

EXPLORING COGNITION AND EMOTION VIA IMPLICIT MOTIVATION

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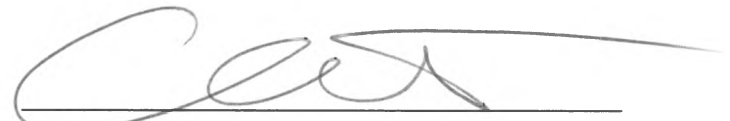
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CERTIFICATION OF APPROVAL

I certify that I have read *Exploring Cognition and Emotion via Implicit Motivation* by Christopher Joseph Lipp, and that in my opinion this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirement for the degree Master of Arts in Psychology: Social Psychology at San Francisco State University.



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Can emotion be elicited without cognitive antecedent? Emotions can be elicited by stimuli below the threshold of consciousness, but the debate remains open whether subconscious cognition elicits such emotions (Lazarus, 1984; Zajonc, 1984). This study explores the relationship between subconscious cognition and motivation, a mediator of emotion (Zurbriggen & Sturman, 2002). Fourteen males and 55 female participants were assessed on implicit motivation and subconscious moral cognition (Gilligan, 1984; McClelland, 1985). Results indicate no relationship between implicit motives of Achievement, Affiliation-Intimacy, and Power with the moral orientations of Justice and Caring. The discussion outlines potential reasons for the lack of findings and suggests follow-up experiments.

I certify that the Abstract is a correct representation of the content of this thesis.



Chair, Thesis Committee

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Two well-known but competing theories on the relationship between cognition and emotion are those of Zajonc (2001) and Lazarus (1991). Zajonc proposed that cognition and emotion are independent of one another, and demonstrated that individuals create affective preferences below the threshold of consciousness. Conversely, Lazarus argued that all emotion is preceded by cognition and that affective preferences created below the threshold of consciousness still involve subconscious cognition.

The conflict between theories rests on whether subconscious cognition elicits affective preferences stimulated below the threshold of consciousness (Lazarus, 1984; Zajonc, 1984). Lazarus (1991) proposed that both cognition and emotion are integrated through motivation. Thus, the answer to this conflict may come from motivation.

This research explores the relationship between implicit motivation and moral cognition. Implicit motivation is defined as the set of motives arising from innate affective preferences that orient attention, select action, and energize behavior (McClelland, 1985). Moral cognition refers to implicit cognitive processes (i.e. perspectives) that guide moral reasoning below the threshold of consciousness (Gilligan, 1982; Miller, 1994).

If Lazarus (1984) is correct, we could expect a positive relationship between implicit motivation and moral cognition. Implicit motivation is associated with emotions (Schultheiss, Jones, Davis, & Kley, 2008); thus a link between implicit motivation and moral cognition would suggest a link between emotion and cognition. Conversely, if

Zajonc (1984) is correct, we could expect no direct relationship between implicit motivation and moral cognition.

This paper first reviews background research of implicit motivation and moral cognition. Next, similarities between implicit motivation and moral cognition are explored. Finally, research is presented to test whether a relationship exists between the two constructs. If a relationship is found between implicit motivation and moral cognition, it would provide a step towards resolving the dilemma of competing theories by buttressing Lazarus' (1991) claims.

Implicit Motivation

Implicit motivation encompasses distinct motives. The commonly-studied implicit motives today are Achievement, Power, Affiliation, and Intimacy. Achievement motive involves performing activities with a standard for excellence, irrespective of societal standards or pressures (McClelland, 1992a). Power motive involves establishing and maintaining control or influence over other individuals and the environment (Veroff, 1992). Affiliation motive involves establishing and maintaining positive relationships with persons and groups (Koestner & McClelland, 1992). Intimacy motive concerns preference/readiness for experiencing close personal and emotional interactions with other individuals (McAdams, 1992). Achievement and Power are considered to be *agentic* motives while Affiliation and Intimacy are considered *communal* motives, given the focus on autonomy and relationships respectively (Woike, Lavezzary, & Barsky, 2001).

Implicit motives are linked with emotion. Studies measuring the relationship between implicit motivation and subjective well-being (SWB), the experience of positive and negative emotions, showed that SWB is mediated by the presence of implicit motives (Brunstein, Schultheiss, & Grassmann, 1998; Schultheiss et al., 2008). In one study, implicit motives were measured with self-reports of SWB, current goals, and related goal progress (Brunstein et al., 1998). The results displayed that individuals high in communal motives (i.e. Affiliation and Intimacy) experienced significantly greater levels of SWB when communal goal progress was high versus low. Similarly, individuals high in agentic motives (i.e. Achievement) experienced significantly greater levels of SWB when agency goal progress was also high.

