The purpose of the research was to investigate the social information processing patterns of individuals with domain-contingent self-worth. We proposed that individuals with domain-contingent self-worth would associate cognitions about outcomes in that domain with cognitions about social relationships. We expected this to be a bidirectional relationship with domain outcomes associated with social outcomes and social outcomes associated with domain outcomes. We tested the hypothesis that individuals with domain contingent self-worth process outcomes in that domain with regard to social relationships. In Study 1, we found that individuals assume that domains of self-importance are important to others' social judgments. In Study 2, we found that individuals with appearance-contingent self-worth associate negative appearance words with social exclusion. And in Study 3, we found that when social exclusion is salient, individuals with virtue-contingent self-worth demonstrate increased accessibility of negative virtue words. Together, these studies demonstrate that individuals with contingent self-worth cognitively associate domain outcomes with social relationships.
Individuals vary in the extent to which they consider domains important to the self (Crocker & Wolfe, 2001; Harter, 1999; James, 1890). These domains consist of universally important areas such as academic ability, physical appearance, and social acceptance, as well as more individual domains such as artistic ability and athletic prowess. Domains of importance develop throughout childhood and adolescence and reflect individuals’ distinct developmental experiences. Areas may become important to individuals through meaningful situations (Ruble, 1987), unique competencies (Harter, 1999), and socialization experiences provided by parents, peers, and the media. In a college sample, Crocker and colleagues identified seven key domains of importance to self-esteem: academic achievement, appearance, competition, family support, God’s love, respect from others, and virtue (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). Domains of importance vary across individuals and self-worth may be based on one or many of these domains. For example, one individual’s self-worth might be based most heavily on her appearance, whereas another’s might be equally based on appearance, competition, and academic or career achievements.

A key element of contingent self-worth is an introjection of external standards (Deci & Ryan, 1995). Success at meeting these introjected standards leads to self-approval and failure to meet them leads to guilt (Deci, Eghrari, Patrick & Leone, 1994). This is not dissimilar from the guilt experienced when people fail to meet ought selves, or representations of standards others believe they should possess (Higgins, 1987). In both of these perspectives, individuals with contingent self-worth evaluate their behaviors according to internalized expectations of other people, suggesting that they are highly attuned to how their performance implicates social approval or disapproval.

The purpose of the research described in this article was to further examine how individuals with contingent self-worth process information about social relationships. Although some people may have self-worth that is more generally contingent on performance than others (e.g., Baldwin & Sinclair, 1996), we were interested in the social information processing of people with domain-specific contingent self-worth. Specifically, we were interested in how people with high domain-contingent self-worth associate domain performances with social relationships compared to people whose self-worth is less domain-contingent. We construe domain performance very broadly. Thoughts about domain performance may include memories of past successes or failures, ideas about what might be successful in the future, and words that indicate success or failure within a domain. These thoughts about domain performance may be associated with thoughts of social evaluations.

CONTINGENCIES OF SELF-WORTH AND INTERPERSONAL RELATIONSHIPS

Some contingencies of self-worth, such as social competence, directly implicate social relations. Other domains such as academic achievement and appearance do not directly implicate social relations but are relatively more external than others and therefore are more subject to evaluations by others (Crocker, Luhtanen, et al., 2003). Further consideration of these evaluative domains highlights how they might carry information about an individuals’ relational value. As one of the most external domains, physical appearance is a domain that is frequently considered
to be important both to individuals’ sense of self-worth (Crocker & Wolfe, 2001; Harter, 1999) and to relational value (Langlois & Stephen, 1977; Rothblum, Miller, & Garbutt, 1988). Positive social characteristics are more often attributed to attractive than unattractive individuals (Langlois et al., 2000), and such stereotypical beliefs often result in better treatment of attractive individuals from infancy (e.g., Hildebrandt & Fitzgerald, 1983) through adulthood (e.g., Rothblum et al., 1988; Snyder, Tanke, & Berscheid, 1977).

Other domains may not have clear direct links to social success. Success in more internal domains, such as virtue and God’s love, relies less on the evaluations of others. However, even these internal domains may be associated with interpersonal relationships because of socialization processes. Children learn which things are safe and which are unsafe by referencing caregiver’s reactions (Baldwin, 2000). Approval from caregivers indicates which behaviors and situations should be approached and which should be avoided. Research on the successful internalization of morals has demonstrated that children learn to associate virtuous behaviors and maintaining positive relationships with their parents (Grusec, 1997). In addition, parents may use inductive techniques to highlight the interpersonal consequences of moral and immoral behaviors (Grusec & Goodnow, 1994). Children of parents with differing strategies for the socialization of morals may have self-esteem that is more or less strongly contingent on virtue.

Another socialization process that may produce an association between domain performance and social relationships is modeling. Children model behaviors that are seen as acceptable and that win praise from others (Bandura, 1986). Daughters of mothers who are weight-conscious also tend to be weight-conscious (Field et al., 2005) and children of parents who model moral behaviors display more humanitarian concerns (Oliner & Oliner, 1988). Through these mechanisms, children receive differing information about the importance of more external contingencies such as appearance and respect from others as well as more internal contingencies such as virtue and academic achievement.

