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Resource control strategies and personality traits

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ABSTRACT

Resource control strategies refer to the approaches that individuals adopt in order to acquire material resources and status. The present study examined whether individuals who adopt particular resource control strategies would report different personality traits. This was accomplished by asking 966 Jewish Israeli community participants to complete self-report measures concerning their resource control strategies and their personality traits. The results showed that individuals who adopted particular resource control strategies often reported different personality traits than those who adopted other strategies. For example, those who adopted a bistrategic control strategy reported relatively high levels of the Dark Triad of personality, modest levels of openness, neuroticism, and extraversion, as well as low levels of agreeableness. Discussion focuses on the implications of these results for understanding the connection between resource control strategies and personality traits.

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1. Introduction

The attainment of goals is a fundamental aspect of life that often involves the acquisition of material resources and status (see Hawley, 2006 for a review). According to resource control theory (Hawley, 2002), individuals can adopt either coercive or prosocial resource control strategies. Coercive strategies for resource control are derived from traditional models of agonistic social dominance and involve behaviors that are direct, aversive, and immediate (e.g., using physical force or threats of force to take resources from someone else). In contrast, prosocial strategies for resource control involve indirect attempts to gain access to resources through the use of reciprocity, cooperation, unsolicited help, and alliance formation. It is important to note that coercive strategies are generally employed without consideration for the goals or motivations of other individuals in one's social environment, whereas prosocial strategies use a cooperative approach and generally attempt to move away from zero-sum strategies

and find ways for both individuals to benefit from interactions to some extent (Hawley, 2011).

Although prosocial and coercive resource control strategies have important differences with regard to their execution, resource control theory argues that they are generally serving the same basic function (i.e., controlling resources) and are actually 'two sides of the same coin' (Hawley, 2002). Resource control theory attempts to capture the complexity of resource control strategies by using the combination of coercive and prosocial strategies to identify more specific resource control strategies (see Hawley, Johnson, Mize, & McNamara, 2007 for an extended discussion). This is typically accomplished by focusing on the relative degree of Resource Control Strategy employment. More specifically, the distributions for coercive and prosocial resource control strategies are divided into tertiles and the placement of a particular individual in each of these distributions is identified. This approach results in five types of resource control strategies: *bistrategic controllers* (those who are in the top tertiles of both coercive and prosocial strategies), *coercive controllers* (those who are in the top tertile for coercive strategies only), *prosocial controllers* (those who are in the top tertile for prosocial strategies only), *noncontrollers* (those who are in the lowest tertile of both coercive and prosocial strategies), and *typical controllers* (those who are in the middle tertile for one or both strategies). These resource control strategies have been identified using self-reports (e.g., Hawley, 2003a) and observer reports (Hawley, 2003b; Hawley, Little, & Card, 2007).

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Coercive controllers use strategies that are direct and aversive (e.g., physical force). It is not surprising that these individuals tend to be less agreeable, less morally mature, and more aggressive than others (Hawley, 2003a,b). Prosocial controllers use strategies that are less direct (e.g., reciprocal helping) but are ultimately self-serving and instrumental (Hawley, Shorey, & Alderman, 2009). Prosocial controllers are perceived as agreeable and generally liked by their peers (e.g., Hawley, 2002, 2003a; Hawley, Little, & Card, 2008). Bistrategic controllers use a blend of coercive and prosocial strategies which leads them to experience both favorable and unfavorable outcomes. However, bistrategic controllers tend to display social and physical aggression (Hawley et al., 2007) which may explain their relatively low levels of peer approval (Hawley et al., 2008). Noncontrollers employ low levels of both coercive and prosocial strategies which may explain their weak connections to their peer groups and their lack of control over outcomes (Hawley, 2003b, 2010). Overall, bistrategic controllers have been shown to be the most successful at controlling resources followed by prosocial and coercive controllers, with the typical controllers and noncontrollers being less successful (see Hawley, 2011 for a review). The existing body of research supports the idea that coercive and prosocial strategies are effective and this is especially true if they are used in combination (i.e., bistrategic control).