The relationship between implicit motivation and emotion is consistent with Lazarus' (1991) motivation-centric model. To resolve the conflict between Zajonc (1984) and Lazarus (1984), motivation must also be associated with cognition, and in particular subconscious cognition. However, no research has yet linked definitively implicit motivation to cognition.

Moral Cognition

Moral cognition acts as a robust construct measuring cognitive processes that occur below the threshold of consciousness (Thomas, 2004). Research in Developmental Psychology has observed that individuals take distinct and generally implicit cognitive orientations (i.e. processes) during moral evaluations which guide moral reasoning

(Gilligan, 1982; Miller, 1994; Thomas, 2004). The most popular moral orientations are those of *Justice* and of *Caring*.

Justice orientation refers to cognitive reasoning grounded “on the rights of the individual,” and judgments of wrong actions are those that violate individual rights (Thomas, 2004, p.429). Individuals who engage in moral reasoning through a Justice orientation focus on how behaviors of one individual affect the freedom of other individuals to take action.

Conversely, Caring orientation refers to cognitive reasoning grounded on the minimization of the experience of hurt between individuals, and wrong actions are those that result in greater hurt (Gilligan, 1982). Individuals who engage in moral reasoning through a Caring orientation focus on how behaviors of one individual affect the subjective experience of other individuals.

Moral orientation develops through stages (Gilligan, 1982). Development of moral orientation is signified by the ability to take increasingly broad perspectives on a given issue. Both Justice and Caring orientations develop through three stages: ego-centric (concern with self), ethnocentric (equality, concern with others), universal (metaphysical truths, concern with all people).

As individuals develop through Justice orientation, their explicit values shift towards more idealistic values such as equality and world peace, and shift away from self-enhancement values such as ambition and social recognition (Helkama et al., 2003).

As individuals develop through Caring orientation, their ability to show sympathy with others and empathize increases (JuuJarvi, Myyry, & Pessa, 2012).

Moral cognition was originally believed to possess an intrinsic motivation to act morally (Kohlberg, 1984). Although this claim was placed recently under severe criticism (Krebs & Denton, 2005), similarities exist between moral orientations and implicit motives.

Similarities Between Implicit Motivation and Moral Cognition

Several shared characteristics between implicit motives and moral orientations make plausible a connection between these constructs. Similarities show up in construct definitions, memory recall, arousal patterns, and gender trends.

Literature shows similar descriptions of Justice-oriented thinking and the Achievement motive. Justice orientation is a primary concern with the freedom of behavior (Gilligan, 1982; Thomas, 2004; Wilber, 2006). The locus of control is generally placed within the individual, and Justice-thinkers tend to discuss themselves with words of achievement, of “measure[ing] up in terms of some ranking of abilities.” (Lyons, 1983, p.128; Miller, 1994). Likewise, Achievement motive requires autonomy and self-reliance, and Achievement-motivated individuals are primarily concerned with ability in domains of independent activity (Schultheiss & Brunstein, 2005). The focus of concern in Justice therefore appears to be behaviors relevant to the domain of Achievement motivation.

Literature also shows similarities between descriptions of Caring-oriented thinking and the Intimacy motive. Caring-oriented thinking has a primary concern with

interpersonal relationships and experiences of other humans (Lyons, 1983). Caring-thinkers focus on responding to others' needs and avoid causing suffering. These concerns appear consistent with the motive for Intimacy through which individuals seek emotional interaction with others and are more sensitive to the experience of others (McAdams, 1992). Thus, Caring focuses on concerns relevant the communal motive of Intimacy.

Caring orientation and Intimacy motive yield similar results that further emphasize relationship-focus. Caring-oriented individuals are more likely to make statements using the term *we* more than *I* compared to Justice-oriented individuals (Ziemke, 1998). Similarly, Intimacy-motivated individuals use self-referencing terms such as *we* in conjunction with the individual to the group (McAdams & Powers, 1981). Along a similar vein, both the presence of Caring-orientation and Affiliation motive, a communal motive associated with Intimacy, correlate with sympathy towards others (JuuJarvi et al., 2012; Koestner & McClelland, 1992).