Our primary hypothesis was not that domain performance actually leads to social acceptance or rejection, but rather that individuals with contingent self-worth associate domain-related outcomes with interpersonal outcomes. Our reasoning was drawn from associative network models which posit that information about the self is highly organized and integrated in memory (e.g., Linville, 1987; Markus & Wurf, 1987). As a result, when specific thoughts about the self are activated, associated thoughts are activated as well (Collins & Loftus, 1975). The more often activation spreads between these thoughts, the more strongly associated they become, and the more likely activation will spread from one to the other (Kunda, 1999). We expected that one consequence of contingent self-worth is that thoughts of domain-related outcomes would be associated with ideas about social acceptance and rejection. That is, individuals with appearance-contingent self-worth would be likely to associate being unattractive with social exclusion. Similarly, individuals with self-worth contingent on competition would be likely to suspect that their friends will consider them less valuable after a poor performance at a sporting event.
The contingencies on self-worth perspective explains self-esteem as a function of successes and failures within domains of self-importance (Crocker & Wolfe, 2001). An alternative view of self-esteem propose that self-esteem is an indicator of more general social success (Leary, Terdal, Tambor & Downs, 1995). In this model, self-esteem serves as a sociometer, or an indicator of how much relational value one has. Social evaluations—especially negative evaluations such as social rejection or ostracism—influence one’s feelings about the self (Leary et al., 1995; Leary, Haupt, Strausser, & Chokel, 1998; Williams, Cheung, & Choi, 2000). Although work following the contingencies model has not yet examined information processing in regards to threats to the self, work following the sociometer model has. Because our theory involves not just information processing, but social information processing, we found this work particularly useful as a basis for our hypotheses.

In particular, one line of research provided a foundation for understanding how individuals with generally contingent self-worth engage in social information processing. In an influential paper on the dynamics of self-esteem, Baldwin and Sinclair (1996) reported, at the level of information processing, an association between general performance and social evaluations. Specifically, they found that constructs pertaining to acceptance increased in accessibility after activation of constructs related to success and constructs pertaining to rejection increased in accessibility after the activation of constructs related to failure. One explanation for this association is that these individuals have internalized construals of social outcomes as contingent on performance. Because of these associations, performance outcomes might influence self-esteem to the extent that they carry implications for how individuals could be evaluated by others.

We extended this line of research by drawing on Crocker and colleagues’ view of self-worth (Crocker & Wolfe, 2001), which posits that the self-esteem of individuals with higher levels of contingency on a domain is more strongly influenced by successes and failures within that domain than the self-esteem of individuals with less domain contingent self-worth. We expected that individuals with domain contingent self-worth would process domain-related outcomes with reference to interpersonal consequences. At the level of self-construal, this model suggests that the pattern of associations obtained by Baldwin and Sinclair (1996) should be moderated by domain of contingency. Support for our hypothesis would be obtained if individuals with domain-contingent self-worth associate positive domain outcomes with positive social outcomes and negative domain outcomes with negative social outcomes. Because negative information carries greater consequences for the self (Leary et al., 1998; Showers, 1992; Woolfolk, Novalany, Gara, Allen, & Polina, 1995), negative associations—associations between negative domain and social outcomes—should be stronger than positive associations. An asymmetrical pattern of information processing would be supported if individuals with domain-contingent self-worth more strongly associate negative social and negative domain outcomes than they associate positive social and positive domain outcomes. Individuals whose self-worth is less domain-contingent should not demonstrate these same patterns of association.

Following this reasoning, we designed a set of studies that extends the work of Baldwin and Sinclair (1996) and integrates two prominent models of self-esteem.
CONTINGENCIES OF SELF-WORTH AND SOCIAL RELATIONSHIPS

(Crocker & Wolfe, 2001; Leary et al., 1995). Our goal across these studies was to test the hypothesis that individuals with domain-contingent self-worth are more likely to associate domain performances with social evaluations than individuals with less domain-contingent self-worth.

We expected this association to be bidirectional. That is, people with domain-contingent self-worth should both associate domain outcomes with social outcomes and associate social outcomes with domain outcomes. The proposed patterns of association are both specific and general. That is, those with self-esteem contingent on virtue and those with self-esteem contingent on academics should evidence the same patterns of association. The associations are specific in that we expected they occur within domain of contingency. For example, individuals with self-worth highly staked on academic achievement should associate only failures in academics with social relationships. Similarly, individuals with self-worth highly staked on appearance should associate relational evaluations with their performance in the appearance domain, but not the domain of academics. We tested this hypothesis by focusing on two domains—appearance and virtue—as exemplars of how contingent self-worth influences social information processing.

STUDY 1

We designed the first study in this set of experiments to test the hypothesis that individuals consider the domains that are important to their self-esteem to be the domains that others use in social evaluations. The methods of this study were modeled after Study 1 by Leary et al. (1995), in which participants were asked to rank specific events in terms of how they would make them feel about themselves and how they would make other people feel about them. We modified this method to examine the relationship between self-ratings of the importance to self-esteem of the seven general domains prescribed by the contingencies of worth model (Crocker & Wolfe, 2001) and perceptions of performance in these domains as bases for others’ social judgments. We expected that individuals would consider the same domains to be important both to their own self-evaluations and to others’ social judgments. That is, we expected strong associations between the degree to which a domain is relevant to self-esteem and relevant to others’ social evaluations. We further expected that individuals with more domain-contingent self-worth would perceive that domain as more important to social judgments than other domains. For instance, individuals high in contingency on virtue should be more likely to consider virtue as more important to social judgments than other domains.

