covariances revealed no localized areas of strain, indicating good model fit.

Table 2

Goodness of Fit Indices for the models of integration type scales

Model	SRMR	RMSEA (90% confidence intervals)	CFI	TLI
Lack of Access to Anger	.0248	.049 (.000-.174)	.995	.986
Lack of Access to Guilt	.0082	.000 (.000-.069)	1.000	1.026
Lack of Access to Interest	.0279	.058 (.000-.145)	.992	.981
Driven by Jealousy	.0398	.084 (.028-.137)	.973	.955

[3] The scales Driven by Anger, Driven by Guilt, and Driven by Shame are not included, as they had only two items and CFA was not possible to conduct.

Table 3

Factor loadings in the models of integration type scales

Model	Indicator	Factor loading
Lack of Access to Anger	Ang3	.656
Lack of Access to Anger	Ang4	.834
Lack of Access to Anger	Ang5	.737
Lack of Access to Anger	Ang6	.462
Driven by Jealousy	Jeal1	.75
Driven by Jealousy	Jeal2	.71
Driven by Jealousy	Jeal3	.812
Driven by Jealousy	Jeal4	.661
Driven by Jealousy	Jeal5	.495
Driven by Jealousy	Jeal6	.777
Lack of Access to Interest	Int1	.82
Lack of Access to Interest	Int2	.744
Lack of Access to Interest	Int3	.799
Lack of Access to Interest	Int4	.322
Lack of Access to Interest	Int5	.648
Lack of Access to Guilt	Guil3	.828
Lack of Access to Guilt	Guil4	.325
Lack of Access to Guilt	Guil5	.916
Lack of Access to Guilt	Guil6	.594
Lack of Access to Guilt	Guil7	.475

Note: Indicator names signify the affect targeted in the item, e.g. “Ang1” is an item from the AII 2.0 targeting integration of anger.

Competing Overall Models of Affect Integration

In line with our predictions, CFAs of the overall models revealed that model D had the best model fit compared to the other models both in terms of higher factor loadings and the goodness of fit indices. Figure 1 shows the latent factor structure and factor loadings in the different models, and Table 4 shows the goodness of fit indices.

The model with best fit, Model D, met the cut-off criteria for the SRMR and the RMSEA, but not the CFI or the TLI. After consulting the modification indices generated by Amos, four model revisions were made. These included three added correlations between error terms and two cross loadings: from "Lack of Access to Anger" and from "Lack of Access to Guilt". The revised model is presented in Figure 2. After revision, the model met the cut-off-criteria for all the goodness of fit indices. Goodness of fit indices are presented in Table 4 along with the indices for the other models. Factor loadings were generally high, varying between .22 and .94 (of the 28 factor loadings, only 6 were below .5; See Table 2 in the Appendix). Correlations between factors were generally small, supporting the notion that the integration types within and between affects are separate constructs. Despite overall good fit, the standardized residual covariances indicated some localized areas of strain, indicating some relationships between specific variables the model failed to reproduce adequately (see Table 3 in the Appendix).

Table 4

Goodness of fit indices for the general models

Model	SRMR	RMSEA (90% confidence interval)	CFI	TLI
Model A – general affect integration	.151	.156 (.148-.164)	.305	.244
Model B – general integration type	.139	.135 (.127-.143)	.482	.435
Model C – affect dependent integration	.121	.105 (.097-.114)	.694	.656
Model D – affect specific integration type	.082	.074 (.064-.084)	.855	.830
Model D Revised	.072	.054 (.042-.066)	.923	.909

Figure 1

Factor structure of the four competing models of affect integration

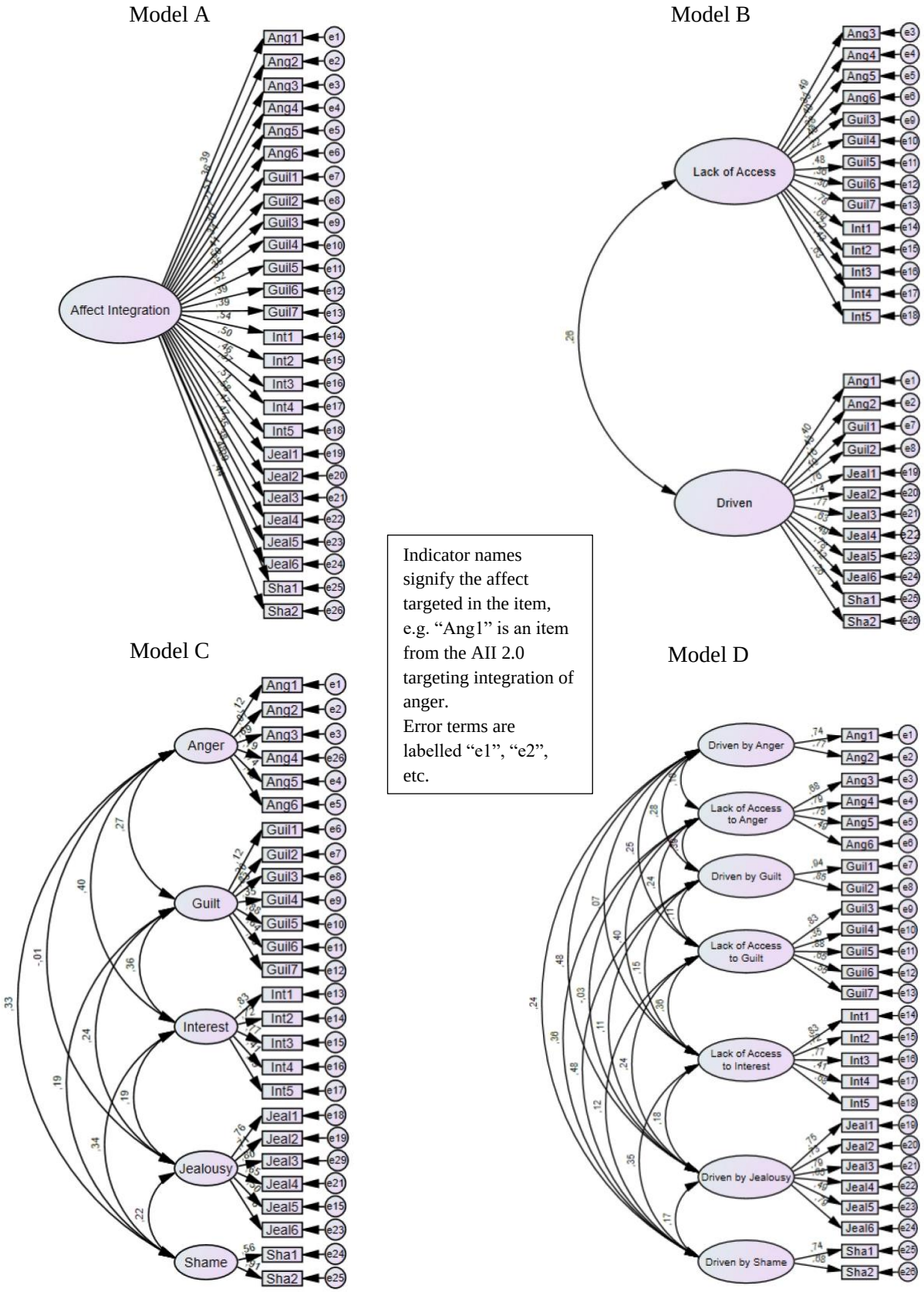
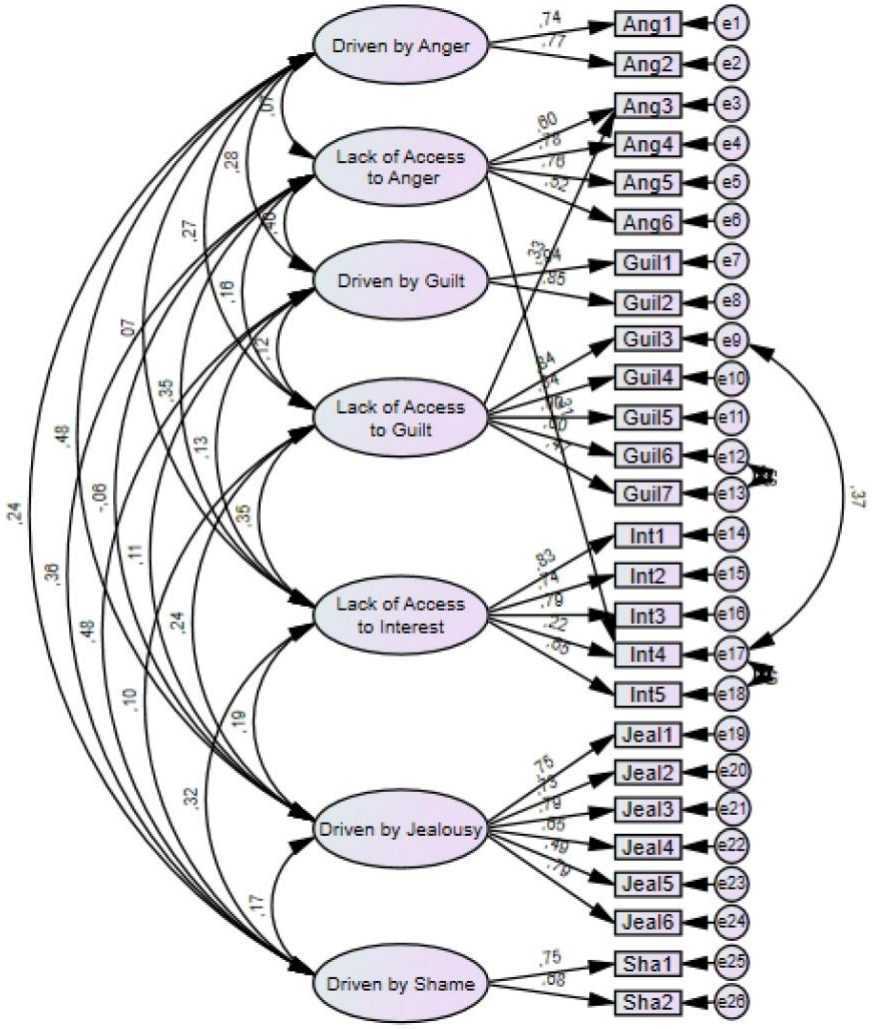