Research in memory suggests another potential alignment between moral orientation and implicit motivation. When individuals are asked to recall real-life moral violations from their past, Caring-orientation individuals are likely to recall moral violations that involve relationships and responding to the needs of others (Haviv & Leman, 2002; Juujarvi, 2005). In separate but similar research, individuals with strong Intimacy or Affiliation motives are likely to recall interpersonal and communal memories (McClelland, 1992b; Zurbiggen & Sturman, 2002).

Memory research results also point to a potential relationship between Justice orientation and Power motive. Justice-oriented individuals who recall real-life moral violations are likely to recall moral transgressions related to injustice (Haviv & Leman, 2002; Juujarvi, 2005). Observing injustice generally leads to an emotional response of anger (Gutierrez & Giner-Sorolla, 2007; Schweder, Much, Mahapatra, & Park, 1997). Power-motivated individuals are likely to recall power-related and anger inducing memories (McClelland, 1992b; Zurbiggen & Sturman, 2002).

Additionally, the arousal patterns of moral orientations appear similar to the arousal patterns of implicit motives. Both orientation and motivation are aroused by context-dependent situational factors (Haviv & Leman, 2002; Schultheiss & Brunstein, 2001; Warks & Krebs, 1996). When addressing these situations, individuals are prone to use a combination of orientations just as they are prone to use a combination of motives (Brunstein et al., 1998; Gilligan & Attanucci, 1988).

Finally, moral orientation literature has shown occasional albeit inconsistent gender trends, with women showing a greater Caring orientation than men, whereas the reverse has not been observed (Gilligan & Attanucci, 1988; Krebs, Vermeulen, Denton, & Carpendale, 1994). Similarly, implicit motivation has shown significant albeit inconsistent gender trends suggesting that women demonstrate more Intimacy and Affiliation than men (Schultheiss & Brunstein, 2001; Stewart & Chester, 1982).

Hypotheses

Parallels between moral orientation and implicit motivation exist in multiple lines of research. Based on previous literature, the following hypotheses are put forth:

1. Individuals with a Caring orientation will demonstrate greater Affiliation-Intimacy than individuals with a Justice Orientation.
2. Individuals with a Justice orientation will demonstrate greater Achievement and Power than individuals with a Caring orientation.

Results related to this research will demonstrate the relationship between motivation and cognitive approaches to moral situations.

Method

Sample

All participants ($N = 93$) were San Francisco State University students who completed an online survey over two non-consecutive days within one week of each other. Each session was roughly 60 minutes in duration. On Day 1, the survey included measures of implicit motivation, moral orientation, and emotions. On Day 2, surveys pertaining to attachment and values, were given. Of the original 93 respondents, 24 individuals were removed either for missing responses or for ambiguity in evaluation of moral orientation. The remaining 69 respondents (55 females and 14 males) were then analyzed.

Measurements

Implicit motivation. Participants were administered the picture-story exercise as described by Winter (1994) to assess implicit motivation. The Picture Story Exercise is a thematic apperception test (TAT) that includes six photos. Participants are asked to review one photo at a time, write what they see, then move on to the next photo and repeat. The narrative underlying each photo is ambiguous; thus, responses are unsolicited by the researcher and theorized to arise from the unconscious (McClelland, 1985). Pictures include a nightclub scene, couple by river, women in laboratory, boxer, trapeze artists, and ship captain in that order, respectively. These pictures have been used extensively in researching implicit motives (e.g., Shultheiss, Yankova, Dirlikov, & Schad, 2009; Zurbriggen & Sturman, 2002).

Moral orientation. Participants were asked to recall a real-life moral dilemma around the context of an important relationship, as used by Haviv & Leman (2002). The use of such a personal dilemma has been shown to elicit non-philosophical quandaries that are more demonstrable of participants' actual behavior (Wark & Krebs, 1996). Participants respond to 11 open-ended questions asking them to describe the dilemma, what issues were involved, and how they resolved the dilemma. Because orientation is derived from the structure of the responses and not the explicit content, responses are believed to arise from subconscious mechanisms (Lyons, 1983). The dilemma involves a relationship, and this approach has generally elicited more Caring orientation from individuals (Haviv & Leman, 2002).