METHOD

Participants

Eighty-five participants were paid $2 to complete a short questionnaire packet. Participants were recruited from two sources: outside of a university dining hall and through an online pool of community participants interested in paid social science research. The advertisement for the study stated that participants must be between the ages of 18 and 30, but we did not measure their actual ages.
Measures

Perceived Relevance of Domains to Relational Evaluation. Participants were asked to report the extent to which they thought each of seven domains (academic achievement, appearance, competition, family support, God’s love, respect from others, and virtue; Crocker, Luhtanen, et al., 2003) were used by others when they make social judgments. Instructions for this measure read, “Consider the following domains in terms of how important they are to whether or not you are accepted or rejected by those people who you consider to be important. That is, how much do you think you would be included or excluded by important others based on your successes and failures in each of these domains?” After these instructions, participants ranked the seven domains in order from most important to others’ social judgments to least important to others’ social judgments. They next rated each of the domains in terms of relevance to other’s social judgments on a scale from 1 (not at all relevant) to 5 (very relevant).

Perceived Relevance of Domains to Self-Esteem. Participants completed a similar measure of the importance of the seven domains to their personal feelings of self-worth. Instructions for this measure read, “Consider the following domains in terms of how important they are to your self-esteem. That is, how much do you perceive successes and failures in each area as being related to your self-esteem?” After these instructions, participants ranked the domains in order of importance to their self-esteem. They also rated each of the domains in terms of relevance to their self-esteem on a scale from 1 (not at all relevant) to 5 (very relevant). The measures of relevance to self-esteem and to others’ relational evaluations were counterbalanced in order.1

Contingencies of Self-Worth. Because of the short amount of time available to conduct this study, we could include only a short version of the Contingencies of Self-Worth Scale (CSW; Crocker, Luhtanen, et al., 2003). Five items measured contingency on appearance (e.g., When I think I look attractive, I feel good about myself), five items measured contingency on virtue (e.g., My self-esteem depends on whether or not I follow my moral/ethical principles), and four items measured contingency on respect from others (e.g., My self-esteem depends on the opinions others hold of me).2 Participants responded to these items on seven-point Likert-scales between anchors of strongly disagree and strongly agree. Means, standard deviations, and reliability for the contingency subscales used in this study are presented in Table 1.

1. Order had an unexpected effect on consistency between considering domains as important to the self and as important to others’ evaluations, t(83) = 1.90, p = .06. Participants who first rated the domains as important to others’ evaluations evidenced stronger correlations (r = 0.46) than did participants who first rated the domains in regards to their self-evaluations (r = 0.63). The correlations of both groups were significantly different from zero.
2. The contingencies of self-worth measure was included as a prescreening measure for Study 2. Thirty individuals participated in both Study 1 and Study 2. Because Study 2 focused on individuals with either high or low contingency on appearance, we included the appearance subscale. Virtue and respect from others were also included to prevent emphasizing our interest in appearance. We chose the domain of virtue because it is considered to be a more internal domain than appearance. We chose the domain of respect from others because of the possibility that it might moderate the found effects. However, contingency on respect from others did not moderate the reported effects. One item from the scale measuring contingency on respect from others was accidentally omitted, leaving us with four scale items.
RESULTS AND DISCUSSION

Three sets of analyses were conducted to evaluate whether participants’ perceptions of the domains used by others in relational evaluations were the same domains that they considered important to their self-esteem. First, we calculated within-person correlations between the ratings and rankings of the domains in terms of their relevance to other’s social judgments and their relevance to individuals’ self-esteem. This analysis yielded two correlations for each individual (one for ratings and one for rankings) that served as an index of the extent to which individuals associate domains important to the self with others’ social judgments. Because $r$ coefficients are not normally distributed, analyses were conducted using Fisher $z$ transformations of these coefficients and results are retransformed into Pearson $r$s for ease of interpretation.

On the whole, associations between domain importance to self-esteem and to perceived social judgments were strong for both rankings ($M_r = .74$) and ratings of the domains ($M_r = .67$). In addition, 86% of participants’ correlations were positive for rankings of the domains (72% greater than $r = .30$) and 94% of correlations were positive for ratings of the domains (76% greater than $r = .30$).

Second, we compared participants’ ratings of relevance to social relationships of their most and least contingent domains. If participants rated more than one domain as most or least important (e.g., rated both appearance and academic achievement with a score of 5), we calculated the average rating of relevance to social relationships across these domains. Participants rated the domains on which they most stake their self-worth as having greater relevance to how they are evaluated by important others than the domains on which they least stake their self-worth, $t(80) = 11.55, p < .0001$.