The existing evidence clearly suggests that different resource control strategies are associated with a variety of psychological and social outcomes such as aggression (e.g., Hawley, 2011). One particularly interesting difference concerns the personality traits possessed by individuals who employ each Resource Control Strategy. For example, it has been shown that bistrategic controllers exhibit Machiavellian tendencies, prosocial controllers report high levels of agreeableness, and coercive controllers are viewed as being aggressive (see Hawley, 2011 for a review). We believe that it may be beneficial to examine an even broader array of personality traits and their connections with resource control strategies because this may provide additional insight into the reasons that individuals employ particular resource control tactics.

1.1. Overview and predictions

The purpose of the present study was to examine whether individuals who rely on different resource control strategies also differ in terms of their personality traits. This was accomplished by asking participants to complete measures concerning their resource control strategies as well as self-reports of their personality traits. We expected our results to replicate previous results such that individuals who employ bistrategic resource control strategies would report high levels of Machiavellianism and prosocial controllers would report high levels of agreeableness. However, we wanted to extend previous findings concerning the link between resource control strategies and personality traits by examining the Big Five personality dimensions (i.e., extraversion, agreeableness, neuroticism, conscientiousness, and openness) and the Dark Triad of personality (i.e., narcissism, Machiavellianism, and psychopathy; Paulhus & Williams, 2002). We expected that bistrategic and coercive controllers would report high levels of the Dark Triad personality traits because these traits have been found to be associated with a generally manipulative and malicious interpersonal style (Paulhus & Williams, 2002). We also expected that bistrategic and coercive controllers would report low levels of agreeableness and conscientiousness because it has been suggested that individuals who employ these strategies tend to be interpersonally hostile and lack the ability to delay gratification (Hawley, 1999, 2006). Prosocial controllers were expected to report high levels of agreeableness and low levels of each of the Dark Triad personality traits. Our rationale for this prediction was that prosocial controllers avoid antagonistic encounters which would be consistent with

high levels of agreeableness (Hawley, 1999, 2006). However, the Dark Triad traits share an antagonistic interpersonal style so it is unlikely that prosocial controllers would report relatively high levels of these personality traits (e.g., Paulhus & Williams, 2002). We expected typical controllers and noncontrollers to report low levels of the Dark Triad personality traits. The basis for this prediction was that each of the Dark Triad traits shares a willingness to manipulate and exploit others which is inconsistent with the approach that characterizes typical controllers and noncontrollers.

Previous studies concerning resource control strategies have found that men and women report similar strategies (e.g., Hawley et al., 2008). However, sex differences have consistently emerged for the Big Five dimensions of agreeableness and neuroticism such that women consistently score higher than men on these dimensions (e.g., Costa, Terracciano, & McCrae, 2001). Sex differences for extraversion, conscientiousness, and openness have been either inconsistent or negligible in size (e.g., Costa et al., 2001). For the Dark Triad, men have consistently been found to report higher levels of narcissism, Machiavellianism, and psychopathy (e.g., Jonason, Li, & Buss, 2010). As a result of the sex differences in personality traits that have emerged in previous studies, we included sex as a moderator in the present study. We expected that men who employed bistrategic and coercive resource control strategies would report the lowest levels of agreeableness and neuroticism as well as the highest levels of narcissism, Machiavellianism, and psychopathy.

2. Method

2.1. Participants and procedure

Our sample consisted of 966 Jewish Israeli community participants (465 men, 501 women) who responded to requests posted in various public areas (e.g., clubs, hotels, restaurants, shops) that asked for volunteers to take part in a study concerning personality and behaviors. Participants were unmarried young adults in their mid-20s (range 20–35 years; $M = 24.31$, $SD = 2.85$) with an average of 12.78 years of formal education (ranged from 10 to 22 years, $SD = 1.38$). Participation in the study was voluntary and participants were not paid or compensated for their participation. Participants completed measures of the Big Five personality dimensions and the Dark Triad personality traits – along with other measures that are not relevant to the present study (e.g., self-esteem level) – during an individual laboratory session. Participants returned to the laboratory 11 days later for a second laboratory session during which they completed a measure of resource control strategies along with other measures that were not relevant to the present study (e.g., consumerism). All questionnaires were administered in Hebrew with the original English versions being translated using the back-translation method.