Scoring

Implicit motivation. Results of the picture-story exercise are coded for the three motivations of Achievement, Power, and Affiliation-Intimacy using Winter's (1994) *Manual for Scoring Motive Imagery in Running Text*. Motives are identified based on words used in context to the material. For example, Achievement motivation is coded when there is indication of excellence in performance. Power motivation is coded when there is indication of a person or group having impact, control, or influence over another person or group. Affiliation-Intimacy motivation is coded when indication of maintenance or restoration of warm, friendly relationships is present. Affiliation and Intimacy are combined in Winter's (1994) scoring manual due to overlap between the motives, and will be hereafter in the article be called Affiliation. Each motivation is scored orthogonally to the others, thus creating three distinct values. All participants were scored twice by two expert coders. The two scores were then compared and discrepancies addressed to ensure >85% interrater agreement.

Moral orientation. Orientation scores were coded using Lyons (1983) considerations for response (Caring) and considerations of rights (Justice). Responses to the real-life dilemmas are reviewed for context pertaining to how the problem is constructed, resolved, and evaluated. Indicators of Caring include consideration of the welfare of others; whereas indicators of Justice include consideration of rules and principles. A final orientation score is assigned to the individual based on the percent of Caring considerations coded relative to the sum of Caring and Justice considerations coded over the dilemma. Participant assessment falls into five categories, namely: *Caring*

only when 100% of coded considerations are Caring based; *Caring focus* when 75% of coded material is Caring; *Equal* when 50% of material is Caring; *Justice focus* when 25% of material coded is Caring; *Justice only* when 0% of coded material is Caring. These categories were previously defined and used by Gilligan & Attanucci (1988). All participants were scored independently by two trained coders. The two scores were then compared for each participant and discrepancies addressed until mutual agreement between coders was reached.

Results

To test whether motives are associated with moral orientation, calculations were performed using one-way ANOVA. Orientation consisted of five levels as described in the Method section. Among the participants, 7 participants were Caring only; 19 were Caring focus; 22 were Equal Caring and Justice; 13 were Justice Focus; and 8 were Justice only.

Beginning with assumption checks, z -scores were calculated. Two outliers were identified ($z_i > 2.58$) and removed. Normality was confirmed by calculating skew and kurtosis divided by standard errors ($value < 2.0$). Homogeneity was measured using Levene's test and can be assumed for Affiliation, $F(4,64) = 0.44, p = .777$, and Achievement, $F(4, 64) = 1.84, p = .131$, but not Power, $F(4, 64) = 3.17, p = .019$.

If the hypotheses are true, results will show that Caring only and Caring focus participants demonstrate greater Affiliation motive than their counterparts. Likewise, the

hypotheses posit that Justice only and Justice focus participants will demonstrate greater Achievement and Power motives than their Caring counterparts.

Initial results demonstrated no main effect of Orientation on Affiliation, $F(4, 64) = .469, p = .758, \eta^2 = .028, \text{post-hoc power} = .154$. Results also demonstrated no main effect of Orientation on Achievement, $F(4, 64) = .776, p = .545, \eta^2 = .046, \text{post-hoc power} = .236$, nor Power, $F(4, 64) = 1.56, p = .196, \eta^2 = .089, \text{post-hoc power} = .455$. (See Table 1 for means).

Further analysis was conducted on the relationship between Affiliation and Caring. Mean Affiliation scores trended upwards with increasing Caring, the main exception being the Justice focus subgroup. Affiliation scores for Caring only and Caring focus participants were 10.21 and 9.81, respectively; whereas, scores for Equal Caring/Justice and Justice focus were 9.01 and 9.16, respectively. Contrast to this trend was the Justice only subgroup, which scored 10.49.

Given the small sample size of the Justice only subgroup ($N = 8$), consideration was given to whether the Affiliation-Caring relationship would be significant without this subgroup. A secondary analysis of Affiliation and Caring was conducted using one-way ANOVA with the Justice only subgroup removed; however results remained insignificant, $F(3, 57) = .387, p = .763$.

Discussion

The purpose of this study was to explore whether implicit motivation was associated with moral cognition. A relationship could imply a potential link between

emotion and subconscious cognition in support of Lazarus' (1991) theory on emotion and cognition. Based on background literature, two hypotheses were put forward here: that Caring-oriented participants will demonstrate greater Affiliation motive than Justice-oriented participants; and Justice-oriented participants will demonstrate greater Achievement and Power motives than Caring-oriented individuals. To test the hypotheses, participants were given two qualitative exercises, the Picture Story Exercise and open-ended questions which invite participants to reflect on real-life moral dilemmas.

The main findings do not demonstrate statistical significance upholding the hypotheses. Specifically, the mean levels for participants' motive scores in Affiliation, Achievement, and Power showed no trends with Caring or Justice orientations. All one-way ANOVA calculations were not significant. Although post-hoc power was low due to low sample size, the effect sizes were respectable for personality research.