The final set of analyses we conducted focused on the relationship between individuals’ scores on the traditional contingencies of self-worth subscales and their expectations that those domains are used in others’ social judgments. Scores on the subscale for contingency on appearance were positively associated with higher expectations of appearance as a basis for social rejection and acceptance, $r_{\text{rating}} = .32$, $p = .004$, $r_{\text{rating}} = .24$, $p = .03$. The pattern was replicated with contingency on virtue, $r_{\text{rating}} = .33$, $p = .003$, $r_{\text{rating}} = .38$, $p < .001$. However, no association was obtained between contingency on respect from others and expectations of relational value, $r_{\text{rating}} = .06, p > .10, r_{\text{rating}} = .02, p > .10$. As expected, individuals whose self-esteem was contingent on appearance on appearance were more likely to report that appearance is a domain used by others when they make social evaluations. Similarly, participants whose self-worth is staked on virtue were more likely to consider virtue to be a domain that others use when making relational evaluations.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mean</th>
<th>SD</th>
<th>Scale</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>4.77</td>
<td>1.16</td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td>Respect from others</td>
<td>4.12</td>
<td>1.14</td>
<td></td>
<td>.69</td>
</tr>
<tr>
<td>Virtue</td>
<td>5.40</td>
<td>1.01</td>
<td></td>
<td>.84</td>
</tr>
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</table>
From these results, we conclude that individuals think others make social judgments using the same information the individuals use in judgments of their self-worth. Although we did not find significant effects for individuals with self-worth contingent on respect from others, we did find that our expected pattern emerged for those with both relatively internal (virtue) and relatively external (appearance) contingencies of self-worth (Crocker, Luhtanen, et al., 2003). The lack of findings for respect from others is not surprising given that the scale asks questions about the importance of others’ opinions. It was likely difficult for participants to think about how other’s opinions of themselves influenced other’s social judgments.

This study has several limitations. First, we used self-report measures that could have been influenced by social desirability. Furthermore, two of the measures used were identical in format, which could have inflated correlations. However, even when using a more traditional measure of contingent self-worth, we found support for our hypotheses in the domains of appearance and virtue. Despite the limitations of this study, the findings are consistent with our prediction that contingencies of self-worth mark domains of particular social importance. Study 2 builds on these findings by experimentally investigating how success and failure in domains of high self-importance are associated with relational outcomes. Because we used explicit measures in Study 1, we also include implicit measures in Study 2 to test whether the proposed associations are automatic.

STUDY 2

In Study 2, we focused on appearance, an external domain that is highly relevant to self-esteem. We used an experimental design to test the automaticity of associations between appearance-related outcomes and relational evaluation. The purpose of this study was to examine whether patterns of social information processing vary across levels of contingent self-worth. We predicted that information about relational outcomes would be associated with domains of importance to the self. As a result, we expected individuals with appearance-contingent self-worth to show stronger associations between appearance-related outcomes and social evaluations than individuals not contingent in this domain. Past research using similar experimental methodologies has revealed that individuals, especially those with contingent self-worth, tend to be faster at pairing failures with rejection than they are at pairing successes with acceptance (Baldwin & Sinclair, 1996). This, combined with other research that points to an asymmetry in how individuals respond to negative versus positive information (e.g., Leary et al., 1998), led us to expect that the biggest differences between individuals with low and high contingency on appearance would appear when we measured associations between negative domain outcomes and social exclusion.

In Study 2, we manipulate the salience of domain performance. We operationalize domain performance as words indicating success or failure. Regardless of whether participants imagine themselves attaining these outcomes, we expect that they associate these outcomes in memory with social evaluations.
METHOD

Participants

One hundred and six participants were recruited from a psychology undergraduate research participant pool and a database of individuals interested in participating in social science research studies for payment. These individuals were screened to have scores in the top and bottom thirds of a previously administered measure of contingency on appearance. Data from six participants’ data were discarded due to technical failure or missing contingency information. Of the remaining participants, 59 were classified as low in contingency on appearance and 41 were classified as high in contingency on appearance. Consistent with research by Crocker, Luhtanen, et al. (2003), females and males were approximately evenly represented among those with low contingency on appearance (31 females, 28 males), but not among those with high contingency on appearance (31 females, 10 males; 2 participants did not report their sex).³

Procedure

Approximately three weeks prior to the experimental session, participants completed the five-item appearance subscale from the Contingencies of Self-Worth Scale (Crocker, Luhtanen, et al., 2003) as part of a screening packet. Representative items are “When I think I look bad, my self-esteem suffers,” and “My self-esteem is not related to my appearance” (reversed). Participants responded on seven-point scales ranging from strongly disagree to strongly agree. Although participants’ means ranged from one to seven, the majority of means were above the midpoint of the scale. Participants were recruited from the upper (scores of 5.6 to 7.0) and lower (scores of 1.0 to 4.6) thirds of the distribution.

During the laboratory session, participants were told we were testing their ability to sort strings of letters into words and non-words quickly and accurately. They were told they would receive a flashing cue marking that the next string of letters would appear. This cover story allowed us to administer individuals a lexical decision task designed to measure the strength of associations between words representing appearance-related outcomes and words representing relational outcomes. Participants completed the study in a private room on a computer. Prior to the lexical decision task of interest, participants completed a short practice trial to ensure their familiarity with the procedures.

