



Characteristics of Developmental Coordinated Motor Syndrome in Adolescents and Its Relation to Self-perception

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Problem: Secondary disorders associated with Developmental Coordination Disorder (DCD) have been shown to have a relationship with self-perception of motor skills (Piek et al., 2006). Additionally, cases of physical injury and maladjustment due to discrepancies between DCD symptoms and self-perception in adolescents have been reported (Tsujii and Miyahara, 2020). While studies on DCD symptoms and self-perceptions have assessed overall self-perceptions of motor skills, they have not considered the subtypes of DCD symptoms. This lack of consideration may result in an inadequate measurement of discrepancies between symptoms and self-perceptions. Therefore, it is crucial to measure symptom subtypes and their corresponding self-perceptions to comprehensively understand the relationship between DCD symptoms and self-perception, specifically in terms of DCD subtypes. **Methods:** 154 college students were surveyed using (a) demographic questions; (b) Movement Assessment (Iwanaga, 2021) to assess DCD symptoms, rated by a friend, who had prior knowledge of the subject; and (c) the Adolescent Version of the Current Clumsiness Self-Perception Scale (Hayashi et al., 2017) to assess self-perception of clumsiness. Out of these, 124 were included in the final analysis. The local ethics committee approved this study (Approval number: 2022-239). **RESULTS:** To examine the differences in DCD symptoms and self-perception of these symptoms, a paired t-test was performed with the three groups (high, medium, and low) classified by subtype. Symptom intensity was used as the independent variable, and each subscale score of self-perception of clumsiness was the dependent variable. The results indicated a significant difference between the means of the high and low groups regarding gross motor control. The high group had a higher self-perception of motor skills than actual symptoms, while the low group had a lower self-perception than actual symptoms (high group: $t(42) = -4.481, p < .001$; low group: $t(54) = 5.910, p < .001$). A significant difference between the means of the high and low groups in fine motor function was observed, indicating that the high group had a higher self-perception than actual symptoms, and the low group had a lower self-perception than actual symptoms (high group: $t(35) = -5.281, p < .001$; low group: $t(39) = 6.852, p < .001$). Furthermore, a significant difference between the means of the high and low groups for inattention was observed, indicating that the high group had higher a self-perception than actual symptoms, and the low group had lower self-perception than actual symptoms (high group: $t(31) = -5.300, p < .001$; low group: $t(39) = 5.970, p < .001$). For writing and hyperactivity, the difference between the means of the high and low groups was significant, indicating that the high group had a higher self-perception than actual symptoms, and the low group had a lower self-perception than actual symptoms (high group: $t(32) = -5.041, p < .001$; low group: $t(38) = 5.861, p < .001$). **Discussion:** These results suggest that, with respect to all coordinated movements, individuals with higher levels of DCD symptoms may perceive their symptoms as less severe than they actually are, while those with lower levels of DCD symptoms may perceive their symptoms as more severe than they actually are. This result differs from previous studies (Piek et al., 2006), and highlights the importance of further examining not only the overall motor skills of adolescents but also the subtypes of DCD symptoms and the corresponding degree of discrepancy in self-perception. This would provide a clearer understanding of the true situation in the future.

Characteristics of Developmental Coordinated Motor Syndrome in Adolescents and Its Relation to Self-perception

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Introduction

● Secondary disorders associated with **Developmental Coordination Disorder (DCD)** have been shown to have a relationship with self-perception of motor skills (Piek et al., 2006).

● While studies on DCD symptoms and self-perceptions have assessed overall self-perceptions of motor skills, they have not considered the subtypes of DCD symptoms.

self-perception of motor skill

self-perception of gross motor skill

self-perception of fine motor skill

self-perception of inattention

self-perception of writing and hyperactivity

self-perception of motor skill

This study

we measure symptom subtypes and their corresponding self-perceptions, and examine the relationship between DCD symptoms and self-awareness.

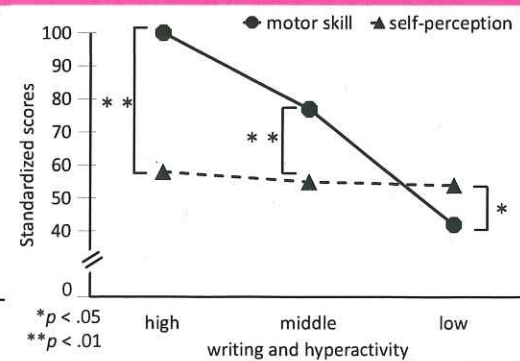
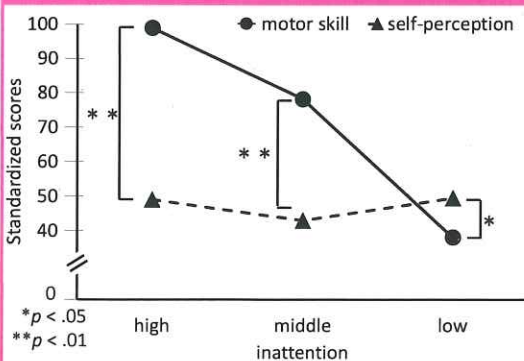
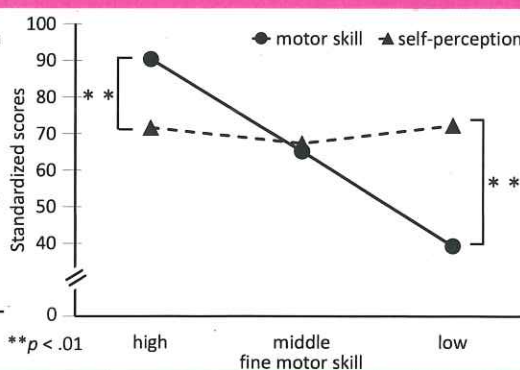
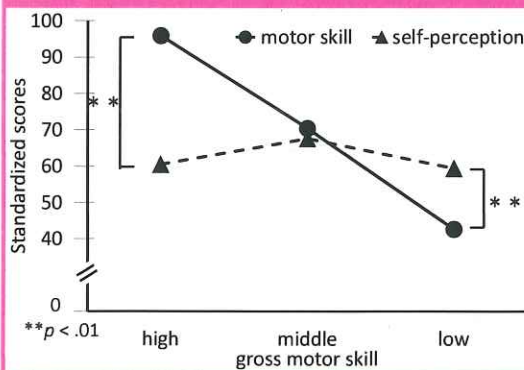
Method