Figure 2

Factor structure of the revised version of Model D



External Criterion Validity: Patterns of Association Between Integration Type and Interpersonal Problems

Associations with the Overall Level of Interpersonal Problems

Table 5 below shows the obtained correlations between integration type scales and the overall level of interpersonal problems. The results were in line with our expectations. Lack of Access to Anger had a somewhat higher association with the overall level of interpersonal problems than being driven. For guilt, on the other hand, the association with interpersonal problems was higher for being driven by the affect rather than lacking access to it. Of all the integration types investigated, being Driven by Shame had the highest correlation

with overall level of interpersonal problems, closely followed by Lack of Access to Interest. Both approached large magnitudes according to Cohen's classification. Being Driven by Anger had the lowest association with overall interpersonal problems. Formally, all correlations, except Driven by Anger, were of moderate magnitude and significant at a .01-level.

Table 5

Correlations between overall interpersonal problems and integration type of different affects

Integration type	IIP Global[a]
Driven by	
Anger	.252**
Guilt	.408**
Shame	.464**
Jealousy	.334**
Lack of Access to	
Anger	.337**
Guilt	.312**
Interest	.422**

Note. n=154-157,

[a]Score of overall interpersonal problems

** p<.01 (2-tailed), *p<.05 (2-tailed)

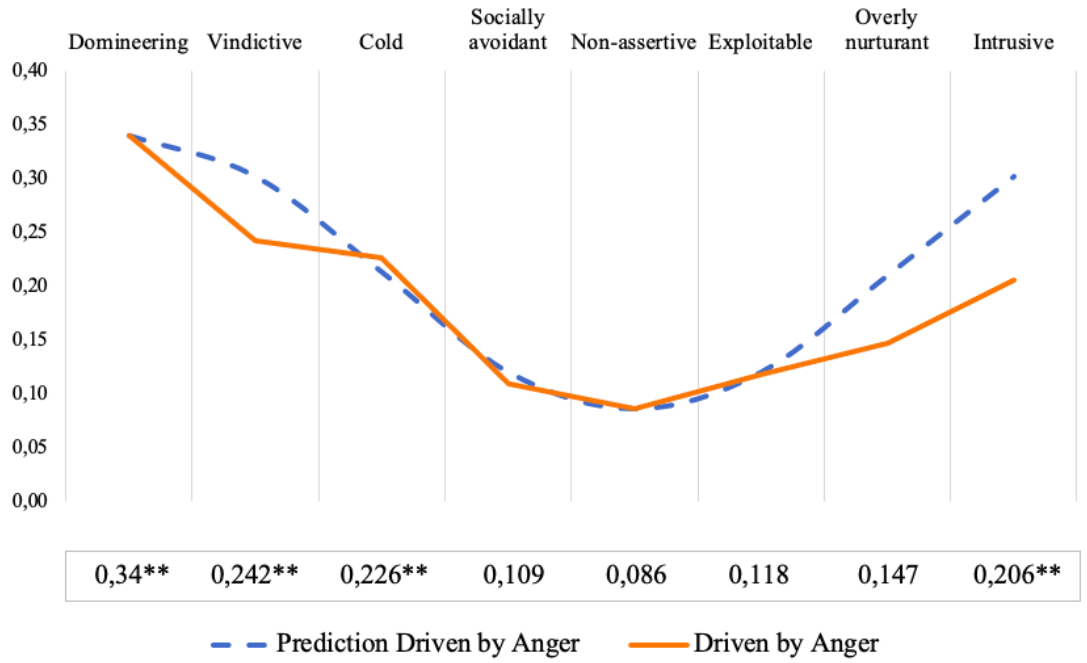
Convergent and Discriminant Associations with Specific Types of Interpersonal Problems