Lexical Decision Task. We presented the lexical decision using DirectRT. Participants were instructed to quickly identify whether target strings of letters were words or non-words by pressing marked keys on the keyboard. Half of the targets were words and half were non-words. Non-words were designed to resemble words using feasible combinations of vowels and consonants. We were particularly interested in participants’ recognition of targets related to interpersonal outcomes (acceptance: accepted, included, belong, popular, invited; rejection: alone, excluded, rejected, left out, disliked). In addition, to prevent participants’ attention from focusing

³. Because we did not expect gender to influence these effects, we did not recruit participants with this in mind. Due to imbalanced cell sizes, it would not be appropriate to test the effect of gender.
on social acceptance and rejection, we included targets related to social relationships more broadly (people, others, group, social, gathering) and targets unrelated to social relationships (travel, shopping, computed, treated, Tuesday).

Prior to each target, a prime flashed for seven milliseconds. This prime was masked by a string of asterisks lasting for 300 milliseconds. The primes were from one of three categories: non-words, positive appearance-related words (pretty, beautiful, handsome, thin, attractive, fit, fashionable, stylish, toned, six-pack), and negative appearance-related words (ugly, fat, unattractive, acne, flabby, overweight, hairy, wrinkled, outdated, unstylish). All targets and primes were balanced for length and were presented in white text on the center of a black screen. Targets and primes were randomly paired.

Reaction time data were log transformed to account for a positive skew (Fazio, 1990). To reduce errors, response times less than 300 milliseconds and greater than 3000 milliseconds (3.16%) were excluded from analyses (e.g., Baldwin & Sinclair, 1996; Fazio, 1990).

RESULTS AND DISCUSSION

Because we recruited participants based on whether they were in the top or bottom tertile of contingency on appearance, we treated contingency on appearance as a categorical variable. We conducted a 2 (level of contingency: high, low) x 3 (prime: non-word, positive, negative) x 2 (target: inclusion, exclusion) analysis of variance (ANOVA) with both prime and target treated as repeated measures and found a significant three-way interaction, $F(2, 90) = 4.55$, $p = .01$. To clarify the interaction, we conducted several focused contrast tests. As Figure 1 shows, this interaction was best explained by differences in contingency on appearance. When negative appearance primes were paired with social exclusion targets, we found a significant effect of contingency on appearance, $t(98) = 2.15$, $p = .03$, such that for individuals with highly appearance-contingent self-esteem ($M = 726.05$, $SD = 176.46$), negative primes facilitated recognition of exclusion targets compared to individuals with less appearance-contingent self-esteem ($M = 856.94$, $SD = 331.27$).

Figure 1 also shows that when recognizing exclusion targets, individuals with more appearance-contingent self-worth appear to be quicker to recognize exclusion targets after seeing a negative appearance prime as opposed to a non-word or a positive appearance prime. This suggests that negative appearance primes may have facilitated the recognition of exclusion targets for those with highly appearance-contingent self-worth. Individuals with less appearance-contingent self-worth, on the other hand, appear to be slower to recognize exclusion targets after seeing a negative appearance prime as opposed to a non-word or a positive appearance prime. This suggests that negative appearance primes may have interfered with the recognition of exclusion targets for those with less appearance-contingent self-worth. To determine if the effect of contingency on appearance could be explained by either of these facilitation or interference effects, we conducted contrast tests within each level of contingency on appearance. Within each group, we compared reaction time to exclusion targets after seeing a negative prime to reaction time to exclusion targets after seeing non-word and positive primes combined. The results of these contrast tests revealed that neither simple effect was significant, $t(98) = 1.06$, $p > .10$ for high appearance-contingency; $t(98) = -1.61$, $p$
The observed effect of contingency on appearance cannot be entirely explained by either a facilitation effect for participants with highly appearance-contingent self-worth or an interference effect for participants with less appearance-contingent self-worth.

We also examined the effect of appearance-contingent self-worth when negative primes were paired with inclusion targets. Although trait contingency was not significantly associated with the accessibility of inclusion targets after negative appearance primes, \( t(99) = -1.50, p = .15 \), the pattern of means suggests that for individuals with appearance-contingent self-esteem (\( M = 770.90, SD = 289.78 \)), negative primes may have interfered with the recognition of inclusion targets.
compared to individuals with less appearance-contingent self-esteem ($M = 695.59, SD = 254.78$).

These results provide evidence favoring our hypothesis that patterns of association between appearance-related performance words and words pertaining to relational outcomes differ between individuals with highly appearance-contingent self-worth and individuals with less appearance-contingent self-worth. This yields support for our general hypothesis that patterns of social information processing differ between people with domain-contingent self-worth and those with less domain-contingent self-worth. Our pattern of results also yields support for the asymmetry hypothesis, with negative appearance primes leading to quicker recognition of words pertaining to social exclusion for highly appearance-contingent individuals and to slower recognition of words pertaining to social exclusion for less appearance-contingent individuals.

One limitation of this study is that we cannot determine whether appearance failures primed negative social information specifically or negative information more broadly. Another limitation of this study is that we only measured the influence of accessibility of domain outcomes on accessibility of social evaluations; we did not measure the influence of accessibility of social evaluations on domain accessibility. Despite these limitations, this study complements Study 1 by measuring accessibility of social evaluations at an implicit level.