Participants: one hundred and twenty-four college students in Japan

Procedure: Research study conducted.

Measures: (a) **DCD symptoms:** Movement Assessment (Iwanaga, 2021) rated by a friend, who had prior knowledge of the subject, (b) **self-perception of clumsiness:** the Adolescent Version of the Current Clumsiness Self-Perception Scale (Hayashi et al., 2017)

Result & Discussion



Result

Those with high DCD symptoms indicated that they felt their symptoms were less severe than they actually were, while those with low DCD symptoms indicated that they felt their symptoms were more severe than they actually were.

Discussion

further examining not only the overall motor skills of adolescents but also the subtypes of DCD symptoms and the corresponding degree of discrepancy in self-perception would provide a clearer understanding of the true situation in the future.

発表概要報告書

問題：発達性協調運動症（Developmental Coordination Disorder：以下，DCD とする）が有する可能性が高い二次障害は，運動能力の自己認知と関連していると指摘されている（Piek et al., 2006）。また，青年期のDCD症状とその自己認知の乖離による身体損傷や不適応の事例が報告されている（辻井・宮原，2020）。これまで，DCD症状とその自己認知を扱った研究では，運動能力全般の自己認知は測定されているものの，症状のサブタイプを考慮した測定はされていないため，症状とその自己認知の乖離を適切に測定できていない可能性が考えられる。したがって，DCD症状と自己認知の関連をより適切に把握するには，症状のサブタイプとそれに対応した自己認知の測定が必要であると考えられる。そこで，本研究ではDCD症状とその自己認知の関連にサブタイプをふまえて検討することを目的とした。

方法：大学生154名を対象に(a)デモグラフィック項目，(b)DCD症状：動作アセスメント（岩永，2021）を対象者をよく知る友人が評定した，(c)不器用さの自己認知：青年期版現在の不器用さの自己認知尺度（林他，2017）を用いて調査を行い，最終的に124名を分析対象とした。本研究は早稲田大学「人を対象とする研究に関する倫理審査委員会」の承認を得て実施された（承諾番号：2022-239）。

結果：DCD症状とその自己認知の差異を検討するため，サブタイプごとに症状の強さに関して群分けした3群（高群，中群，低群）を独立変数，不器用さの自己認知の各下位尺度得点を従属変数として対応のあるt検定を行なった。その結果，粗大運動において高群と低群の平均値の差が有意であり，高群は自己認知が症状より高く，低群は自己認知が症状より低いことが示された（高群： $t(42) = -4.481, p < .001$ ，低群： $t(54) = 5.910, p < .001$ ）。また，微細運動において高群と低群の平均値の差が有意であり，高群は自己認知が症状より高く，低群は自己認知が症状より低いことが示された（高群： $t(35) = -5.281, p < .001$ ，低群： $t(39) = 6.852, p < .001$ ）。さらに，不注意に高群と低群の平均値の差が有意であり，高群は自己認知が症状より高く，低群は自己認知が症状より低いことが示された（高群： $t(31) = -5.300, p < .001$ ，低群： $t(39) = 5.970, p < .001$ ）。そして，書字・多動性において高群と低群の平均値の差が有意であり，高群は自己認知が症状より高く，低群は自己認知が症状より低いことが示された（高群： $t(32) = -5.041, p < .001$ ，低群： $t(38) = 5.861, p < .001$ ）。

考察：以上の結果からすべての協調運動に関して，DCD症状の程度が強い者は症状を実際よりも弱いものとして自己認知しており，DCD症状が弱い者は症状を実際より強いものとして自己認知している可能性が示唆された。これは，従来の研究とは異なる結果であり（Piek et al., 2006），今後は青年期の運動能力全般だけでなく，DCD症状のサブタイプとそれに対応する自己認知の乖離の程度を考慮してさらなる検討を行うことによって，実態をより適切に明らかにできると考えられる。

（日本語 1200 字以内）

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