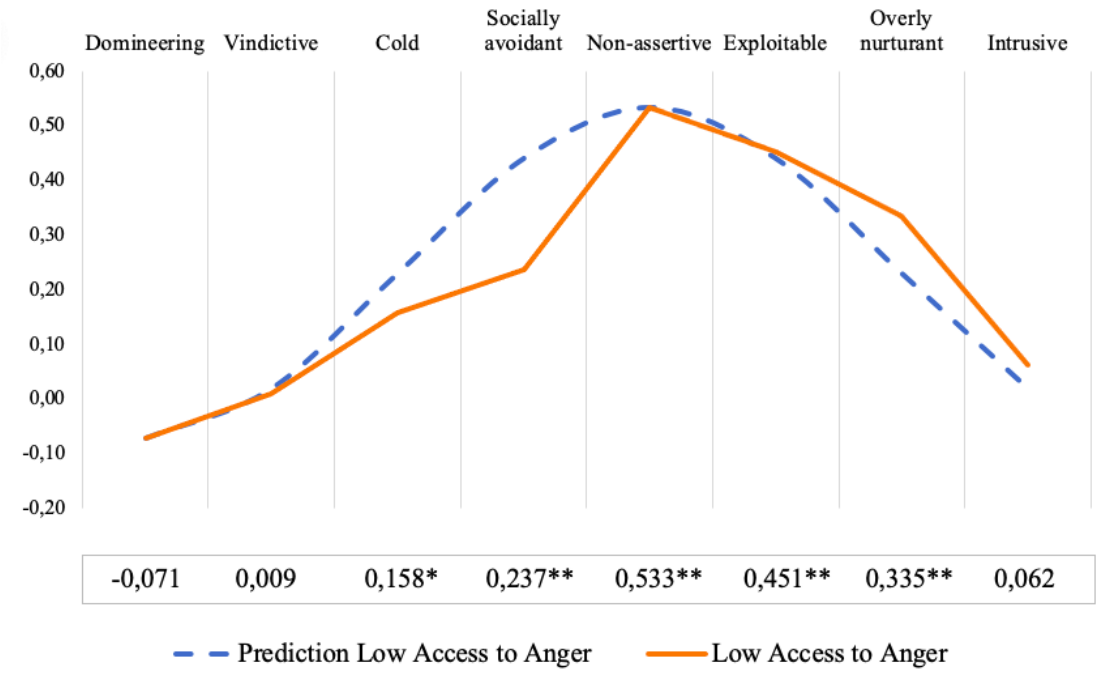
On the level of specific interpersonal problems and integration types across affects, distinct correlation patterns both *within* and between different affects were expected, depending on the integration type in question. Figure 3 shows the predicted and obtained correlation patterns for the respective integration types across affects. Panel a) depicts correlation patterns for Driven by Anger and Lack of Access to Anger, panel b) shows the correlation patterns for Driven by Guilt and Lack of Access to Guilt, and panel c) depicts the pattern for Driven by Jealousy. Finally, panel d) shows Driven by Shame and Lack of Access to Interest together, as the predictions regarding these affects were identical.

Figure 3

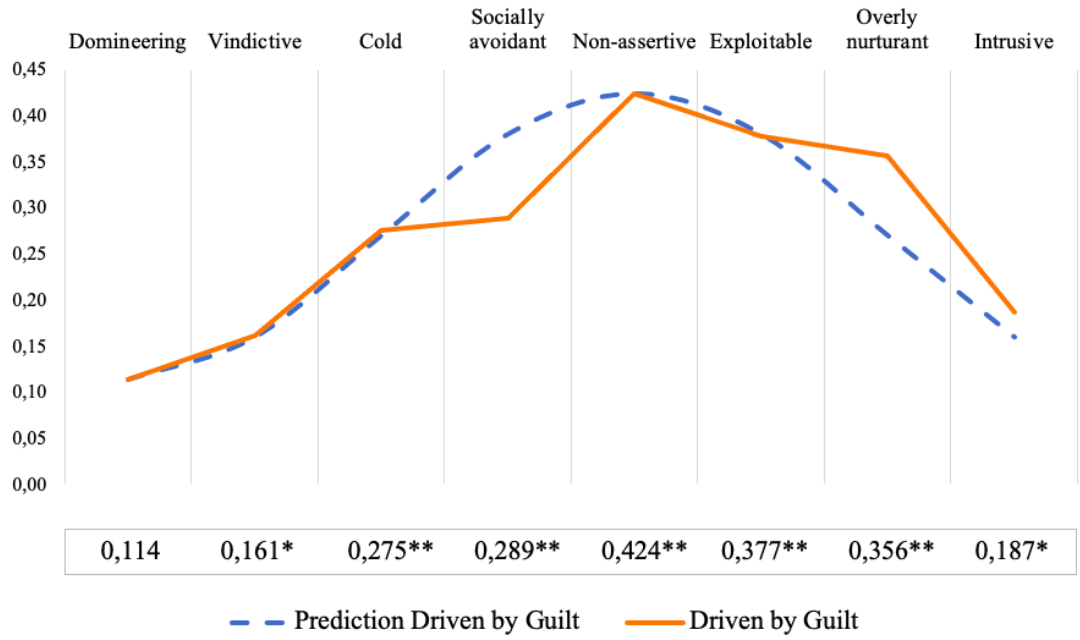
Predicted and obtained correlation patterns for integration types and interpersonal problems

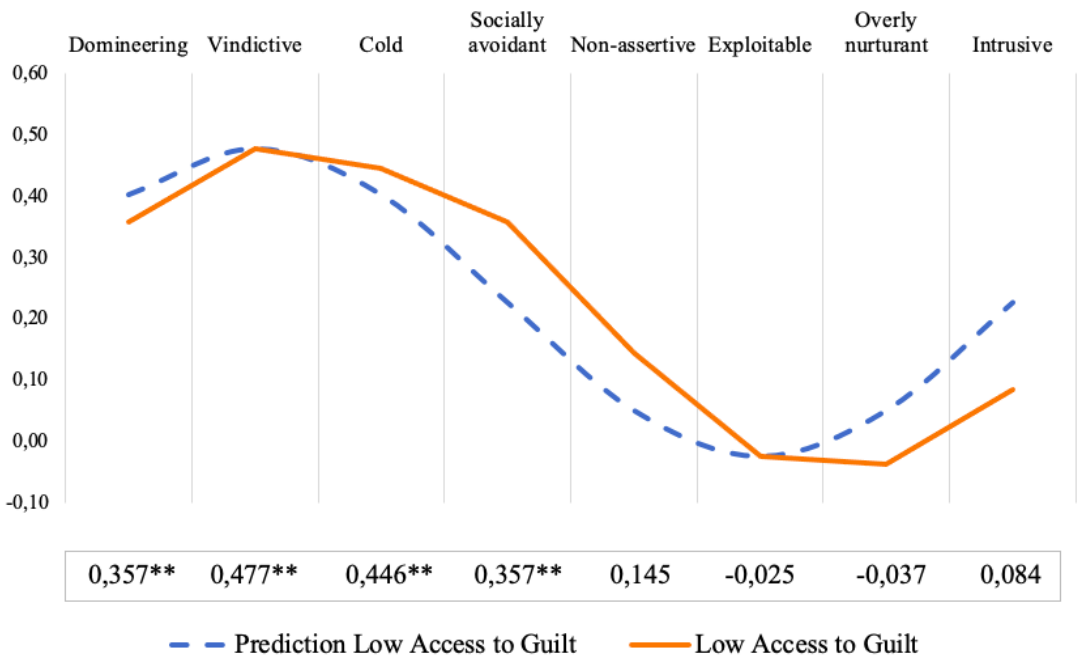
a)





b)