**STUDY 3**

We assume that the processes we have described would occur within any domain of contingency. In Study 3, we broadened our empirical support for the generalizability of our hypotheses across domains. Specifically, we focused on virtue, a domain considered to be more internal than appearance (Crocker, Luhtanen, et al., 2003). As with the appearance domain, individuals vary in the extent to which their self-worth depends on virtue. Consistent with other research on contingencies of self-worth, individuals who engage in virtuous behaviors experience an increase in self-esteem, particularly if they value being virtuous (Hitlin, 2007).

Our proposed patterns of social information processing were bidirectional. We expected that individuals with domain contingent self-worth both associate domain outcomes with social evaluations and associate social evaluations with domain outcomes. In Study 2 we found support for the first half of this bidirectional process. In Study 3, we tested whether increasing the salience of social evaluations leads to increased accessibility of domain outcomes. Rather than using a lexical decision task, we experimentally manipulated the salience of an experience of social exclusion and then measured the accessibility of negative domain-related words. Consistent with Study 1 and Study 2, we predicted that, relative to participants whose self-esteem is low in domain contingency, participants whose self-esteem is highly domain contingent would evidence greater accessibility of negative domain outcomes when social exclusion is highly salient. As in Study 2, we conceptualize domain performance as the accessibility of words related to domain performance.

Based on past research pointing to the importance of social exclusion over social inclusion (Leary et al., 1998), we focused on how increasing the salience of social exclusion would influence accessibility of virtue-related information.
with Study 2, we expected that increasing the accessibility of an experience of relational devaluation would increase the accessibility of words representing negative virtue performance but would not increase the accessibility of words representing positive virtue performance.

METHOD

Participants

One hundred and nineteen participants were recruited from a psychology undergraduate research participation pool. Of these, 82 were female and 37 were male. All participants were younger than 32 years old; 96% were between the ages of 18 and 22. Two participants did not provide complete information and were not included in the presented analyses, resulting in a total sample of 117 participants.

PROCEDURE

Approximately three weeks prior to the experimental session, participants completed the five-item virtue subscale from the Contingencies of Self-Worth Scale (CSW; Crocker, Luhtanen, et al., 2003) as part of a screening packet. Items from this scale include, “Doing something I know is wrong makes me lose my self-respect,” and “My self-esteem depends on whether or not I follow my moral/ethical principles.” Participants responded on seven-point scales ranging from strongly disagree to strongly agree. The mean across all items for the sample of contingency on virtue was 5.22 with a standard deviation of 1.31. 4 The screening packet also included the 10-item Self-Esteem Scale (RSE; Rosenberg, 1965) and the appearance CSW subscale that was used in Study 2.

During the laboratory session, participants were told that they would be asked to recall an event from their lives and complete a fill-in-the blank task. 5 Participants were randomly assigned to think about one of two negative events, either recalling a time when they were lost or a time when they were socially excluded. Participants in both conditions answered a series of questions about the event in order to increase the salience of the event to the participant (e.g., In what season did this event occur? and How long ago did this event occur?). In addition, all participants wrote briefly about the experience. The writing task was timed to last four minutes for all participants. The conditions were created so that all participants would write about a negative experience and would be able to answer an identical set of questions about the experience. The conditions differed in that only participants

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4. Although males (M = 4.76, SD = 1.32) and females (M = 5.49, SD = 1.20) differed in mean contingency on virtue, sex did not predict the accessibility of negative virtue-related words, t(110) = 0.62, p > .50, and was not included in the analyses testing our hypotheses.

5. Approximately half of the participants completed the experiment in a private room at a research lab on campus. The other half completed the experiment online. Participants completing the experiment online were instructed to do so by themselves and to work straight through without interruptions.
who wrote about an instance of social exclusion recalled an experience of relational devaluation.

Following the writing task, participants completed a word-stem completion task (Quinn, Kallen, & Cathey, 2006). Participants were shown a word with a missing letter (e.g., _ecent) and were asked to complete it by filling in the letter to create the first word that came to their minds (e.g., decent or recent). This task contained 13 words, eight of which could be related to the domain of virtue (three negative: blame, sin, wrong, and five positive: decent, right, honor, moral, pure). We used a thesaurus to generate virtue-related words. Only words that could have one letter dropped and be reasonably completed as a non-virtue-related word were chosen. The mean number of positive virtue words created was 2.51 with a standard deviation of 0.98. The mean number of negative virtue words created was 1.82 with a standard deviation of 0.65. For each participant, we created an index that reflected the accessibility of negative compared to positive virtue words. To create this index, we standardized their positive and negative responses, and then subtracted their positive score from their negative score. Higher values correspond to greater accessibility of negative virtue outcomes relevant to positive virtue outcomes. We centered this variable prior to analysis.

RESULTS AND DISCUSSION

We examined our hypothesis that increasing the salience of social exclusion would increase the accessibility of negative versus positive virtue outcomes for individuals with virtue-contingent self-worth using regression analyses. After entering contingency on virtue and the experimental condition into the regression model, we found a significant interaction between experimental condition and contingency on virtue, \( B = .42, t(108) = 2.17, p = .03 \). We conducted simple slopes analysis to probe this interaction (Cohen, Cohen, West, & Aiken, 2003). As Figure 2 shows, contingency on virtue predicts accessibility of negative compared to positive virtue-related words after participants wrote about a time when they were socially excluded, \( t(108) = 3.18, p = .002 \), but not after participants wrote about a time when they were lost, \( t(108) = 0.12, p = .91 \). Similarly, the manipulation did not influence the accessibility of negative over positive virtue outcomes for individuals with low virtue-contingent self-esteem, \( t(108) = -0.89, p = .38 \), but did for individuals with high virtue-contingent self-esteem, \( t(108) = 2.19, p = .03 \).