2.2. Measures

2.2.1. Resource control

The Resource Control Strategy Inventory (Hawley, 2006) was used to assess prosocial and coercive resource control strategies. This instrument consists of 12 items concerning prosocial resource control strategies (6 items; e.g., “I access resources [material, social, informational] by promising something in return” [$\alpha = .79$]) and coercive resource control strategies (6 items; e.g., “I access resources [material, social, informational] by dominating others” [$\alpha = .86$]). Respondents rated their level of agreement with each statement using scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Resource control strategies are considered to be a relative differential (e.g., Hawley & Little, 1999) so resource control

groups were created by dividing the distributions of the responses to the prosocial and coercive strategies into tertiles (e.g., Hawley, 2003a,b): (1) *bistrategic controllers* scored in the top 66th percentile on both prosocial and coercive control strategies ($n = 146$, 15.11%), (2) *coercive controllers* scored in the top 66th percentile on coercive control strategies but average or low on prosocial control strategies ($n = 150$, 15.53%), (3) *prosocial controllers* scored in the top 66th percentile on the prosocial control strategies but average or lower on the coercive control strategies ($n = 191$, 19.77%), (4) *typical controllers* scored less than the 66th percentile on both prosocial and coercive control strategies but only in the lower 33rd percentile on no more than one of these control strategies ($n = 335$, 34.68%), and (5) *noncontrollers* scored in the lower 33rd percentile on both prosocial and coercive strategies ($n = 144$, 14.91%).

2.2.2. Big Five personality dimensions

The Big Five Inventory (BFI; John, Donahue, & Kentle, 1991) was used to capture basic personality dimensions. The BFI is a 44-item questionnaire that assesses the Big Five personality dimensions of *Extraversion* (8 items; e.g., “I see myself as someone who is talkative” [$\alpha = .78$]), *Neuroticism* (8 items; e.g., “I see myself as someone who worries a lot” [$\alpha = .81$]), *Agreeableness* (9 items; e.g., “I see myself as someone who is considerate and kind to almost everyone” [$\alpha = .72$]), *Conscientiousness* (9 items; e.g., “I see myself as someone who does a thorough job” [$\alpha = .77$]), and *Openness* (10 items; e.g., “I see myself as someone who is original, comes up with new ideas” [$\alpha = .77$]). The BFI has been shown to possess adequate psychometric properties in previous studies (e.g., John et al., 1991).

2.2.3. Narcissism

Narcissism was assessed using the 40-item version of the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). The NPI is well validated and is often considered to be the standard measure of subclinical narcissistic personality traits (Paulhus & Williams, 2002). Items on the NPI are presented in a forced-choice format such that participants must choose between a narcissistic and a non-narcissistic statement for each item (e.g., “I like having authority over other people” or “I don’t mind following orders”). The internal consistency of the NPI was $\alpha = .86$ for the present study.

2.2.4. Machiavellianism

Machiavellianism was measured via the Mach-IV (Christie & Geis, 1970). The Mach-IV is a 20-item instrument that was developed to measure manipulative and deceitful tendencies as well as cynical and immoral beliefs (e.g., “The best way to handle people is to tell them what they want to hear”). Participants were asked to rate their level of agreement with the items of the Mach-IV using scales that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). In the current sample, the internal consistency for the Mach-IV was $\alpha = .70$.

2.2.5. Psychopathy

Psychopathy was measured using the Self-Report Psychopathy Scale (SRP-III; Paulhus, Neumann, & Hare, in press). The SRP-III was based on the revised version of Hare’s Psychopathy Checklist (PCL-R; Hare, 2003) and was intended to serve as a measure of psychopathy in non-criminal samples. The version of the SRP-III employed in the current study consists of 34 items and is based on factor analysis conducted by Mahmut, Menictas, Stevenson, and Homewood (2011). Participants were instructed to indicate their agreement with each of the 34 statements on scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The internal consistency of the SRPS was $\alpha = .86$ for the present study.