Domineering
Vindictive
Cold
Socially avoidant
Non-assertive
Exploitable
Overly nurturant
Intrusive
0,45
0,40
0,35
0,30
0,25
0,20
0,15
0,10
0,05
0,00
0,114
0,161*
0,275**
0,289**
0,424**
0,377**
0,356**
0,187*
Prediction Driven by Guilt
Driven by Guilt


Domineering
Vindictive
Cold
Socially avoidant
Non-assertive
Exploitable
Overly nurturant
Intrusive
0,60
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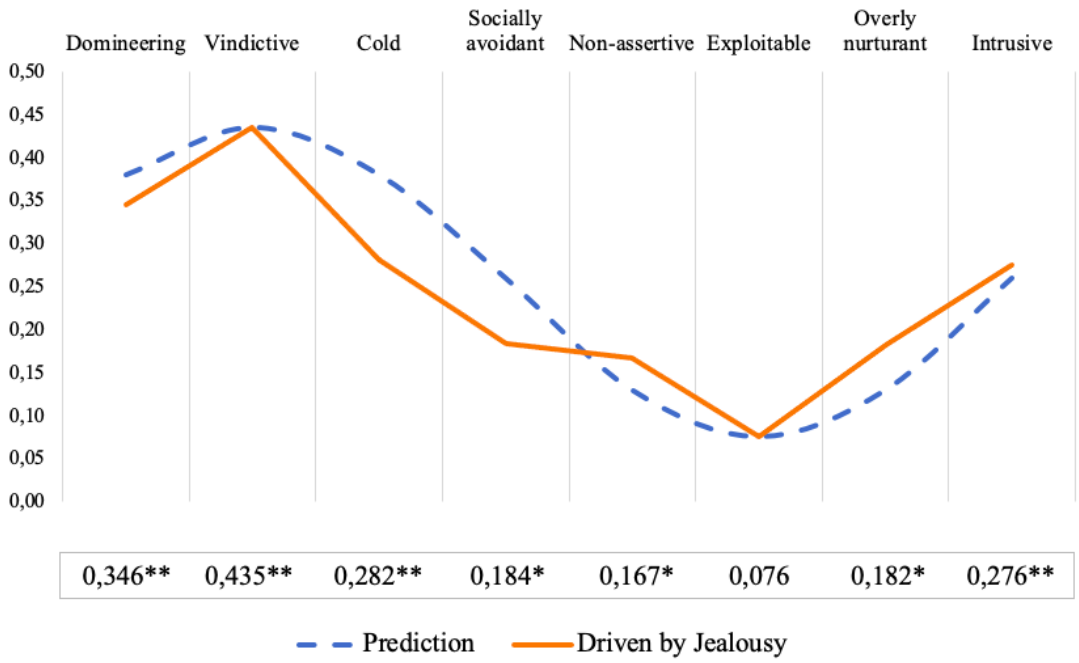
0,10
0,00
-0,10
0,357**
0,477**
0,446**
0,357**
0,145
-0,025
-0,037
0,084
Prediction Low Access to Guilt
Low Access to Guilt

c)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Non-assertive
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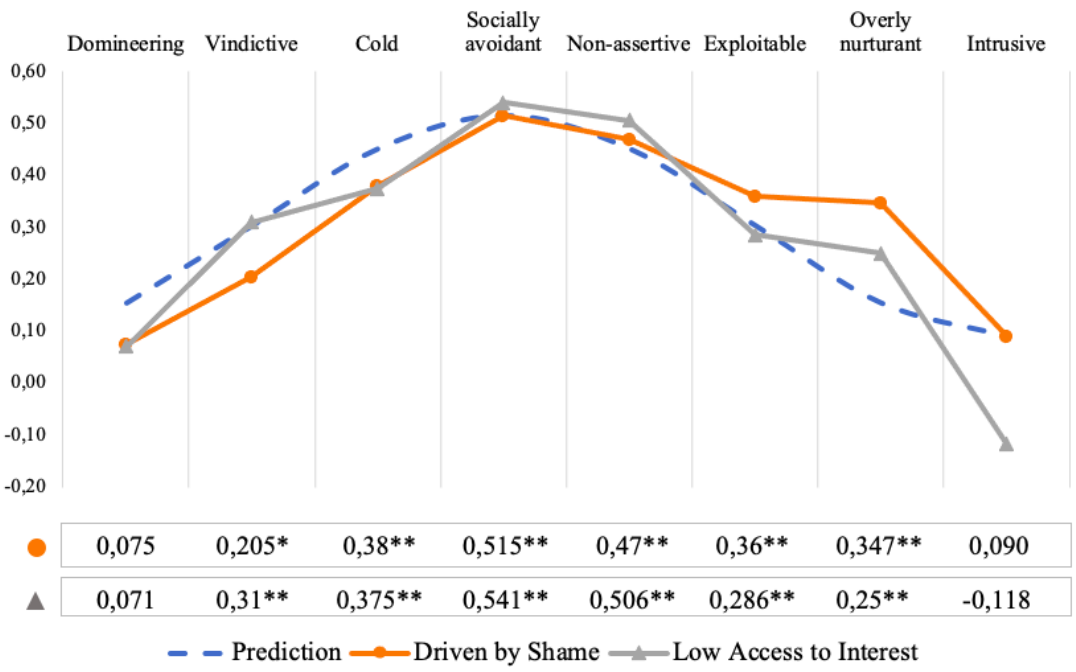
0,346** 0,435** 0,282** 0,184* 0,167* 0,076 0,182* 0,276**
Prediction
Driven by Jealousy

d)


Domineering
Vindictive
Cold
Socially avoidant
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Overly nurturant
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0,075 0,205* 0,38** 0,515** 0,47** 0,36** 0,347** 0,090
0,071 0,31** 0,375** 0,541** 0,506** 0,286** 0,25** -0,118
Prediction
Driven by Shame
Low Access to Interest

Sinusoidal patterns of correlations peaking in expected octants of the IIP-64 were present for all of the integration type scales across affects. For all scores examined, the peak correlation was significant at .01-level, while all low points were non-significant as is expected for associations within a sinusoidal pattern.

Being Driven by Anger peaked in the dominant octant (r=.34), while the low point was located in the non-assertive octant (r=.09), demonstrating that this integration type was most strongly associated with dominant and controlling interpersonal behaviour, while least associated with non-assertiveness. Goodness of Fit (GoF) was high (.96) with a cosine curve function peaking in the dominant octant. For Lack of Access to Anger, we see a diametrically opposite pattern: the low point was in the dominant octant (r=-.07) and the peak was in the non-assertive octant (r=.53). GoF with a cosine curve function peaking in the non-assertive octant was high (.93).