We conducted additional analyses to test the possibility that these results were a function of trait self-esteem or contingent self-worth. The interaction between contingency on virtue and the experimental manipulation did not change after controlling for trait self-esteem, \( B = .43, t(107) = 2.20, p = .03 \) or after controlling for contingency on appearance, \( B = .42, t(107) = 2.13, p = .04 \). Because previous research has found that trait self-esteem moderates how people process information related to social relationships (Baldwin & Sinclair, 1996; Pickett, Gardner, & Knowles, 2004), we conducted a regression analysis aimed at testing whether trait self-esteem moderated the significant effects. After including

\[ \text{Analysis on the accessibility of positive and negative words yielded outcomes in the expected direction, but did not reach statistical significance, } t(108) = -1.16, p = .25 \text{ for positive words and } t(108) = 1.48, p = .14 \text{ for negative words.} \]
all simple effects and two-way interactions, the test of the three-way interaction between trait self-esteem, virtue-contingent self-worth, and the experimental manipulation suggested that trait self-esteem did not moderate the impact of experimental manipulation and contingency on virtue on the accessibility of negative versus positive virtue-related words, \( t(104) = 0.25, p = .80 \).

In this study, we found that when social exclusion was salient, individuals whose self-esteem was contingent on virtue, an internal domain, demonstrated an increased accessibility of negative virtue-related words compared to those whose self-esteem was not contingent on virtue. These results are consistent with our findings from Study 2 using a relatively internal domain instead of a domain with clear implications for social acceptance (Crocker, Luhtanen, et al., 2003). Furthermore, we replicated our findings using alternate conceptualizations of interpersonal outcomes and domain accessibility.

Importantly, our results from this study differ from work by Baldwin and Sinclair (1996) as well as others who have found that trait self-esteem moderates reactions to social exclusion (e.g., Pickett et al., 2004; Sommer & Baumeister, 2002) in that we do not find evidence of moderation by trait self-esteem. We suspect that the reason we do not find an effect is twofold. First, individuals whose self-esteem is highly contingent generally report lower levels of trait self-esteem (Crocker et al., 2003). In our study, including trait self-esteem in the model does not dampen the effect of contingency on virtue. We interpret this as evidence that the patterns we find occur because individuals with highly virtue-contingent self-worth differ from those with less virtue-contingent self-worth on how important virtue is to their self-esteem but not in their level of trait self-esteem. Second, our study differs from others reporting moderation by trait self-esteem because our outcome variable measured the accessibility of a domain-specific variable. When threatened, individuals with high self-
esteem tend to focus on their strengths and individuals with low self-esteem tend to focus on their weaknesses (Dodgson & Wood, 1998). Such tendencies indicate that all people are likely to respond to threats by thinking of self-relevant information in many domains. Because we constrained their thoughts to only one domain, we may have removed this effect of trait self-esteem.

**GENERAL DISCUSSION**

Overall, the results of our studies indicate that the social information processing of individuals with domain-contingent self-worth differs from that of people with less domain-contingent self-worth. Specifically, individuals with domain-contingent self-worth associate negative outcomes in that domain with social exclusion and associate social exclusion with negative domain-related outcomes. This same pattern of association does not appear for individuals with less domain-contingent self-worth.

In Study 1, we found that the more people consider a domain important to their personal sense of self-worth, the more they believe other people use that domain when making relational evaluations. In Study 2, we found that associations between appearance-related outcomes and social evaluations differed for individuals with highly appearance-contingent self-worth compared to those with less appearance-contingent self-worth. Specifically, negative appearance-related words were most strongly associated with social exclusion for individuals with appearance-contingent self-esteem. Individuals with relatively less appearance-contingent self-esteem did not associate negative appearance words with social exclusion. In Study 3, we found support for the bidirectionality of this association, with those with virtue-contingent self-worth demonstrating an increased accessibility of negative virtue words when an experience of social exclusion was salient. The salience of social exclusion did not influence the accessibility of virtue-related words for participants with less virtue-contingent self-worth. Taken together, these findings support our hypothesis that individuals with contingent self-worth associate domain outcomes with social outcomes and vice versa. These patterns of association are asymmetrical with particular emphasis on negative domain outcomes being associated with social exclusion and social exclusion being associated with negative domain outcomes.

Although the integration of multiple domains with varying levels of importance into one’s self-concept has been viewed as a normative and benign experience (Harter, 1999; Harter, Bresnick, Bouchey, & Whitesell, 1997), more recent work suggests that basing self-esteem in specific domains may serve as a source of vulnerability (Crocker & Park, 2004). Because contingent individuals’ sense of worth is so invested in these domains, they pursue success within these domains at a cost to interpersonal relationships, emotion regulation, and even physical health (Crocker, 2002; Crocker, Karpinski, Quinn, & Chase, 2003; Crocker & Park, 2004; Crocker, Sommers, & Luhtanen, 2002; Lemay & Clark, 2008). Furthermore, excessive attention to specific domains may undermine individuals’ likelihood of trying to attain, and ultimately experience, success in other domains (Crocker & Park, 2004).