3. Results

Data from the present study were analyzed using a multivariate analysis of variance (MANOVA). This was a 5 (Resource Control Strategy: Bistrategic Controllers vs. Coercive Controllers vs. Prosocial Controllers vs. Typical Controllers vs. Noncontrollers) \times 2 (Sex: Men vs. Women) MANOVA with 8 outcome variables (i.e., extraversion, agreeableness, neuroticism, conscientiousness, openness, narcissism, Machiavellianism, and psychopathy). Main effects emerged for Resource Control Strategy ($F[32,3501] = 9.88$, $p < .001$, Wilk’s $\Lambda = 0.73$, partial $\eta^2 = .08$) and Sex ($F[8,949] = 30.20$, $p < .001$, Wilk’s $\Lambda = 0.80$, partial $\eta^2 = .20$). The interaction of Resource Control Strategy \times Sex only approached statistical significance ($F[32,3501] = 1.40$, $p = .07$, Wilk’s $\Lambda = 0.95$, partial $\eta^2 = .01$). This significant MANOVA was followed by a series of 5 (Resource Control Group: Bistrategic Controllers vs. Coercive Controllers vs. Prosocial Controllers vs. Typical Controllers vs. Noncontrollers) \times 2 (Sex: Men vs. Women) ANOVAs to examine which Big Five personality dimensions and Dark Triad traits differed between those who exhibited different resource control strategies. The results of the analyses for each of the Big Five personality dimensions and the Dark Triad personality traits are presented in Table 1.

3.1. Extraversion

The main effect of resource control was significant and post hoc Tukey tests revealed that participants who were typical controllers reported lower levels of extraversion than bistrategic controllers ($p < .001$) and prosocial controllers ($p = .006$). The main effect of sex was significant such that women reported higher levels of extraversion than men. The interaction of resource control and sex did not approach conventional levels of significance.

3.2. Agreeableness

The main effect of resource control was significant and post hoc Tukey tests revealed that prosocial controllers and noncontrollers reported higher levels of agreeableness than typical controllers ($ps < .05$) who reported higher levels of agreeableness than bistrategic controllers ($p < .001$) and coercive controllers ($p < .001$). The main effect of sex was not significant and the interaction of resource control and sex failed to emerge from this analysis.

3.3. Neuroticism

The main effect of resource control was significant and post hoc Tukey tests revealed that bistrategic controllers reported higher levels of neuroticism than prosocial controllers ($p = .02$) and noncontrollers ($p = .02$). The main effect of sex was significant such that women reported higher levels of neuroticism than men. The interaction of resource control and sex did not emerge.

3.4. Conscientiousness

The main effect of resource control was significant and post hoc Tukey tests revealed that coercive controllers reported lower levels of conscientiousness than bistrategic controllers ($p = .04$), prosocial controllers ($p < .001$), typical controllers ($p < .001$), and noncontrollers ($p < .001$). Further, bistrategic controllers reported lower levels of conscientiousness than noncontrollers ($p = .006$). The main effect of sex was not significant nor was the interaction of resource control and sex.

Table 1
Summary of Two-Way ANOVAs for Resource Control Strategy and Sex.

	Bistrategic Controllers <i>M</i> (<i>SD</i>)	Coercive Controllers <i>M</i> (<i>SD</i>)	Prosocial Controllers <i>M</i> (<i>SD</i>)	Typical Controllers <i>M</i> (<i>SD</i>)	Noncontrollers <i>M</i> (<i>SD</i>)	Two-Way ANOVAs		
						Resource Control Strategy (RCS) <i>F</i> (4,956)	Sex <i>F</i> (1,956)	RCS × Sex <i>F</i> (4,956)
Extraversion						4.49***	10.91***	0.96
Men	3.66 (0.55)	3.40 (0.71)	3.48 (0.62)	3.28 (0.63)	3.41 (0.69)			
Women	3.63 (0.65)	3.64 (0.72)	3.63 (0.72)	3.86 (0.58)	3.86 (0.58)			
Agreeableness						27.67***	2.10	1.65
Men	3.56 (0.55)	3.49 (0.59)	4.12 (0.50)	3.87 (0.54)	4.08 (0.48)			
Women	3.60 (0.62)	3.54 (0.57)	3.95 (0.52)	3.86 (0.58)	3.86 (0.58)			
Neuroticism						4.04***	109.65***	0.52
Men	2.71 (0.76)	2.59 (0.58)	2.36 (0.71)	2.56 (0.68)	2.42 (0.62)			
Women	3.19 (0.62)	3.02 (0.71)	2.99 (0.84)	3.02 (0.69)	3.02 (0.69)			
Conscientiousness						6.89***	0.01	1.79
Men	3.63 (0.59)	3.58 (0.61)	3.79 (0.68)	3.67 (0.63)	3.87 (0.66)			
Women	3.67 (0.57)	3.42 (0.67)	3.77 (0.60)	3.82 (0.62)	3.82 (0.62)			
Openness						3.61**	3.85*	0.41
Men	3.85 (0.65)	3.67 (0.59)	3.83 (0.57)	3.71 (0.60)	3.69 (0.70)			
Women	3.82 (0.60)	3.67 (0.62)	3.72 (0.63)	3.59 (0.67)	3.59 (0.67)			
Narcissism						29.81***	4.38*	1.96
Men	24.41 (6.67)	22.52 (6.64)	20.80 (6.62)	17.06 (6.48)	17.24 (7.34)			
Women	24.23 (6.02)	22.13 (5.67)	21.41 (6.31)	19.42 (6.16)	19.42 (6.16)			
Machiavellianism						27.92***	0.98	1.08
Men	2.97 (0.41)	2.95 (0.43)	2.62 (0.40)	2.71 (0.41)	2.50 (0.39)			
Women	2.87 (0.38)	2.90 (0.44)	2.66 (0.41)	2.64 (0.41)	2.64 (0.41)			
Psychopathy						36.64***	73.19***	3.65**
Men	2.61 (0.52)	2.51 (0.49)	2.10 (0.42)	2.16 (0.43)	2.00 (0.38)			
Women	2.14 (0.47)	2.24 (0.48)	1.91 (0.40)	1.93 (0.38)	1.93 (0.38)			