Being Driven by Guilt peaked in the non-assertive octant (r=0.42) and had its low point in the dominant octant (r=.12). GoF was high (.97) with an optimal cosine curve function peaking in the non-assertive octant. Lack of Access to Guilt had its peak in the vindictive octant (r=.48). The low point was in the overly nurturant octant (r=-.04), rather than in the exploitability octant, as was theoretically expected. Nevertheless, fit with an optimal cosine curve function peaking in the vindictive octant, GoF was high (.94).

For being Driven by Jealousy, the peak was in the vindictive octant (r=.44) and the low point in the exploitable octant (r=.08). GoF was high (.96) with an optimal cosine curve peaking in the vindictive octant. This pattern was in line with our predictions.

Both being Driven by Shame and Lack of Access to Interest were most strongly associated with social avoidance with associations significant at the .01-level (r=.52 and r=.54, respectively). The low points, however, were located differently for the two integration types: Lack of Access to Interest was least associated with intrusiveness (r=-.12), while Driven by Shame was least associated with dominance (r=.08) (although the intrusive octant was a close runner-up, differing only 0.015 from the dominant octant in correlation magnitude). The associations for Lack of Access to Interest were generally somewhat stronger than the associations for being Driven by Shame. GoF was high for both correlation patterns with an optimal cosine curve function peaking in the socially avoidant octant (Driven by Shame = .95, and Lack of Access to Interest = .91).

Comparing Correlation Coefficients. All comparisons of peaks and low points within each correlational pattern were statistically significant at the $p < .01$ level, with the exception

of “Driven by Anger” which was statistically significant at the $p < .05$ level. Table 4 in the Appendix details the Z scores and p-values.

Discussion

The present study introduced and examined the construct validity of a subdomain of affect integration called integration types, denoting prototypical modes of experiencing discrete affects, through analysing the internal structure of theoretically selected scores from the AII 2.0 and their relationships with external criteria. The integration type subdomain of affect integration has, to our knowledge, never previously been tested empirically. The study was conducted with archival data from a community sample of 157 participants and aimed to apply state-of-the-art construct validation methodology to produce first proof of concept or identify potential lack thereof. Analyses consisted of tests of structural validity through confirmatory factor analyses with structural equation modelling, along with examination of external criterion related validity. Overall criterion related validity was examined through analyses of associations with the overall level of interpersonal difficulties. Convergent and discriminant validity was examined through statistical tests of hypothesized patterns of relationships between integration types across specific affects and specific types of interpersonal problems.

Results demonstrated that all integration type subscales had satisfactory inter-item reliability, indicating high internal consistency of scale scores. Confirmatory factor analyses (CFA) supported the internal structure of affect specific integration types. The CFA models for each integration type scale had satisfactory fit, and the overall model specifying integration types across discrete affects outperformed all competing models of affect integration. Although some localised areas of strain indicated that there were some relationships between specific variables the model failed to reproduce adequately, overall fit of the model with integration type (Model D) was satisfactory based on both GoF-scores and factor loadings. Analyses of external criterion validity, as assessed through relationships between integration types and general interpersonal difficulties, demonstrated moderately strong correlations between the integration types for different affects and overall level of interpersonal problems. Thus, difficulties with experiencing and expressing affects adequately, both in terms of being driven by or lacking access to them, were substantially and consistently associated with higher levels of interpersonal problems.

To assess convergent and discriminant validity of differentiating between integration types across affects, specific sinusoidal patterns of associations between the integration type scales for different affects and specific categories of interpersonal problems were postulated. Overall, hypotheses regarding sinusoidal distributions of integration types for various affects along the circumplex of IIP-64 were supported, with remarkable overlap between hypotheses and obtained patterns. All the examined affects had correlations in line with the characteristic rank order of a sinusoidal pattern (i.e. a peak in the expected octant, with gradually lower correlations towards the low point). Only one affect (Lack of Access to Guilt) had a low point that was slightly rotated in interpersonal space compared to what was expected, while all remaining affects had association patterns as hypothesized. All correlation patterns had good fit (GoF $\geq$ .91) with an optimal cosine curve function peaking in the expected octant.

Convergent validity for differentiating between integration types across affects was supported by finding correlation patterns for the integration type scores having substantial peak-correlations in theoretically expected and separate octants of the IIP-64. Discriminant validity was demonstrated by low and non-significant correlations with octants placed opposite to the expected peak correlation.

Finally, mathematically stringent and combined tests of convergent and discriminant validity were provided by obtaining high GoFs with the hypothesized sinusoidal patterns of associations (Gurtman & Balakrishnan, 1998; Gurtman & Pincus, 2003). Testing patterns of associations in this way and obtaining a measure of convergent and discriminant validity simultaneously, is commonly considered the optimal method for demonstrating external criterion related validity (see e.g. Campbell & Fiske, 1959). Taken together, these findings appear to highlight that differences in prototypical ways of experiencing and expressing affects:

1) Can be assessed easily, quickly, and reliably.
2) Have theoretically consistent intra-domain relationships and valid structural psychometric properties.
3) Are robustly related to interpersonal functioning in general, and
4) Are systematically and differentially related to specific and theoretically predictable interpersonal problem types.

Our results thus offer support for the fruitfulness of differentiating between integration types within and between affects. Moreover, the findings serve as additional support for theories emphasizing the importance of differentiating between affects. According to our results, discrete affects systematically differ in their relationship with interpersonal problems

in line with what would be expected according to the theoretical postulations of the adaptive functions of the affects, as well as to the given integration type.

The results in this study appear to add additional nuance to previous findings of associations between affect integration for specific affects and interpersonal problems (e.g. Solbakken et al., 2017). They are in line with research showing that it is common for people with affect integration difficulties to experience problems with interpersonal functioning (Normann-Eide et al., 2013; Solbakken et al., 2011; 2012; 2017), and research from the emotion regulation literature indicating that affective processes in many cases mediate interpersonal processes (Adrian et al., 2011; Akyunus et al., 2020; Besharat et al., 2014; Graling, 2013; Herr et al., 2013; Keating et al., 2018; Poole et al., 2018; Wei et al., 2005).

Our results give proof of concept that adding integration types as a construct contributes to elaborating the affect consciousness framework and can delineate an important aspect of how affect integration varies between individuals. It provides a description of how difficulties in affect integration can manifest differently based on how the individual relates to their affects, i.e. whether they are driven by or lack access to a given affect. Affect integration theory emphasizes that we use the information from our affects to evaluate the situation and guide our behaviour. Having adequate levels of affect integration for different affects involves being able to use these signals in an adaptive and flexible way, enabling the individual to adaptively interact with their social environment. When an individual has low levels of affect consciousness, however, this ability is impaired and the manner in which the individual relates to their affects (i.e. integration type) shapes their interaction with the social environment in theoretically predictable ways. This theoretical conjecture is supported empirically in this study; CFAs show that incorporating integration types into the affect consciousness framework accounts for our empirical data in a more informative way than the more general models, thereby capturing nuances of affective processes that the present affect consciousness model does not incorporate. Furthermore, the differentiated associations found between integration types and interpersonal problems demonstrate that studying integration types allows us to access more of the complexity in affective processes and their relationships with other psychological phenomena.