We took a broader view of the self and investigated how contingencies of self-worth are associated with the need to belong, a core motivation that influences individuals’ construals of themselves and their social relationships (Baumeister &
Leary, 1995; Leary et al., 1995). Our findings suggest that domains in which self-esteem might be contingent are those in which individuals with high contingency are particularly attuned to cues for potential social acceptance and rejection. Because of this, failures in important domains to the self are likely to carry a double punch. Not only does poor performance lead to a decrease in self-esteem because of the domain’s self-importance, but it may also lead to a decrease in self-esteem because of perceived interpersonal consequences. This double punch from domain failures bolsters our understanding of how those with contingent self-worth are vulnerable to fluctuations in self-regard and to self-regulation more broadly (Crocker & Park, 2004; Kernis, Cornell, Sun, Berry, & Harlow, 1993).

We investigated patterns of social information processing only at the level of self-construal. We did not manipulate participants’ actual performance, but rather prompted them to think about performance or made thoughts related to domain performance salient. In this way, we did not directly measure or manipulate participants’ performance in a given domain. Rather, we measured the extent to which participants associate words representing domain performance with words representing social evaluations. Future research should further investigate how actual performances lead to changes in cognition, affect, and behaviors. We expect that one important downstream consequence of the demonstrated social information processing patterns is that individuals with contingent self-worth overemphasize the social importance of domains in which they have contingent self-worth, and thus increase pressure on themselves to perform in those domains. We expect that this increased pressure might undercut both their performance in important domains and their social relationships by increasing feelings of threat and anxiety about domain performances (e.g., Blascovich, Mendes, Hunter & Salomon, 1999; Elliott & McGregor, 1999; Lemay & Clark, 2007). Such negative experiences would further reinforce associations between domains of importance and social evaluations.

In addition to extending the current body of research on contingencies of self-worth, the results of our studies also extend prior research on the dynamics of self-esteem. Baldwin and Sinclair (1996) found associations in memory between success and social acceptance and failure and social rejection; however, our findings suggest that this pattern of association varies as a function of the importance of the domain to evaluations of self-worth. We examined these associations in both an external (appearance) and internal (virtue) domain and found support for our hypotheses. In both domains, we found that the associations highlighted by Baldwin and Sinclair are more likely for individuals with domain-contingent self-esteem. Although we did not consider all possible evaluative domains (e.g., social competence, academic performance), we would expect this pattern to generalize across domains. Importantly, our results varied from Baldwin and Sinclair (1996) in that we did not find evidence of moderation by trait self-esteem. We suspect that this difference emerged because we focused our investigation on the accessibility of thoughts on one specific domain rather than on general thoughts of strengths and weaknesses.

Our findings also extend work on the social monitoring system posited by Gardner and colleagues (Gardner, Pickett, & Brewer, 2000; Pickett et al., 2004). They show that individuals respond to social threat in ways aimed at restoring their feelings of self-worth. For instance, individuals pay particular attention to informational cues about relational valuation when their need to belong has been challenged (Gardner et al., 2000). Our research points to the importance of considering individual differences in domains of contingency. Because people vary in the
degree to which domain-related outcomes are associated with social rejection, the social monitoring system may be particularly prone to direct the search for social information in domains that individuals most strongly associate with their relational value. Our results suggest that individuals with contingent self-worth may be particularly likely to search for negative domain-related information when relational devaluation is salient.

Construing important self-relevant domains as carrying both direct and indirect connections to feelings of social acceptance and rejection suggests that the social-relations and domain-focused perspectives of self-esteem may offer complementary accounts of self-construal. We provide evidence that individuals with contingent self-worth associate domain outcomes with social outcomes. However, we did not examine whether these patterns of association are a precursor or a consequence of having contingent self-worth. Based on developmental research about the internalization of domains of importance, we expect that contingencies develop as a function of socialization processes. Future research should clarify this issue. An additional limitation of our findings is that we demonstrate associations between constructs, but did not ensure that these associations involve self-knowledge. Given the centrality of self-esteem to self-concept (Greenwald, Bellezza, & Banaji, 1988; Hoyle, 2006), further research should replicate our findings with self-relevant information.

To date, research following the sociometer model of self-esteem (Baumeister & Leary, 1995) and research following the contingencies model of self-esteem (Crocker & Wolfe, 2001) have progressed relatively independently. Our findings are relevant to assumptions of both perspectives and suggest a point of connection between these alternative conceptualizations of self-esteem. Although individuals vary in the extent to which they consider domains to be self-evaluative, they also vary in the extent to which negative domain-related information is associated with social outcomes. These results suggest that these models may jointly predict how individuals process self-relevant information. Although this is only a preliminary step in integrating these two influential perspectives (and perhaps others; e.g., Greenberg et al., 1992), our findings suggest that future efforts to integrate seemingly disparate perspectives on self-esteem at levels of affect, self-regulation, and social cognition would yield fruitful results.

REFERENCES


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