(*p*-Values are two-tailed).

* *p* < .05.

** *p* < .01.

*** *p* < .001.

3.5. Openness

The main effect of resource control was significant and post hoc Tukey tests revealed that bistrategic controllers and prosocial controllers reported higher levels of openness than coercive controllers (*ps* < .04), typical controllers (*ps* < .03), and noncontrollers (*ps* < .02). The main effect of sex was significant such that men reported higher levels of openness than women. The interaction of resource control and sex was not significant.

3.6. Narcissism

The main effect of resource control was significant and post hoc Tukey tests revealed that bistrategic controllers reported higher levels of narcissism than coercive controllers (*p* = .008) who, in turn, reported higher levels of narcissism than prosocial controllers (*p* = .04), typical controllers (*p* < .001), and noncontrollers (*p* < .001). The main effect of sex was significant such that men reported higher levels of narcissism than women. The interaction of resource control and sex was not significant.

3.7. Machiavellianism

The main effect of resource control was significant and post hoc Tukey tests revealed that bistrategic controllers and coercive controllers reported higher levels of Machiavellianism than prosocial controllers (*ps* < .001) or typical controllers (*ps* < .001) who, in turn, reported higher levels of Machiavellianism than noncontrollers (*p* = .009). The main effect of sex was not significant nor was the interaction of resource control and sex.

3.8. Psychopathy

The main effects of resource control and sex were significant. These main effects were qualified by the interaction of resource control and sex which emerged. Men reported higher levels of

psychopathy than women for the bistrategic controllers ($F[1,144] = 32.46, p < .001, \eta^2 = .18$), coercive controllers ($F[1,148] = 10.72, p < .001, \eta^2 = .07$), prosocial controllers ($F[1,189] = 10.15, p = .002, \eta^2 = .05$), and typical controllers ($F[1,333] = 26.03, p < .001, \eta^2 = .07$) but not for the noncontrollers ($F[1,142] = 2.77, p = .10, \eta^2 = .02$). It is important to note that the magnitude of these differences varied across the groups such that the largest differences emerged for bistrategic and coercive controllers which reflects the fact that the highest levels of psychopathy were reported by bistrategic and coercive controllers who were men.

4. Discussion

The purpose of the present study was to examine whether individuals who rely on different resource control strategies also differ in terms of their personality traits. Results revealed differing patterns of personality traits for individuals who tend to adopt different resource control strategies. Individuals who adopted a bistrategic control strategy reported high levels of the Dark Triad of personality, modest levels of openness, neuroticism, and extraversion, as well as low levels of agreeableness. Individuals who adopted a coercive control strategy reported high levels of the Dark Triad of personality as well as low levels of agreeableness and conscientiousness. Those who adopted a prosocial control strategy reported high levels of agreeableness as well as low levels of psychopathy and Machiavellianism. Individuals who employed a typical control strategy reported low levels of the Dark Triad of personality. Noncontrollers reported low levels of the Dark Triad as well as high levels of agreeableness and conscientiousness.