Although integration types are specific to affect integration theory, our results suggest that theoretical models of affective processes would benefit from incorporating more nuanced concepts like the integration types proposed here. This includes both an explicit focus on the importance of discrete affects and using concepts that describe how affective processes can unfold in different manners (rather than a singular focus on whether individuals relate to their

affects in an adaptive or maladaptive way). Our results suggest that more elaborate models have greater explanatory value than general models and allow for better theoretical descriptions of complex processes.

Methodologically, operating with more nuanced concepts also allow researchers to access variation that might be masked when studying more general concepts. This enables us to access processes that have so far remained uncovered or untested, thereby furthering our understanding of psychological phenomena and how they are related to each other. A better understanding of how psychological phenomena unfold can have important practical consequences as it can inform theory development, clinical practice and policy making. Thus, although the community sample in this study is essentially non-clinical, we believe that incorporating integration types in the affect consciousness model will have important clinical implications as well. The affect consciousness framework emphasizes that low affect integration is at the core of most psychiatric disorders. This stance is supported through studies demonstrating that therapy targeting affect integration in patients with various psychological problems including the presence of personality disorders is effective (Monsen et al., 1995; Solbakken et al., 2012). Since targeting affect integration in general has yielded highly promising results, it is plausible that we would see the same for therapy specifically targeting integration types as well. This focus is not new in and of itself, as there are undoubtedly many clinicians addressing these issues with their patients already. Still, the results in the present study can guide the practitioner with regard to what relational problems to be aware of when a patient describes emotional problems (and vice versa), allowing for even more tailored interventions.

With an elaborated understanding of affective processes we can also gain new insights and explore the relationships between affective and other psychological processes. In light of the results of this study, a parallel that is particularly interesting to explore is between integration types and externalizing and internalizing problems. Externalizing and internalizing problems (Achenbach, 1966) are broad categories of health issues that are described primarily based on whether the person directs their problems towards themselves or the environment surrounding them. The parallel becomes evident when we categorize the affects by their function. Some affects such as anger, interest and jealousy promote interaction with the world. The function of shame and guilt, on the other hand, is inhibition. A person driven by interaction-promoting affects and lacking access to affects that inhibit would probably be high in self-assertion without consideration of how their actions are perceived or affect others, exhibiting maladaptive behavioural patterns that could be categorized as externalizing

problems. The opposite pattern, being driven by inhibiting affects and lacking access to those that promote interaction, could lead to internalizing problems. Low affect consciousness could thus be a causal mechanism for externalizing and internalizing problems. The findings in this study could support such a hypothesis, as the interpersonal problems found to be associated with the integration types are consistent with such a pattern; being driven by anger and jealousy and lacking access to guilt were most strongly associated with the domineering and vindictiveness octants in the IIP-64 circumplex. Lacking access to anger and interest and being driven by guilt and shame were most strongly associated with the non-assertive and socially avoidant octants.

This notion can further be linked to research on the p-factor, a general psychopathology factor studied over the past decade (e.g. Caspi et al., 2014; Caspi & Moffitt, 2018). Caspi et al. (2014) found support for a general factor that influences many of the common psychiatric disorders, indicating shared mechanisms for the development of psychopathology. They also found that externalizing and internalizing problems were important for describing the structure of psychopathology, but that most of the measures of impairment and risk factors associated with the development of psychiatric disorders were associated with the p-factor rather than the unique variance explained by type of psychopathology (i.e. externalizing or internalizing). Caspi et al. theorized that the factors "externalizing" and "internalizing" were descriptive indicators of what kinds of problems individuals with high p-factors were likely to experience. This conclusion closely mirrors our conclusion that integration types shape what kinds of interpersonal problems individuals with low affect consciousness are likely to experience. The similarity in these processes prompt us to ask whether affect consciousness might be an aspect of the p-factor. Indeed, several hypotheses have been proposed regarding the nature of the p-factor, one of which is poor impulse control over emotions, conceptualized in a very similar fashion as the driven integration type in this study (Carver et al., 2017; Caspi & Moffitt, 2018). Research is needed to examine a possible link between affect consciousness and the p-factor, but the similarities in the processes coupled with previous findings that affect consciousness is related to a variety of psychological processes, including psychopathology (Holmqvist, 2008; Lech et al., 2008; Normann-Eide et al., 2013; Solbakken et al., 2011; 2012; 2017; Waller & Scheidt, 2004), makes it an intriguing area for future study.

The Role of Integration Types for Understanding Integration of Discrete Affects

As noted, the associations between integration types for specific affects and interpersonal problems were very much in line with our predictions. In the following, we address these relationships in more detail and comment on how the findings contribute to our understanding of the integration of discrete affects.

Being Driven by Anger was most associated with a domineering interpersonal functioning, and least associated with non-assertiveness, in line with our predictions. Lack of Access to Anger had a correlation pattern peaking in the non-assertive octant and a low point in the domineering octant. Thus, the results show that the relational problem areas associated with the two integration types are diametrically opposite. These patterns serve as empirical support for the theoretical notions of the motivational and signal properties of anger. Acting out anger would be expected to coincide with dominating, controlling, and possibly aggressive behaviour, while difficulties accessing the affect would mask the need for communicating infringed boundaries, making the individual prone to lack of assertive action and submissiveness. Of all the affects examined in the present study, being Driven by Anger had the lowest magnitude of peak association with interpersonal problems. People prone to being driven by anger would thus be expected to experience less interpersonal problems compared to those who lack access to or are driven by other affects. Having the motivational and signal properties of anger in mind, this makes theoretical sense. Standing your ground "too much" would presumably be experienced as more self-affirming than repeatedly conforming to the needs of others rather than your own, in turn having an effect on the experienced level of relational problems.

Being Driven by Guilt was most strongly related to non-assertiveness and least related to domineering/controlling behaviour. For Lack of Access to Guilt, the strongest association was with vindictiveness. Both obtained patterns were in line with our predictions. The interpersonal problem areas associated with being driven by the affect and lacking access to it are thus clearly distinct, supporting the differentiation between integration types, as was the case with anger. The low point for Lack of Access to Guilt deviated somewhat from the predicted pattern. Rather than being in the exploitable octant, which is what would be expected according to the mathematical underpinnings of the circumplex, the low point was in the adjacent overly nurturant or self-sacrificing octant. Nonetheless, both patterns are

generally in line with what would be expected from a theoretical point of view. Guilt-prone people will have difficulties with speaking up and defending themselves, while diminished ability to access guilt makes one less able (or willing) to recognize when to apologize, make amends, and make an effort to restore emotional bonds that have been damaged by one´s actions. In Solbakken et al. (2017) low affect integration of guilt was most strongly associated with coldness. This is compatible with our findings. The cold octant is placed in between the vindictive octant (peak of lacking access to guilt) and the non-assertive octant (peak of driven by guilt). Low affect integration for an affect on a global level will mathematically represent a blend or average of the integration types, thus yielding an association pattern peaking "in the middle" of the two.