Additional analysis between Affiliation and Caring was also not significant. Despite the trend of increasing Affiliation mean scores with increasing Caring Orientation when the Justice only group was excluded, secondary analysis revealed no significant effects.

The results seem to indicate that Zajonc (2001) was correct in stating that emotions are independent of cognition. However, similarities between motives and orientations across a breadth of background research warrant further investigation. Limitations of the current research may account for the lack of results. Specifically,

assumptions made concerning the relationship and methodology between constructs may be inaccurate.

One central assumption in this experiment is that the relationship between implicit motivation and moral cognition can be understood by comparing means; however, the relationship may be less straight-forward. For example, previous research on implicit motivation showed that the relationship with emotional arousal is influenced by moderating factors such as explicit motivation and activity inhibition (Rösch, Stanton, & Schultheiss, 2013; McClelland, 1985).

Follow-up research should increase the sample size for the comparison groups before exploring whether explicit motivation play a moderating role in the relationship between implicit motivation and moral cognition. Studies show that explicit motivation is linked to implicit motivation as well as developmental stages of moral reasoning (Lan, Gowing, McMahon, Rieger, & King, 2008; Thrash & Elliot, 2002). Therefore, explicit motivation may serve a bridge between the measures here.

Researchers can employ the Schwartz (1992) Personal Values Questionnaire to measure explicit motivation as used in previous studies. The Schwartz Questionnaire ranks fifty-six values and synthesizes the results into a hierarchical representation of 10 global values held by the individual. Two of these values, Power and Tradition, are negatively correlated to Justice development (Lan, Gowing, McMahon, Rieger, & King, 2008).

One way to employ the Schwartz Questionnaire in follow-up research is to measure motivation alongside moral orientation and personal consistency (Thrash & Elliot, 2002; Schwartz 1992). Personal consistency is the desire for cognitions to be consistent, and it has been shown to result in greater alignment between implicit and explicit motivation (Thrash & Elliot, 2002). If an individual shows high internal consistency as well as a high preference for explicit Power, researchers might expect implicit Power to increase with Justice orientation. Conversely, if an individual shows high internal consistency and low explicit Power, researchers might expect implicit Power to decrease with Justice orientation.

A second central assumption made in this methodology is that moral cognition is an indicator of the subconscious cognition theorized by Lazarus (1991). From a broad perspective, morality is frequently treated as a unique domain within Psychology (see Nadelhoffer, Nahmias & Nichols, 2010); therefore, moral cognition may not serve as an accurate indicator for general cognition.

Future researchers may wish to employ a non-moral measure for cognition. Recent studies were conducted using the implicit association test (IAT) to measure implicit cognition (e.g., Haefffel et al., 2007). The IAT shows participants items on a screen and requires participants to categorize these items as quickly as possible into distinct groups. The speed in which items are categorized is thought to reflect the presence or absence of cognitive associations existing below the threshold of consciousness.

One way to employ the IAT in conjunction with implicit motivation is to measure positive-negative valence of items associated with specific motives (e.g., Nosek, Banaji, & Greenwald, 2002). For example, researchers might expect Power-motivated individuals to show stronger positive associations to power-related words such as money and influence compared to those with an Affiliation motive.

Conclusion

Some argue that the debate concerning the relationship between emotion and cognition is now closed (Zajonc, 2001). One key assertion of this argument is that emotions occur subconsciously, and thus emotions do not have the antecedent of cognition. However, if instead humans have lightning-quick subconscious cognitive appraisals that precede emotion as Lazarus (1991) suggested, then evidence of this appraisal mechanism must be sought out in the subconscious.

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Table 1

Mean Scores for Motive x Orientation

Orientation	Affiliation	Achievement	Power
Caring only (n=7)	10.21 (3.68)	7.94 (5.40)	7.21 (.55)
Caring focus (n=19)	9.81 (2.71)	5.95 (2.59)	5.71 (3.27)
Equal (n=22)	9.01 (3.38)	6.25 (2.50)	8.03 (3.44)
Justice focus (n=13)	9.16 (3.29)	7.33 (4.06)	7.38 (3.49)
Justice only (n=8)	10.49 (3.71)	6.10 (2.09)	7.96 (2.59)
Total (n=69)	9.60 (3.53)	5.97 (3.17)	6.67 (3.33)

Note. Values in parentheses represent standard deviations