The results of the present study suggest that the adoption of particular resource control strategies are linked with different personality traits. Self-reported levels of agreeableness and conscientiousness differed between those who adopted different resource control strategies. High levels of agreeableness were reported by prosocial controllers and noncontrollers whereas low levels of agreeableness were reported by bistrategic and coercive

controllers. High levels of conscientiousness were reported by prosocial controllers and noncontrollers whereas low levels of conscientiousness were reported by coercive controllers. These results are consistent with the idea that the use of prosocial resource control strategies is associated with more interpersonally attractive qualities such as agreeableness and cooperation as well as characteristics such as impulse control (e.g., Hawley, 2003a, 2006). Further, nearly opposite patterns of results emerged for agreeableness and the Dark Triad of personality which is consistent with previous research suggesting that a lack of agreeableness is a unifying theme among the traits of the Dark Triad (e.g., Paulhus & Williams, 2002).

Our results regarding narcissism revealed that individuals who adopted bistrategic and coercive resource control strategies endorsed higher levels of the trait, whereas individuals who adopted noncontrolling and typical strategies endorsed lower levels of the trait. These findings are in line with the agency model of narcissism which asserts that individuals with narcissistic personality traits tend to endorse more agentic traits (e.g., dominant, assertive) and less communal traits (e.g., cooperative, generous) as being self-descriptive (e.g., Campbell, Bosson, Goheen, Lakey, & Kernis, 2007). Taken together, these findings suggest that narcissistic individuals may utilize dominance and assertiveness to gain control of resources in their social environment.

Individuals who adopted bistrategic and coercive resource control strategies reported higher levels of Machiavellianism, whereas individuals who adopted noncontrolling, prosocial, and typical control strategies were lower in Machiavellianism. These results are consistent with previous research which found that individuals with high levels of Machiavellianism were skilled at resource control and employed both prosocial and coercive control strategies quite effectively (e.g., Hawley, 2003a, 2006). Additionally, it has been suggested that Machiavellianism should have the most in common with certain aspects of psychopathy (e.g., McHoskey, Worzel, & Szyarto, 1998). Our results support this contention such that a similar pattern of results emerged for Machiavellianism and psychopathy. Higher levels of psychopathy were endorsed by individuals who adopted bistrategic and coercive strategies. Further, the fact that men reported higher levels of psychopathy in each resource control group – most notably in the bistrategic and coercive control groups – is not surprising given that men generally report higher levels of psychopathy than women (e.g., Lee & Ashton, 2005).

Although the present study has a number of strengths (e.g., large community sample, included a broad array of personality traits), it is important to acknowledge several potential limitations. The first potential limitation is the correlational nature of the study which precludes an understanding of the causal nature of the relationship between resource control strategies and personality traits. Although the underlying process model of the present study was that certain personality traits would lead individuals to adopt specific resource control strategies, this cannot be established using the present data. For example, it is possible that the use of resource control strategies may lead to the development of personality traits (e.g., using bistrategic control strategies may increase levels of Machiavellianism over time). It is also possible that both resource control strategies and personality traits are both due to some third variable that was not assessed in the present study (e.g., life history). The second potential limitation is that the present study relied exclusively on self-report measures of resource control strategies and personality traits which make it possible that our findings may have been influenced by socially desirable response biases. For example, some individuals may have been reluctant to endorse more aversive resource control strategies and personality characteristics. Future studies would benefit by adopting long-term longitudinal crossed-lagged designs or utilizing strategies for capturing resource control strategies and personality traits that are not reliant on self-report such as obser-

ver ratings. The third potential limitation is that our sample was comprised solely of educated, unmarried Jewish Israeli participants which may limit the extent to which these results can be generalized. The extent to which the present results would replicate in other regions of the world or with other age groups is an important empirical question that should be addressed given the importance of gaining a better understanding of resource control strategies.

5. Conclusion

In the present study, individuals who adopted particular resource control strategies generally reported differences in their personality traits. For example, bistrategic controllers reported high levels of Dark Triad personality traits, modest levels of openness, neuroticism, and extraversion, as well as low levels of agreeableness. Despite its limitations, the results of the present study shed light on the personality traits of individuals who adopt different resource control strategies and suggest that individuals who employ bistrategic and coercive resource control strategies are likely to report relatively dark personality traits.