Being Driven by Shame was most strongly associated with social inhibition and avoidance, in accordance with both our prediction and theoretical overview. The low point was in the domineering octant. These findings are congruent with the theoretical assumptions that a strong sense of shame motivates us to hide and withdraw as a means to signal our sensitivity to social rules and understanding of hierarchy in our community. The correlation pattern for being Driven by Shame closely resembles the pattern for low integration of shame in general, found by Solbakken et al. (2017), where integration of shame was most strongly associated with social avoidance as well. The probable explanation for these coinciding results is that the statements regarding integration of shame in the AII 2.0 predominantly address the phenomenology and behaviour expected when shame is easily activated, i.e. when one tends to be driven by shame. It may also reflect that issues with being driven by shame are more common than issues with lacking access to shame, or that people being driven by shame are more disposed to experience and report interpersonal difficulties. Since the two integration types revealed clearly distinct sinusoidal patterns for anger and guilt, we are prone to believe that the same would have been the case with shame, given that we had the data to test it (as noted the AII 2.0 does not have sufficient items reflecting lack of access to shame for this issue to be examined empirically). Essentially, a person with diminished ability to access shame will probably have difficulties recognizing social codes (or even actively ignore them) and inhibiting one´s impulses based on social and relational cues, which would likely contribute to intrusive and domineering/controlling behaviour.

Lack of Access to Interest had its peak correlation with social inhibition/avoidance and its lowest correlation with intrusiveness, again in line with our predictions. This pattern supports the theoretical understanding of the motivational functions of interest. It also illustrates how it may be connected to various psychological difficulties, as lack of interest is believed to be a central driving force in dysthymia, schizoid personality disorder and some schizophrenic states (Beauchaine & Cicchetti, 2019). The associations in the interest pattern were the strongest of all the affects tested, indicating that lack of access to interest may be the most potent predictor of interpersonal problems of all the examined affects. This finding is particularly interesting as interest is the only pleasant affect examined in this study. If replicated with other pleasant affects, it could indicate that lacking access to pleasant affects is more detrimental to function than low affect consciousness of unpleasant affects. The Lack of Access to Interest-pattern mirrors findings showing that low integration of interest in general is most strongly associated with social avoidance and least associated with intrusiveness (Solbakken et al., 2017). However, it deviates from findings showing that low affect consciousness for pleasant affects (tenderness, joy and interest) was associated with problems of cold and detached interpersonal behaviour in a sample of subjects with personality disorder (Normann-Eide et al., 2013). Lødrup and Rauk (2015) have suggested that rather than this representing conflicting results, it implies that the pleasant affects differ in terms of their relation to interpersonal problems. If that is the case, as indicated by previous studies (Solbakken et al., 2011; 2012, 2017; Solbakken & Monsen, 2021), exploring each pleasant affect separately is a promising way of uncovering nuances in the relationships between affects and interpersonal problems that otherwise would have remained concealed.

Finally, being Driven by Jealousy was most strongly associated with vindictiveness and least associated with being overly accommodating or exploitable. Together, this mirrors the sinusoidal pattern we expected and supports the notion of jealousy as a motivator of hostile and controlling actions when experienced in an exaggerated way. The Driven by Jealousy pattern closely resembles the pattern for global integration of jealousy, as examined by Solbakken et al. (2017), probably reflecting that the items in AII 2.0 mainly cover the Driven integration type. However, the magnitudes of the correlations in the Driven by Jealousy pattern in the present study were stronger than what has been reported for global integration of jealousy. Additionally, whereas Solbakken et al. (2017), found a slightly higher correlation than expected for the social avoidance octant, all the correlations in the present study followed the expected rank order. Together, we believe this suggests that accounting for

integration types identifies an aspect of the integration of jealousy that helps clarify and illuminate its associations with interpersonal functioning.

Limitations

There are some limitations to this study that should be noted. First, due to the correlational and cross-sectional design of the study, no conclusions can be drawn regarding causality. Although the theoretical framework presented generally argues that integration types have a causal effect on social outcomes, it is thus also a possibility that interpersonal problems have reciprocal effects on, or even precede, affective difficulties (see e.g. Horowitz et al., 2006). Second, the data in this study have been used in previous research investigating the relationship between affect integration and interpersonal problems (and somatization) (Lødrup & Rauk, 2015; Solbakken et al., 2017; Solum, 2015). The analyses of the relationships between integration types and IIP-64 in the present study are therefore secondary by definition (see e.g. Heaton, 2008). The method of secondary analysis allows the investigation of other topics than those of the initial studies, opening the possibility for new insights. However, it demands that the researchers are open and attentive when presenting and interpreting the results, as previous findings are likely to affect how the present results are understood (von der Lippe et al., 2019).

Third, some characteristics of the sample should be noted when considering the generalizability of the results. Since the data was drawn from a community sample and thus basically non-clinical, it remains unclear whether the findings also apply to clinical settings and specific patient groups. Furthermore, it may be that the sample is not entirely representative, as it consists of mostly students, has a large percentage of females, and people with higher education. However, previous studies on the same sample have controlled for both sex and age, without finding any substantial contribution of these factors (Solbakken et al., 2017).

Lastly, we only investigated integration types for five discrete affects. Out of these, only two affects (anger and guilt) were examined in regard to both integration types. For the three remaining affects, just one of the two integration types could be explored. Ideally, we would have explored both integration types with regard to all of the affects. Due to the composition of the version of the AII used in this study, this was not possible. Additionally, the integration types examined were primarily coupled with unpleasant affects, with the exception of Lack of Access to interest. Thus, this study does not examine being driven by any pleasant affect. It might e.g. be that being driven by pleasant affects is not associated with interpersonal

problems to the same degree as being driven by negative affects, as pleasant affects are generally associated with positive outcomes (e.g. see Pressman et al., 2019). Nonetheless, the findings in this study represent a promising start in terms of uncovering the differences between integration types and understanding the nuances in the affect consciousness construct.

Recommendations for Future Research

To gain a more comprehensive understanding of these constructs, more research is needed. For instance, researchers should examine both integration types across all affects with regard to how they relate in the interpersonal space. Recently, a new, untested version of the AII was created with integration type scales for all affects (AII 3.2; Solbakken & Monsen, 2020) which can be used for this purpose. The distinct patterns of association for the integration types found in this study provide empirical support for the theoretical notions of integration types and the motivational functions of affects. As such, we expect that future research will find differentiated patterns of associations for the remaining affects as well.

Furthermore, investigating how integration types are associated with various other external criteria would be beneficial in further determining external validity. Looking at how integration types of discrete affects relate to measurements of psychological distress and psychiatric symptoms (e.g. OQ-45 and SCL-90) would broaden the theoretical understanding of the integration type construct and possibly assist in determining where to target interventions in clinical settings. Additionally, it would be interesting to investigate how integration types relate to other constructs that measure affective functioning, such as emotion regulation strategies and alexithymia. Earlier studies have indicated a close link between global affect integration and these phenomena (Solbakken et al., 2017). Specifically looking at the integration types would aid in discovering more nuanced differences and similarities between the different constructs, as well as between the two integration types.