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References

- Campbell, W. K., Bosson, J. K., Goheen, T. W., Lakey, C. E., & Kernis, M. H. (2007). Do narcissists dislike themselves "deep down inside"? *Psychological Science*, *18*, 227–229.
- Christie, R., & Geis, R. L. (1970). *Studies in Machiavellianism*. New York, NY: Academic Press.
- Costa, P. T., Jr., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology*, *81*, 322–331.
- Hare, R. D. (2003). *The hare psychopathy checklist-revised (PCL-R)* (2nd ed.). Toronto, Ontario, Canada: Multi-Health Systems.
- Hawley, P. H. (1999). The ontogenesis of social dominance: A strategy-based evolutionary perspective. *Developmental Review*, *19*, 97–132.
- Hawley, P. H. (2002). Social dominance and prosocial and coercive strategies of resource control in preschoolers. *International Journal of Behavioral Development*, *26*, 167–176.
- Hawley, P. H. (2003a). Prosocial and coercive configurations of resource control in early adolescence: A case for the well-adapted Machiavellian. *Merrill-Palmer Quarterly*, *49*, 279–309.
- Hawley, P. H. (2003b). Strategies of control, aggression and morality in preschoolers: An evolutionary perspective. *Journal of Experimental Child Psychology*, *85*, 213–235.
- Hawley, P. H. (2006). Evolution and personality: A new look at Machiavellianism. In D. Mroczek & T. Little (Eds.), *Handbook of personality development* (pp. 147–161). Hillsdale, NJ: Lawrence Erlbaum.
- Hawley, P. H. (2010). The role of competition and cooperation in shaping personality: An evolutionary perspective on social dominance, Machiavellianism, and children's social development. In D. M. Buss & P. H. Hawley (Eds.), *The evolution of personality and individual differences* (pp. 76–110). New York, NY: Oxford.
- Hawley, P. H. (2011). The role of competition and cooperation in shaping personality: An evolutionary perspective on social dominance, Machiavellianism, and children's social development. In D. M. Buss & P. H. Hawley (Eds.), *The evolution of personality and individual differences* (pp. 76–110). New York, NY: Oxford University Press.
- Hawley, P. H., Johnson, S. E., Mize, J. A., & McNamara, K. A. (2007). Physical attractiveness in preschoolers: Relationships with power, status, aggression and social skills. *Journal of School Psychology*, *45*, 499–521.
- Hawley, P. H., & Little, T. D. (1999). Winning some and losing some: A social relations approach to social dominance in toddlers. *Merrill-Palmer Quarterly*, *45*, 185–214.
- Hawley, P. H., Little, T. D., & Card, N. A. (2007). The allure of a mean friend: Relationship quality and processes of aggressive adolescents with prosocial skills. *International Journal of Behavioral Development*, *31*, 170–180.
- Hawley, P. H., Little, T. D., & Card, N. A. (2008). The myth of the alpha male: A new look at dominance-related beliefs and behaviors among adolescent males and females. *International Journal of Behavioral Development*, *32*, 76–88.

- Hawley, P. H., Shorey, H. S., & Alderman, P. M. (2009). Attachment correlates of resource-control strategies: Possible origins of social dominance and interpersonal power differentials. *Journal of Social and Personal Relationships*, 26, 1097–1118.
- John, O. P., Donahue, E. M., & Kentel, R. L. (1991). *The Big Five inventory: Versions 4a and 54 [Technical report]*. Berkeley, CA: University of California, Institute of Personality and Social Research.
- Jonason, P. K., Li, N. P., & Buss, D. M. (2010). The costs and benefits of the Dark Triad: Implications for mate poaching and mate retention tactics. *Personality and Individual Differences*, 48, 373–378.
- Lee, K., & Ashton, M. C. (2005). Psychopathy, Machiavellianism, and narcissism in the Five-Factor Model and the HEXACO model of personality structure. *Personality and Individual Differences*, 38, 1571–1582.
- Mahmut, M. K., Menictas, C., Stevenson, R. J., & Homewood, J. (2011). Validating the factor structure of the Self-Report Psychopathy Scale in a community sample. *Psychological Assessment*, 23, 670–678.
- McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology*, 74, 192–210.
- Paulhus, D. L., Neumann, C. S., & Hare, R. D. *Manual for the Self-Report Psychopathy Scale*. Toronto, Canada: Multi-Health Systems (in press).
- Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, 36, 556–563.
- Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports*, 45, 590.