As this study used a non-clinical community sample, we cannot draw firm conclusions about how the relationships are manifested in clinical populations. To further strengthen the generalizability of findings from this study, it would be beneficial to investigate how integration types are associated with interpersonal problems in diverse clinical samples. In addition, exploring various patient populations may help determine whether specific disorders are characterized by one integration type or the other, or if the difficulties are better captured by measuring overall affect integration. This would add to previous studies suggesting that low affect integration for different groups of affects is related to specific interpersonal problems in patients with personality disorders (Normann-Eide et al., 2013).

In addition to research that further establishes the reliability, validity and generalization of integration types, research on their nature could also be interesting. One possible course is to study how potential patterns of integration types manifest in individuals. Individuals might have a tendency towards being driven by or lacking access to all (or most) affects, or the integration type for each affect might be uncorrelated. Further, it could be interesting to investigate a possible link between integration types and the p-factor previously mentioned, or whether there are other psychological factors that influence what integration type is manifested. For instance, future research could examine associations with for example personality traits and cognition, as these are associated with affective processes (e.g. Augustine et al., 2013; Hughes et al., 2020; Joormann, 2019; Segerstrom & Smith, 2019; Storbeck & Clore, 2007).

Lastly, research could investigate where in the affect integration process the integration type is determined. For instance, having low access to an affect can occur because a person fails to recognize the affect, they recognize but do not tolerate the affect or they don't communicate the affect successfully. A person struggling with recognising and understanding their affects might have different and possibly more severe problems than a person who understands what they are feeling but struggles with effective communication. It could be interesting for future research to examine whether integration types stemming from different steps in the integration process are differentially associated with specific problems or problem severity. This would enhance the theoretical understanding of the integration types construct as well as having clinical utility.

Conclusion

The present study has introduced integration types as a new subdimension to the affect consciousness construct to account for differences in how low affect integration can be manifested. Two prototypical modes of experiencing and expressing affects, being *driven* by and *lacking access* to specific affects, were examined. Analyses of internal consistency and confirmatory factor analyses of the scales for the integration types showed adequate reliability and fit, providing initial support for the validity of the scales. By testing four competing models of affect integration through confirmatory factor analysis, we found that the model differentiating the two integration types across affects outperformed the other models, lending further support for the construct validity of the integration type scales. External, criterion-related validity was supported through significant associations between

integration types and interpersonal problems, both on global and specific levels. Theoretically consistent and predictable convergent and discriminant sinusoidal patterns of correlations with specific types of interpersonal problems were present for all of the integration type scales across the investigated affects peaking in the expected octants of the IIP-64. The obtained patterns of associations were in line with theoretical notions of the different affects' signal and motivational properties.

Our findings indicate proof of concept and lend promising support for the validity and usefulness of distinguishing between integration types when considering low affect integration. We speculate that the nature of the interpersonal difficulties an individual will encounter is substantially dependent upon their integration type for a given affect. Additionally, results are consistent with previous findings demonstrating that affect integration is substantially associated with interpersonal dysfunction, and they further support the importance of differentiating between different affects in psychological research.
As this study used a non-clinical community sample, the generalizability of the findings to other populations remains unclear. Nor is it possible to draw conclusions regarding causality. Recommendations for future research include the investigation of both of the specified integration types for a broader spectrum of affects in diverse clinical and non-clinical populations.

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Appendix

Table 1

IIP-64, descriptive data and estimates of reliability

IIP-64	M	SD	Range	α
Global	1.00	.46	0.16 – 2.39	.94
Interpersonal subtypes				
PA - Domineering	0.68	.54	0.00 – 3.63	.75
BC - Vindictive	0.65	.54	0.00 – 2.63	.75
DE - Cold	0.75	.63	0.00 – 3.00	.81
FG - Socially inhibited	1.06	.80	0.00 – 3.75	.87
HI – Non-Assertive	1.26	.76	0.00 – 3.50	.84
JK – Overly Accommodating	1.20	.63	0.00 – 3.50	.75
LM - Self-sacrificing	1.44	.72	0.00 – 3.75	.79
NO - Intrusive	0.97	.65	0.00 – 2.88	.74

Note: n = 156-157, M = mean, SD = standard deviation, α = estimate of reliability with Cronbach's alpha

Table 2

Factor loadings in Model D revised.

Factor	Indicator	Factor loading
Driven by Anger	Ang1	.743
Driven by Anger	Ang2	.765
Lack of Access to Anger	Ang3	.599
Lack of Access to Anger	Ang4	.783
Lack of Access to Anger	Ang5	.758
Lack of Access to Anger	Ang6	.521
Driven by Guilt	Guil1	.937
Driven by Guilt	Guil2	.846
Lack of Access to Guilt	Guil3	.836
Lack of Access to Guilt	Guil4	.337
Lack of Access to Guilt	Guil5	.904
Lack of Access to Guilt	Guil6	.596
Lack of Access to Guilt	Guil7	.472
Lack of Access to Interest	Int1	.827
Lack of Access to Interest	Int2	.74
Lack of Access to Interest	Int3	.791
Lack of Access to Interest	Int4	.218
Lack of Access to Interest	Int5	.655
Driven by Jealousy	Jeal1	.752
Driven by Jealousy	Jeal2	.728
Driven by Jealousy	Jeal3	.793
Driven by Jealousy	Jeal4	.654

Factor	Indicator	Factor loading
Driven by Jealousy	Jeal5	.489
Driven by Jealousy	Jeal6	.787
Driven by Shame	Sha1	.749
Driven by Shame	Sha2	.678
Lack of Access to Guilt	Ang3	.331
Lack of Access to Anger	Int4	.31

Note: Indicator names signify the affect targeted in the item, e.g. "Ang1" is an item from the AII 2.0 targeting integration of anger.

Table 3

Standardized Residual Covariances for model D.

Indicator 1	Indicator 2	Standardized residual covariance (z-scores)
Int5	Sha2	2.69
Int5	Guil2	2.32
Sha2	Int4	2.39
Sha1	Jeal4	-2.70
Guil2	Jeal1	2.16
Guil2	Int4	2.29
Guil1	Guil6	-2.12
Guil1	Ang6	2.21
Ang1	Ang6	2.41
Jeal5	Guil4	2.06
Jeal4	Guil4	2.34
Jeal3	Guil4	2.61
Jeal2	Guil4	3.18
Jeal1	Ang3	2.52

Note. Only residuals larger than 2.0 is reported. Indicator names signify the affect targeted in the item, e.g. "Ang1" is an item from the AII 2.0 targeting integration of anger.

Table 4

Comparison of correlation coefficients.

Integration type	Z	p-value (two-tailed)
Driven by Anger	2,500	0.012
Lack of Access to Anger	6,330	<.000
Driven by Guilt	3,139	0.0017
Lack of Access to Guilt	5,770	<.000
Driven by Interest	5,235	<.000
Lack of Access to Interest	6,597	<.000
Driven by Jealousy	3,645	<.001
Driven by Shame	5,319	<.000